

L-Soft Sweden AB



Data Administrator's Manual

LISTSERV[®] Maestro, version 2.0



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About This Manual

Every effort has been made to ensure that this document is an accurate representation of the functionality of LISTSERV® Maestro. As with every software application, development continues after the documentation has gone to press, so small inconsistencies may occur. We would appreciate any feedback on this manual. Send comments by e-mail to:

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The following documentation conventions have been used in this manual:

- Quotations from the screen will appear in italics enclosed within quotation marks.
- Clickable buttons will appear in bold.
- Clickable links will appear in bold.
- Directory names, commands, and examples of editing program files will appear in Courier New font.
- Emphasized words or phrases will be underlined.
- Hyperlinks, actual or fictitious, will be underlined unless they are part of a screen shot or direct quotation from the screen.

Some screen captures have been cropped and annotated for emphasis or descriptive purposes.



The “Tip” symbol is used to indicate practical advice or applications for using a feature.



The “Caution” symbol is used to indicate possible pitfalls and other important information.

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Preface - What's New in LISTSERV Maestro 2.0!

LISTSERV Maestro is a highly intuitive e-mail marketing solution. It provides organizations with an advanced tool to create, send, and track opt-in personalized e-mail messages. The changes to LISTSERV Maestro 2.0 have been extensive, adding data collection and storage to empower users to create and maintain clean opt-in mailing lists. This preface is a brief outline of the sweeping new features of LISTSERV Maestro 2.0.

LISTSERV Maestro 2.0 introduces powerful new abilities to collect, manage, save and reuse data from mailing list subscribers. Data administration and mailing list creation now are combined in one interface to allow greater flexibility and control over personalized targeted opt-in e-mail messaging. LISTSERV Maestro now can harness the flexibility and interactivity of traditional LISTSERV lists combined with the power of DBMS backing so that companies and institutions can provide wider opportunities to their recipients for communication.

The Recipient Warehouse

A new functional area within the User Interface, called the Recipient Warehouse, allows the Maestro data Administrator to create and manage datasets, lookup tables, lists, subscriber pages, and target groups. Unlike using LISTSERV Maestro to extract recipient data from an external user database, using the Recipient Warehouse to manage recipient data requires no specialized database administration knowledge, and no SQL coding. LISTSERV Maestro manages the data tables used to store the data and it guides the data Administrator when defining target groups.

Datasets

Each dataset contains a table that holds data about each recipient, or “member” of the dataset. The data stored for each member is determined by the data Administrator. In addition to the e-mail field, which is mandatory for all members, the data Administrator can define other text, numeric, Boolean (true or false), and “selection” fields that can be collected and stored for all the dataset members.

Each dataset contains one or more lists that members can subscribe to. Additional data fields can be added to individual lists. The data collected and stored from these fields is associated with individual subscribers on these lists. For example, the dataset could store the e-mail address and name of all its members, but subscribers to the “Animal Anecdotes” list within the dataset might additionally be requested to indicate which animals they are interested in reading about.

The dataset fields and the list fields can all be used as merge fields to personalize e-mail content sent with LISTSERV Maestro to the lists. The fields can also be used for determining the selection criteria to send targeted e-mail to a subset of a list. For example, when sending an e-mail message to the “Animal Anecdotes” list above, the LISTSERV Maestro user can target the message to be sent to only those subscribers who indicated an interest in the animals mentioned in the message.

Lookup Tables

The Recipient Warehouse also holds “Lookup Tables” defined by the data Administrator. The Lookup Tables provide lists of values used in the “selection” fields. Selection fields are special types of data fields where the subscriber selects values from a drop-down menu, instead of typing in freeform text. In the above example, the data Administrator could create a Lookup

Table with all the different types of animals that the list messages will cover. There are two types of selection fields: the “single select” field allows the subscriber to choose only one value, and the “multiple select” field allows the subscriber to choose any number of values.

Lists

Two types of “Hosted” lists can be created in the Recipients Warehouse:

- Hosted Recipient Lists
- Hosted LISTSERV Lists

The Hosted Recipient Lists are best for announcement-only lists that will be segmented in different target groups and that do not require extra features handled by LISTSERV. A special interface is available for defining target groups that guides the user step by step, without requiring any SQL knowledge. The Hosted Recipient Lists are also the only type of list that supports Selection fields. Only LISTSERV Maestro can be used to send to Hosted Recipient Lists.

Hosted LISTSERV Lists provide a “database back-end” for a traditional LISTSERV list. Using Hosted LISTSERV Lists provides the features that are available in LISTSERV such as discussion lists, message archives, digests, automatic bounce processing, and the ability to send to the list from a normal e-mail client as an alternative to using the Maestro User Interface.

Subscriber Pages

LISTSERV Maestro creates Web pages containing forms where subscribers can enter their own data and manage their own subscriptions. The default subscriber pages are generated automatically when the data Administrator creates a dataset and chooses for the dataset to be “visible”. No HTML coding or CGI scripting required.

System Drop-In Content Elements

Powerful advanced features for segmenting mailing lists and personalizing content have been added with a feature called “System Drop-Ins”. Acting like regular drop-ins, system drop-ins use predefined opening and closing tags and must be enabled in the content of a message. However, system drop-ins are created and named by LISTSERV Maestro. They can be used to add a login or unsubscribe URL to message content. They can even be used to perform calculations on existing subscriber and system data such as adding a subscribe date and time, calculating subscribers’ ages or birthdays. Combined with conditional blocks and calculation formulas, system drop-ins provide a potent method for personalizing and targeting e-mail messages. For more information on system drop-ins, see the following sections in the LISTSERV Maestro User’s Manual:

- Section 11.2 Creating and Managing Drop-In Content Elements
- Appendix E Using Conditional Blocks
- Appendix F Advanced Use of System Drop-Ins
- Appendix G Calculation Formulas

Section 1 Introduction to LISTSERV Maestro 2.0

Designed specifically to work with LISTSERV 14.4 (or later), LISTSERV Maestro allows users to collect and store recipient data so it can be used to easily create and send personalized e-mail messages. All interaction with LISTSERV Maestro takes place using an intuitive Web interface. Incorporated into the powerful tool is a tracking component that can collect data every time a recipient opens an e-mail message or clicks on a URL contained within the message.

The LISTSERV Maestro program is comprised of three components that work together:

- **The Administration Hub** – Controls all user and program settings. The HUB is the central component that stores registry and account information. It is accessed both by the Maestro User Interface and by Maestro Tracker to store and retrieve settings. It has its own administrator user interface.
- **The Maestro User Interface** – The actual user interface. Individuals and groups use it to create and distribute customized e-mail messages. It is also used to access, view, and download the collected tracking data.
- **The Maestro Tracker** – Receives and compiles tracking data from delivered e-mail messages.

In addition to LISTSERV Maestro's three components, LISTSERV Maestro also relies on the existence of two other external components:

- An installation of LISTSERV® 14.3 (or later).
- An SMTP server.

These two components must be configured to work together.

Optionally, LISTSERV Maestro may also be connected to a separate database installation (DBMS). LISTSERV Maestro can use a separate database to store its own internal data. LISTSERV Maestro can also use separate databases to select recipient lists from database tables. Supported databases are:

- Oracle® 8i and 9i and compatible versions
- DB2® V7.2 and compatible versions
- MySQL™ 3.23.42 and compatible versions
- SQL® Server 7.0 and 2000
- Any ODBC compliant database for read-only access

The three LISTSERV Maestro components, the two external components, and the database may be installed on any combination of hosts, from one single host shared by all components to six dedicated hosts, one for each component. For more information on host restrictions, installing LISTSERV Maestro, and starting and stopping the LISTSERV Maestro service, see the LISTSERV Maestro Installation Manual. For more information on preparing databases to work with LISTSERV Maestro, see the LISTSERV Maestro Administrator's Manual.

1.1 System Requirements

Depending on the operating system of the client used for the access, the following browsers are supported when accessing the Maestro User Interface or Administration Hub:

- Client with Windows – Microsoft Internet Explorer 5.5 or later, Netscape 7.0 or later and Mozilla 1.0.0 or later.
- Client with Linux – Netscape 7.0 or later and Mozilla 1.0.0 or later.

To access the Maestro User Interface or the Administration Hub, we strongly recommend that only Windows or Linux be used with the browsers and browser versions listed. Other operating systems, browsers, or browser versions are not supported.

The client does not necessarily have to have the same operating system as the LISTSERV Maestro server. A Linux client can be used to access LISTSERV Maestro on a Windows server and vice versa.

It is important to note that recipients of e-mail being tracked by LISTSERV Maestro may use whatever browser they wish to access the URLs contained in the message. Tracking will occur no matter which browser is used by e-mail recipients.

1.2 New Features

LISTSERV Maestro 2.0 introduces powerful new abilities to collect, manage, save and reuse data from mailing list subscribers. Data administration and mailing list creation now are combined in one interface to allow greater flexibility and control over personalized targeted opt-in e-mail messaging.

LISTSERV Maestro can create mailing lists two different ways, using recipient data stored by the system, called Hosted Recipient Lists or by harnessing the flexibility and interactivity of traditional LISTSERV lists backed by a DBMS, called Hosted LISTSERV Lists. Both types of lists can use data fields to produce personalized and targeted messages.

1.3 How the Manual is Organized

With the addition of data hosting, the power and scope of LISTSERV Maestro has expanded immensely, necessitating the reorganization of this data Administrator's Manual. Many new sections have been added covering the new features, and explaining their uses.

The first half of this manual, Sections 1- 11 cover how LISTSERV Maestro functions to collect and store mail recipients and their accompanying data and how to create the two different types of hosted recipient lists using recipient data. The second half of this manual, Sections 12 -15 covers the creation and administration of recipient target groups. For those users who already have recipient data stored in a separate database and will be using LISTSERV Maestro to connect to that recipient data, skip ahead to Section 12 [Introduction to Recipient Target Groups](#). This section and beyond will demonstrate how to use recipient target groups to segment mailing lists by incorporating advanced querying features within the LISTSERV Maestro interface.

1.4 LISTSERV Maestro Data Administration Interface

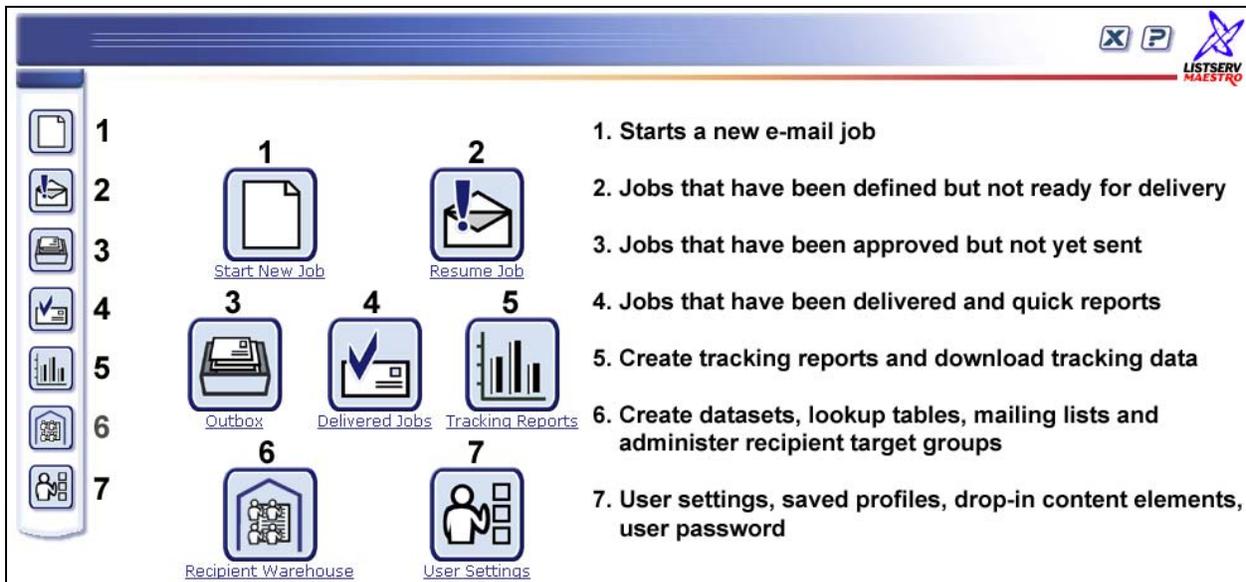
The opening screen of LISTSERV Maestro's interface contains various sets of functional and navigational icons. The top right of each screen in the LISTSERV Maestro interface includes all or a subset of these four icons:

Table 1 Navigational Icons

-  **Home** brings the user back to the opening screen – the LISTSERV Maestro home page.
-  **Up One Level** brings the user up one level in the program, not necessarily back to the previous screen.
-  **Log out** ends the LISTSERV Maestro session and closes the account.
-  **Help** provides access to page specific online help.

LISTSERV Maestro’s functionality centers on characterizing the various parts of an e-mail “job”. A “job” refers to all of the elements that make up the creation, scheduling, delivery, and tracking of customized e-mail messages. Throughout LISTSERV Maestro documentation, “job” and “e-mail job” are used interchangeably and represent the same thing – the summation of the multiple functions that make up the definition and distribution of customized e-mail messages.

Figure 1 LISTSERV Maestro Home Page



The center of the opening screen of LISTSERV Maestro contains six large icons that activate the major functional areas of the program:

- **Start New Job** – Starts the definition of a new e-mail job.
- **Resume Job** – Lists all jobs that have been started but have not yet been approved for delivery. Jobs listed here can be edited.
- **Outbox** – Contains a listing of jobs that have been defined, scheduled, and approved for delivery, but have not yet been sent. The Outbox also lists jobs that have failed during delivery for some reason.
- **Delivered Jobs** – Lists all the e-mail jobs that have been delivered. From here, it is possible to generate “quick reports” on a selected job.
- **Tracking Reports** – Engages the reporting wizard to produce graphs and reports from the tracking data collected from delivered messages.
- **Recipient Warehouse** – Create datasets, lookup tables, and mailing lists hosted inside LISTSERV Maestro. Also available here is the recipient target group wizard that facilitates the creation of target groups.
- **User Settings** – Stores information about sender profiles, drop-in content elements. Also listed here are individual user preferences and change password options.

These icons are repeated along the left side of every screen for navigational purposes.

Section 2 Introduction to Hosted Data

Collecting and storing recipient data is one of LISTSERV Maestro’s most powerful new features. Organizations without a separate database can collect information from their mail recipients and store that data directly inside LISTSERV Maestro. This information can be used to create customized e-mail messages and give recipients control over their subscription settings. Incorporated into this feature is the ability to create classic LISTSERV lists from the LISTSERV Maestro interface, combining the features of LISTSERV within the easy-to-use LISTSERV Maestro interface.

The data administrator structures the way recipient data is collected by designing the dataset. Designing the dataset involves selecting the types of data to be collected and the names for column headers and for each column of data. It also involves setting limitations and input validations for the collected data.

As the data administrator is designing the fields for recipient data, LISTSERV Maestro is also creating a form that can be made available on the Web so that recipients can sign up to receive mail and control their list subscriptions. Scripting is done automatically by the system so that information collected on the form is automatically placed in the host data database, called a “*Recipient Warehouse*”.

For those users who already have recipient data stored in a separate DBMS, the sections on hosted recipient data can be skipped. Proceed to Section 12 [Introduction to Recipient Target Groups](#) for information and instructions on how to create flexible yet powerful queries that regular users can employ when defining recipients for a mail job.

Section 3 Data Administration in LISTSERV Maestro

The data administrator account can simplify and streamline the use of recipient data and databases for e-mail jobs to the point where regular account holders do not need to know anything about how and where data is stored. This can be done in several ways. LISTSERV Maestro can be set up and used with an external database to collect and store recipient data using its own interface. Once configured, it is not necessary to interact directly with the database within the DBMS. Recipient lists can be created from this information for regular users to employ when sending e-mail jobs.

LISTSERV Maestro can also use an existing external database to select recipients for e-mail jobs. The collecting and storing of recipient data takes place independently of LISTSERV Maestro. To utilize this method of selecting recipients requires a working knowledge of the DBMS involved, as well as knowledge of how the data is organized and how to query the database. A web form or other means to gather recipient data and populate the database is also necessary. This may entail HTML coding and scripting, depending on the individual needs of each organization.

Once a source for collecting recipients and recipient data is established and connected to LISTSERV Maestro, regular users need a simple means of selecting recipients and creating personalized messages. The data administrator can build and save reusable and parameterized queries within LISTSERV Maestro called "*recipients target groups*." Regular account holders can then use these target groups to select the recipients for their jobs from a variety of places including external databases, internal hosted lists, uploaded text files and more. The data administrator builds the recipient target groups by writing SQL statements to retrieve data from a data source. The data administrator also designs the methods regular users employ to select the data (in a series of check boxes, drop-down menus and/or text boxes).

There are many advantages to using recipient target groups.

- Using recipient data stored in a database can save time and system resources.
- The database can be continually updated until the time the job is sent, ensuring that the most current data is used for the job.
- Recipient target groups are shared among group members and can be reused for multiple jobs.
- Parameters can be inserted into recipient target groups so that regular account holders have some control over what recipients are retrieved from the database for each job. Using parameters also reduces the number of individual SQL statements that need to be written for jobs.
- The data administrator does not need to be involved with any other parts of e-mail jobs.
- Specific recipient target groups can be removed from use without deleting them. They can be reinstated whenever desired.
- Recipient target groups can be organized into categories for easy recognition.

3.1 Role of the Data Administrator

In order to assume effectively the role of a data administrator in LISTSERV Maestro, it is necessary to have access to and information about the systems involved. It is also helpful to

understand the types of recipient data being collected and how it may be used in e-mail jobs. All data administrators need:

- A LISTSERV Maestro user account with the right to “*administer target group and hosted recipient data*” enabled. The LISTSERV Maestro administrator can create this type of account. For more information, see Section 9.2 Editing Account Information and Assigning Single User Settings in the LISTSERV Maestro Administrator’s Manual.

3.1.1 External Database Requirements

Data administrators setting up connections with an external database and sending queries through LISTSERV Maestro or through LISTSERV to retrieve recipients need:

- To understand how the institution’s data is stored and organized, including table names and relationships as well as column types and names. This impacts the ability to write SQL statements and parameters within SQL statements to retrieve specific data.
- Working knowledge of SQL.
- In the case of LISTSERV Maestro accessing an external database:
 - To know the type of database and specific name of the database used. This determines the database plugin that LISTSERV Maestro uses to communicate with the specific type of database, for example IBM DB2 or MySQL. For more information on database plugins, see Section 5.2 Registering a Database Plugin in the LISTSERV Maestro Administrator’s Manual.
 - Access to the database user account that is set up to work directly with LISTSERV Maestro including the username and password for the account.
 - For more information on preparing specific databases for use with LISTSERV Maestro, see Section 4.2 Preparing the Database in the LISTSERV Maestro Administrator’s Manual.
- In the case of LISTSERV accessing the database:
 - Database server name, if not the default.
 - Name of the E-mail column.
 - Name of the Name column (this is optional).
 - Names of any additional columns in the database to be used for mail merging.

Being familiar with Section 5.1 Drop-In Content and Section 11.2 Creating and Managing Drop-In Content Elements in the LISTSERV Maestro User’s Manual can also be helpful to data administrators. The concepts used in defining and creating drop-in elements are very similar to defining and creating parameters in SQL statements. Both use special tags to set the name of the element or parameter off from the rest of the text. Tags for drop-ins and parameters follow very similar rules.

3.1.2 Hosted Data Requirements

The data administrator’s role in collecting recipient data hosted within LISTSERV Maestro is to establish the types of data collected and design the way this information is gathered. The data administrator also creates mailing lists for regular users to send e-mail messages to recipients. The data administrator designs the types of mailing lists and designates to which user accounts these lists are available.

LISTSERV Maestro takes the hard work out of creating a dataset and lists, but it cannot do the planning. Before creating a dataset and lists, the data administrator needs to think about the answers to these questions:

- How will this dataset be used?
- What data will the subscribers need to provide so that the mailings can be precisely targeted and customized? What data will they be willing to provide? What data will need to be collected for all members, and what data are needed only for particular lists?
- What kinds of target groups will be needed? What questions will the job reports need to be able to answer?
- What types of lists will be needed? Only announcement lists or will there also be a need for discussion lists?
- For announcement lists, will mailings only be sent to all subscribers or will there be a need to target subsets of the lists?
- Will archives be needed for any LISTSERV lists?
- Will LISTSERV's auto-deletion of bouncing addresses be needed?
- Will subscribers be allowed to manage their own subscriptions and subscribe and unsubscribe themselves, or will only the database administrator have access to the membership data?
- Will the subscriber pages need to be customized or is the "out-of-the-box" look acceptable?

For each data item to be collected (for the dataset or the list):

- What "type" is it? (Text, Number, Boolean, Single Select, Multiple Select)
- If "Single Select" or "Multiple Select", what are the possible selections?
- Is it optional or mandatory?
- Are there any legal requirements associated with the kind of data to be collected? That is, are they subject to various financial, health, and other privacy laws of the country or state where the data will be stored as well as where the subscribers themselves are located (for example HIPAA, GLB Act, European Commission's Directive on Data Protection, and so on)? If so, does the facility meet the data protection requirements? If it does not, reconsider the data to be collected or upgrade the facility to meet legal requirements.

It is important to think about the data that will be collected before creating the dataset. Careful dataset design includes consideration of ease of creating target groups as well as making it easy for subscribers to enter and maintain their data. The dataset should contain all data fields that are shared by multiple lists, so that the subscriber does not have to enter or update the same information in several places. Data fields that are specific to a single list should be in that list. Careful consideration should be given to limiting the number of data fields that the subscriber must enter: subscribers faced with several pages worth of data entry fields may decide that they are not that interested in subscribing after all.



Important: From the technical point of view, one choice that must be decided before creating the dataset is whether there will ever be a need to support traditional LISTSERV lists. LISTSERV lists currently have two restrictions: there must be at least one mandatory name field, and there cannot be any selection menus in the base dataset or in the list data for the LISTSERV list.

Section 4 The Recipient Warehouse

The “*Recipient Warehouse*” is LISTSERV Maestro’s name for and method of creating, storing, and retrieving data within the system. Every group or single user account has its own recipient warehouse that is the repository for recipient datasets, lookup tables, and recipient target groups. Click on the Recipient Warehouse icon on the home page to open the warehouse. From there, select **Recipient Datasets** or **Recipient Target Groups** to begin working with recipient data. Creating and administering recipient target groups is covered beginning in Section 12 [Introduction to Recipient Target Groups](#).

Figure 2 Recipient Warehouse



4.1 Recipient Datasets

A recipient dataset is a collection of data organized into fields and pertaining to recipients. The fields making up a dataset can have different types of properties that determine the kind of data within them, such as text, numbers, selection menus, dates and so on. The data administrator designs the datasets within a recipient warehouse, creating each field and the type of data it holds. The recipient dataset also contains mailing lists created by the data administrator that use the recipient data for job definition. The data is shared across all mailing lists that are created within the dataset. Individual lists within the dataset are allowed to have additional fields of data that just pertain to those lists.

As the dataset is being created, a web form is also being created that reflects the exact design of the dataset, including the order of the fields, the descriptions of each field, and the types of data to be collected. Each organization has to decide what kinds of data to collect, including the acceptable format of that data, and how the data is entered into the web form by anyone wishing to join a mailing list. Careful consideration of the dataset design will produce user-friendly web forms, and will collect the types of recipient data that can be used to send personalized and targeted messages to subscribers.

A link to the dataset web form can be placed on a web site where anyone can fill it out, inputting the requested data, and then joining any available mailing lists. Data collected from the web

form is automatically placed in the matching dataset, where becomes available for use when sending e-mail jobs to subscribers. Subscribers and their data can also be added to the dataset directly by the data administrator. Managing subscribers and subscriber data is covered in Section 9.1 [Managing Members of a Dataset and List Subscribers](#).

The recipient dataset screen has two basic functions that are accessed using one of the two tabs at the top, “*Recipient Datasets*” and “*Lookup Tables*”. Click on the tab to access each function. The Recipient Datasets tab contains a listing of the names of any existing datasets, their descriptions, and the number of members in each. Each dataset name is a link that opens the dataset for editing, member management, and customization of the web form.

Figure 3 Recipient Datasets

Recipient Warehouse

This page displays an overview of all recipient datasets and lookup tables in your warehouse

Recipient Datasets | Lookup Tables

This page contains all recipient datasets in your warehouse.

Click on a recipient dataset to open it or use the button to create a new dataset.

Dataset Name	Description	Members
L-Soft international, Inc.	L-Soft customers	34 (0 yet unconfirmed)
PetsMart Company	PetsMart Company	12 (0 yet unconfirmed)
Widget Company	Widget Company	33 (1 yet unconfirmed)

Create New Dataset

The Lookup Tables tab contains a listing of the names of any existing lookup tables, the datasets and mailing lists that reference them and a link for editing and downloading.

Figure 4 Lookup Tables

Recipient Warehouse

This page displays an overview of all recipient datasets and lookup tables in your warehouse

Recipient Datasets **Lookup Tables**

This page contains all the lookup tables for your warehouse.

Use the Actions link for a lookup table entry in the list below to view, modify or delete a lookup table. Use the button to create a new lookup table.

Lookup Table	References	
Industry Business and industry types	1 columns of 1 recipient datasets and/or mailing lists	Edit Name/Description Edit Values View References Download Values
Models Air Cleaner Model numbers and name	not used by any recipient datasets and/or mailing lists	
Pets list of pet types	1 columns of 1 recipient datasets and/or mailing lists	Actions
States All the States	1 columns of 1 recipient datasets and/or mailing lists	Actions
departments L-Soft departments	1 columns of 1 recipient datasets and/or mailing lists	Actions
download-test-list download-test-list	not used by any recipient datasets and/or mailing lists	Actions
transportation Methods of transportation	not used by any recipient datasets and/or mailing lists	Actions

[Create New Lookup Table](#)

Part of the dataset design process is deciding the format of the data collected and how it is presented on the web form. One type of data that needs special mention is the selection list. A selection list is presented as a drop-down menu where one (single select) or more (multi select) items can be chosen. LISTSERV Maestro handles the creation of selection lists under the function of “Lookup Tables”. A lookup table is a collection of entries for a selection list. Lookup tables can be used by any dataset in the warehouse. When designed well, they can serve multiple functions across a warehouse. For example, a listing of university departments in one dataset can be used as a list of college majors in another. A listing of years can be used for graduation year in one dataset and anniversary year in another. Creating Lookup tables is covered in depth in Section 4.1.2 [Creating a Lookup Table](#).



Tip If your dataset is going to use selection menus, to save time, create the lookup tables first and then create the dataset.

4.1.1 Creating a New Dataset

The recipient dataset definition wizard details all the steps of designing a dataset with its accompanying web form. Click on the **Create New Dataset** button to open the wizard. Use the **Next ->** and **<- Back** buttons navigate page by page through the wizard. Use the links at the top of the screen to open a particular page of the wizard. The **Save & Exit** button will save the current dataset settings of the open dataset even though the wizard may not be completed. The **Cancel** button will void any current selections and return to the “*Recipient Dataset Details*” screen.

The recipient dataset definition wizard is comprised of four main screens. The first screen, “*General*”, defines the general information pertaining to the dataset.

- **Name** – The name of the dataset will appear on all the “public” subscriber pages. It is important to select a name that is reflective of the organization sponsoring the web pages and descriptive of the types of mailing lists available for members.
- **List Administrator (e-mail address)** – The list administrator e-mail address is the address that confirmation e-mail messages comes from. Confirmation e-mail is sent to all subscribers who join a member area and/or subscribe to any mailing list. Confirmation e-mail is also sent to members to when they change their passwords. It is important that this address be an authentic e-mail address that can receive mail from subscribers.
- **Internal Description** – This description information is used internally on the Recipient Datasets tab for identification purposes.
- **Encoding** – Select the type of encoding for the data entered in the dataset from the drop-down menu.
- **Public Description** – This optional information appears on the web form and will assist anyone wanting to join a member area and subscribe to a mailing list to understand what the benefits of membership are. Any additional information about the organization can be placed here.

Figure 5 Recipient Dataset Definition Wizard – General

The next screen in the wizard is called “*Profile Fields*”. Every new dataset begins with one mandatory field, called “EMAIL”. With just this one field, it is possible to create an entire dataset. The e-mail address of each member will be shared among all the lists created in this dataset. Other fields can be added to the dataset, and they too will be shared among the lists in the dataset. To add a new field, click the **Add Field** link.

For each new field, enter the following information:

- **Name** – The name of the field as it will be used internally by the system for mail merging and querying. Field names can only use upper and lower case letters A-Z and a-z, the numbers 0 – 9 and the underscore “_”. Spaces and other special characters are not allowed.
- **Display Name** – The display name is the label that identifies the blank field on the web form. The display name will be seen by anyone accessing the public web pages to the membership area. All alpha numeric characters are permitted, as well as spaces and most special characters.
- **Data Type** – Choose the type of data to be entered in the field from the drop-down menu. Five different classifications of data are available:
 - **Text** – Text fields can accept any type of text, including dates in specific formats such as dd/mm/yyyy or mm.dd.yyyy
 - **Number** – Number fields accept any whole integers.
 - **Boolean** – Boolean fields are based on two states, one being true, the other false.
 - **Single Select** (lookup table) – A single selection field consists of a drop-down menu where one item from it may be chosen.
 - **Multiple Select** (lookup table) – A multiple selection field consists of a drop-down menu where one or more items from it may be chosen.
- **Mandatory** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Boolean fields cannot be optional due to the nature of the data type – the selection equates to either true or false.

After fields are created, they can be edited, removed, moved up, or moved down by using the corresponding links on the right side of the table.

Figure 6 Recipient Dataset Definition Wizard – Profile Fields

Recipient Dataset Definition

General Profile Fields Profile Field Details Summary

Cancel Save & Exit <- Back Next ->

Shared Dataset Fields

Specify the shared dataset fields. These fields are shared by all mailing lists in this dataset.

Name	Display Name	Data Type	Mandatory	
EMAIL	E-Mail Address	Text	Mandatory	Rename
FNAME	First name	Text	Mandatory	Edit Remove
LNAME	Last name	Text	Mandatory	Edit Remove
USERNAME	Screen name	Text	Optional	Edit Remove
SOFTWARE	Number of XYZ products currently owned	Number	Optional	Edit Remove
DOB	Date of birth	Text	Optional	Edit Remove
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a	Edit Remove
<input type="text"/>	<input type="text"/>	Text	Optional	Reset Up Down Remove

[Add Field](#) Use this link to add a new field

Use these links to change existing fields

The next screen in the wizard is “*Profile Field Details*”. The profile field details screen will appear differently depending on the types of data in the dataset. Any datasets containing selection fields has to assign the relevant lookup table to the field.

Figure 7 Recipient Dataset Definition Wizard – Profile Field Details – Selection Filed Details

Dataset Definition

General Profile Fields Profile Field Details Summary

Cancel Save & Exit <- Back Next ->

Profile Field Details

Specify the details for the profile fields.

Selection Field Details Input Field Validation

The list below contains all profile fields of type "Single Select" or "Multiple Select". Please select the lookup table for each of these fields.

Field	Lookup Table
NEWEST	-- Select --
	-- Select --
	Industry
	Models
	Pets
	States
	XYZ Products
	departments
	download-test-list
	transportation

Field types “*Text*” and “*Number*” can have set validation limits entered so that when the fields are filled in by members, only certain types of input will be accepted. For example, in the column DOB, (see [Figure 8](#)) a date of birth is requested. By setting a validation setting of a date with format, only dates entered using the specified format will be accepted.

Figure 8 Recipient Dataset Definition Wizard – Profile Field Details - Input Filed Validation

Dataset Definition

General Profile Fields Profile Field Details Summary

Cancel Save & Exit <- Back Next ->

Profile Field Details

Specify the details for the profile fields.

Selection Field Details Input Field Validation

The list below contains all fields of type "Text" or "Number". Specify whether the subscriber profile value input for the fields will be restricted.

Field	Input Validation Settings
FNAME	Accept all values
LNAME	Accept all values
USERNAME	String length range Min: 3 Max: 15
SOFTWARE	Accept all values
DOB	Date with format mm/dd/yyyy

Accept all values
Date with format
String length range
String length minimum
String length maximum

The “*Summary*” screen is the final step in the recipient dataset wizard. This screen summarizes the settings of the dataset. If the settings of the dataset are not satisfactory, use the <- **Back** button to make any changes.

Once the dataset is acceptable, set the access level using the drop-down menu. Datasets can have one of three levels of member area access:

- **Open to everyone** – Anyone can click on the membership area URL and have access to membership area in order to join the area and subscribe to mailing lists.
- **Access for members only** – Only those who are current members can login and access the membership area.
- **No public access** – The member area is not open for access to anyone.

The member area can be temporarily closed for maintenance such as updating the membership list or other tasks by checking the check box labeled “*Closed for maintenance*”. Closing the member area for maintenance will prevent anyone from joining or existing members from changing their settings while the system is temporarily closed. Click the **Finish** button to save all the settings of the dataset and return to the recipient dataset details screen.

For more information on membership areas, see Section 10 [Members Join a Dataset Themselves](#). For information on customizing the membership area, see Section 11 [Subscriber Access URLs and Customization](#).

Figure 9 Recipient Dataset Definition Wizard – Summary

Recipient Dataset Definition

General Profile Fields Profile Field Details Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the settings of the dataset.
Set the member area access level and then click Finish to accept the changes. Click Cancel to exit without saving your changes.

Public Member Area Access

Access for members only **Select the access level**

Closed for maintenance

Open to everyone
Access for members only
No public access

General Settings

Dataset Name: XYZ Company
Dataset Description: XYZ Customer Center

Profile Fields

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text (String length between 3 and 15)	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text (Date with format "mm/dd/yyyy")	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a (shared field)
NEWEST	Name of most recent XYZ product purchased	Single Select (XYZ Products)	Optional (shared field)

4.1.2 Creating a Lookup Table

Lookup tables are fields of data that are shared across datasets in a warehouse. When used wisely they can save time and resources by reusing a single set of data for many datasets and lists. For example, a list of countries of the world can be used to create a lookup table. If this information is collected by several lists or datasets in a warehouse, making a lookup table containing a list of countries once will make this available to all datasets and lists.

To create a new lookup table, click on the **Lookup Tables** tab from the Recipient Warehouse screen (see [Figure 4](#)). Next, click the **Create New Lookup Table** button. Enter a name for the lookup table; select the encoding for the data in the table, and type in a description of the contents of the table. Click **OK** to continue.

Figure 10 Create a New Empty Lookup Table

Lookup Table

Use this page to create a new empty lookup table.
Click OK to create the list. Click Cancel to return to the recipient warehouse page.

Name:

Encoding:

Description:

Each lookup table requires an entry that becomes the default value for “no choice” meaning that members do not select from any of the items presented on the selection list. This entry can also be the first selection on the list, or the most popular or common selection on the list. LISTSERV Maestro defaults to an entry that says “<none>”, but this can be changed by clicking the **Edit** link and adding different text.

Figure 11 Enter Lookup Table Entries

Edit Lookup Table Entries

Entries of Lookup Table "Countries "

Use this page to edit the entries of a lookup table.

You are editing the entries of the value list **Countries** , which is not used currently by any recipient datasets and/or mailing lists.

Click on the edit link next to the lookup table entry in the list below to select it for editing. Click Add New Entry to create a new entry.

Value
<none> Default value for "no choice"

Use this link to edit the default "no choice" value

Use these buttons to add items to the selection list

Lookup table entries can be added manually one by one, or they can be uploaded from a text file that contains one entry per line. The number of entries for any single lookup table is limited to 200 items. To add single entries, click the **Add New Entry** button. Type one item in the text box, and then click **OK**. Click the button **Add New Entry** again to add the next item. To upload a text file, click the **Upload Entries** button. Browse for the file on a local drive, select it and click **OK**.

Once there are items listed in the lookup table, they can be edited, deleted, moved up or moved down in the list. Use the adjacent links to change the item in the table. Click **OK** to accept the entries in the lookup table and return to previous screen. From here, the **Actions** link can be used to edit the name and description of the lookup table, edit the items in the list, download the items in the list, or delete the table altogether.

Figure 12 Edit Lookup Table Entries

Edit Lookup Table Entries

Entries of Lookup Table "Countries"

Use this page to edit the entries of a lookup table.

You are editing the entries of the value list **Countries**, which is not used currently by any recipient datasets and/or mailing lists.

Click on the edit link next to the lookup table entry in the list below to select it for editing. Click on the delete link to delete the entry. Click Add New Entry to create a new entry.

Value	
United States	Edit
Default value for "no choice"	
Afghanistan	Edit Delete Move Up Move Down
Albania	Edit Delete Move Up Move Down
Algeria	Edit Delete Move Up Move Down
Andorra	Edit Delete Move Up Move Down
Angola	Edit Delete Move Up Move Down
Antigua and Barbuda	Edit Delete Move Up Move Down
Argentina	Edit Delete Move Up Move Down
Armenia	Edit Delete Move Up Move Down
Australia	Edit Delete Move Up Move Down
Austria	Edit Delete Move Up Move Down
Azerbaijan	Edit Delete Move Up Move Down
Bahamas	Edit Delete Move Up Move Down
Bahrain	Edit Delete Move Up Move Down
Bangladesh	Edit Delete Move Up Move Down
Barbados	Edit Delete Move Up Move Down

Use these links to edit, delete, or move the items in the table.

4.1.3 Editing Existing Datasets

Once you have an existing datasets in a warehouse, their settings can be fully edited until there are lists or members added to them. After lists or members become part of a dataset, only limited editing capabilities are available. To edit the settings of an existing dataset, click on the dataset name. A split screen will appear showing the dataset and any lists in the left frame and the dataset information in the right frame. Click on the **Actions** link in the right corner to open a menu of actions that can be performed on the dataset. The top menu item, **Edit Dataset Settings** will open the recipient dataset wizard so its settings can be changed. If there are members or mailing lists in the dataset, only the following settings can be changed: the name of the dataset, the list administrator e-mail address, the public description, field names, the access level of the membership area, and the closed for maintenance check box.

Section 5 Introduction to Hosted Mailing Lists

Once there are defined datasets in the warehouse, mailing lists can be created for each dataset. Datasets with many lists can use categories and sub-categories that act like folders to help organize the lists for users and subscribers alike. Categories and the lists they contain are displayed in the left frame of the *"Recipient Dataset Details"* screen.

LISTSERV Maestro can create two different types of mailing list, hosted recipient lists and hosted LISTSERV lists. Each list type is denoted with its own icon style in the dataset so it can be easily identified. There are different features and functionality for each type of list. Deciding what the purposes are of the mailing lists in a dataset will help determine which type of list is best to create. Depending on the types of fields in the dataset, it is possible to have both types of list in one dataset.



Important Note: If there are selection menus in a dataset, it will not be possible to create hosted LISTSERV lists in that dataset. In order to have both types of list in a dataset, selection fields can be added to the individual hosted recipient list instead.

Table 2 Features of Hosted Recipient Lists and Hosted LISTSERV Lists

Hosted Recipient List Features	Hosted LISTSERV List Features
Easy to use and no extra set up involving LISTSERV is required.	Requires extra setup within LISTSERV so that LISTSERV knows how to access the LISTSERV Maestro database.
Allows subscriber data fields where the subscriber can select values from a drop-down menu ("select one" or "select all that apply").	Provides the special features of LISTSERV lists: <ul style="list-style-type: none">- Discussion lists- Digests- Archives- Auto-delete
Lists are controlled completely by LISTSERV Maestro.	Lists are created with easy-to-use list-creation wizards in LISTSERV Maestro.
Limited to announcement-only lists.	Lists can be announcement lists, moderated discussion lists, or unmoderated discussion lists.
Can only send messages using the LISTSERV Maestro interface.	Can send messages using any e-mail client
Powerful filters are available using a special target group definition wizard to segment and sort recipients.	Fully capable of executing a query using SQL that the user inputs.

Section 6 Creating Hosted Recipient Lists

Hosted lists contain data from the dataset. They can also have their own data fields that are not shared among lists in the dataset, but belong exclusively to the list. Lists that do have their own fields will also have their own web subscription forms generated when the list is created. All the fields that appear in the dataset and in a particular list can be used as merged fields for messages sent to that list.

To create a new hosted recipient list, first select the dataset the list will be added to from the "Recipient Datasets and Lookup Tables" screen. The "Recipient Dataset Details" screen opens. This screen is split into two frames. The left frame will display all the lists (if any) that belong to the open dataset. Datasets with many lists can use folders called "categories" to organize lists so that they are easier to find. See Section 8 [Organizing Data Sets](#) for more information.

The right frame displays all the settings for the open dataset. Clicking the **Actions** link will open a menu containing links to other functions that can be performed on the dataset. Click on the **Create Hosted Recipient List** link to open the hosted recipient list definition wizard.

Figure 13 Recipient Dataset Details



Click **Next** -> to continue.



Important Note: Clicking the **Actions** link in the right frame as described in Section 4.1.3 [Editing Existing Datasets](#) can make changes to the dataset itself. Once lists have been added to a dataset, it will not be possible to edit most of the settings for that dataset.

6.1 Hosted Recipient Mailing List Wizard

Similar to creating a dataset, creating a hosted recipient list is accomplished by using a wizard that details all the steps of designing the list and the accompanying web subscription form. The hosted recipient list definition wizard is comprised of four main screens.

6.1.1 General Settings

The first screen, “*General*”, defines the general information pertaining to the list.

- **Name** – This is the name of the mailing list. Subscribers will see this name for the list on the web form when they subscribe. Regular users will see the name of the list in the default hosted list target group that is automatically created when the list is populated with subscribers. See Section 13 [Hosted Recipient List Target Groups](#) for more details. Data administrators will see the list name in the dataset tree (see [Figure 20](#))
- **Internal Description** – The internal description is seen by users working within the Maestro User Interface.
- **Public Description** – The public description of the list appears on the subscription web form. If subscribers are permitted to select the lists they want to join and can view and change their subscription settings, having accurate descriptions will help them accomplish those tasks.

Figure 14 Hosted Recipient List Wizard – General

Click **Next ->** to continue.

6.1.2 Profile Fields

The second wizard screen is called “*Profile Fields*”. Every new list begins with the fields in the dataset. Other fields can be added to the list. Any added list fields will not be shared among the other lists in the dataset. To add a new field, click the **Add Field** link.

For each new field, enter the following information:

- **Name** – The name of the field as it will be used internally by the system for mail merging and querying. Field names can only use upper and lower case letters A-Z and a-z, the numbers 0 – 9 and the underscore “_”. Spaces and other special characters are not allowed.
- **Display Name** – The display name is the label that identifies the blank field on the web form. The display name will be seen by anyone accessing the list’s public subscription page on the Web. All alphanumeric characters are permitted, as well as spaces and most special characters.
- **Data Type** – Choose the type of data to be entered in the field from the drop-down menu. Five different classifications of data are available:
 - **Text** – Text fields can accept any type of text, including dates in specific formats such as dd/mm/yyyy or mm.dd.yyyy
 - **Number** – Number fields accept any whole integers.
 - **Boolean** – Boolean fields are based on two states, one being true, the other false.
 - **Single Select** (lookup table) – A single selection field consists of a drop-down menu where one item from it may be chosen.
 - **Multiple Select** (lookup table) – A multiple selection field consists of a drop-down menu where one or more items from it may be chosen.

- **Mandatory** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Boolean fields cannot be optional due to the nature of the data type – the selection equates to either true or false.

After list fields are created, they can be edited, removed, moved up or moved down by using the corresponding links on the right side of the table. Fields that are part of the dataset cannot be moved or edited from this screen.

Figure 15 Hosted Recipient List Wizard - Profile Fields

Hosted Recipient List Definition

General Profile Fields Profile Fields Details Summary

Cancel Save & Exit <- Back Next ->

Profile Fields

The list below displays the shared fields of the dataset together with the profile fields of the hosted recipient list. Click "Add Field" to add a new field to the list. Click on the links next to the list field to select it for editing or to remove the field from the list.

Name	Display Name	Data Type	Mandatory	
EMAIL	E-Mail Address	Text	Mandatory	(shared field)
FNAME	First name	Text	Mandatory	(shared field)
LNAME	Last name	Text	Mandatory	(shared field)
USERNAME	Screen name	Text	Optional	(shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional	(shared field)
DOB	Date of birth	Text	Optional	(shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a	(shared field)

product Please select the XYZ titles you currently Multiple Select Optional Reset Up Down Remove

[Add Field](#) Use this link to add a field to the list

These fields belong to the dataset and cannot be changed from here.

Click **Next ->** to continue.

6.1.3 Profile Field Details

The next screen in the wizard is "Profile Field Details". The profile field details screen has multiple tabs that toggle between the different settings for list profile fields. The number and type of tabs depends on the types of data fields added to the list.

Lists containing selection fields have to assign the relevant lookup table to the field. Click on the tab **Selection Field Details** to access the list of available lookup tables. See Section 4.1.2 [Creating a Lookup Table](#) for more information.

Figure 16 Hosted Recipient List Wizard - Profile Fields Details – Selection Field Details

Hosted Recipient List Definition

General Profile Fields Profile Fields Details Summary

Cancel Save & Exit <- Back Next ->

Profile Fields Details

Specify the details for the profile fields.

Selection Field Details Subscriber Name Definition Input Field Validation

The list below contains all profile fields of type "Single Select" or "Multiple Select". Please select the lookup table for each of these fields.

Field	Lookup Table
PRODUCT	XYZ Products
	-- Select --
	Countries
	departments
	Industry
	Models
	Pets
	States
	transportation
	XYZ_Products

Click **Next ->** to continue.

Lists containing fields of the types "Text" and "Number" can have set validation limits entered so that when the fields are filled in by subscribers, only certain types of input will be accepted. Click on the tab **Input Field Validation** to access the field validation settings. For example, in the column PRICE, a monetary value is requested. By setting a validation setting for a number range, only prices falling within the specified range will be accepted. **Note:** Only whole numbers in the form of integers will be accepted. Floating point numbers are not accepted in the number field.

Figure 17 Hosted Recipient List Wizard - Profile Fields Details – Input Field Validation

Hosted Recipient List Definition

General Profile Fields Profile Fields Details Summary

Cancel Save & Exit <- Back Next ->

Profile Fields Details

Specify the details for the profile fields.

Selection Field Details Subscriber Name Definition Input Field Validation

The list below contains all fields of type "Text" or "Number". Specify whether the subscriber profile value input for the fields will be restricted.

Field	Input Validation Settings
PRICE	Number range Min: 10 Max: 40
	Accept all values
	Number range
	Number minimum
	Number maximum

Click **Next ->** to continue.

To personalize list mailings, define the profile field that will be used in the `TO:` field of all messages sent to the list. This is an optional setting, and if left undefined, the `TO:` field will contain the subscriber's e-mail address. Select the field or fields that will make up the Name field. If more than one field is selected, the second one will be added behind the first, leaving a space in between. This makes it easy to combine a first name field with a last name field to produce a "full name" field, for example.

Figure 18 Profile Fields Details – Subscriber Name Definition

Hosted Recipient List Definition

[General](#) | [Profile Fields](#) | [Profile Fields Details](#) | [Summary](#)

Cancel Save & Exit <- Back Next ->

Profile Fields Details

Specify the details for the profile fields.

[Selection Field Details](#) | [Subscriber Name Definition](#) | [Input Field Validation](#)

To better personalize your mailings to this hosted recipient list, you may **optionally** define one or more of the list fields to constitute each subscriber's name as it is to be included in the "To:" field of all e-mails sent to the list. If you do not define a subscriber name, the "To:" field will only contain the subscriber's address. The fields in the list labelled "Name Fields" are appended to each other in the given order (with a separating space between each) to assemble the "To:" field name of the mailing list subscriber.

Profile Fields

FNAME <Mandatory>
 LNAME <Mandatory>
 USERNAME <Optional>
 DOB <Optional>

Name Fields

Use the arrows to move the profile fields into the name fields column

->

<-

[Move Up](#)
[Move Down](#)

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a (shared field)
PRODUCT	Please select the XYZ titles you currently own.	Multiple Select	Optional
PRICE	How much did you pay for the newest title you purchased? Please round the price to the nearest whole dollar.	Number	Optional

Click **Next ->** to continue.

6.1.4 Summary

The final screen in the wizard is the "Summary" page. All the settings for the list are displayed here. Set the access level for the list by selecting one of the options in the drop-down menu under the heading "Public List Access". Lists that are "Open to everyone" can be subscribed to from the dataset web form or the list web form. Anyone with the URL to either form can access

the list subscription page. Lists that have “*Access for subscribers only*” are visible to subscribers who have been added to the list by the data Administrator. The list will not be displayed on the dataset web form when accessed by a non-member. Lists with “*No public access*” will not appear to non-subscribers or subscribers from the dataset web form. This setting can be used when a list is under construction to prevent anyone from signing up prematurely.

Figure 19 Hosted Recipient List Wizard – Summary

Hosted Recipient List Definition

General Profile Fields Profile Fields Details Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the settings of the recipient list.
Click Finish to accept the changes, click Cancel to return to the recipient dataset details page without saving your changes.

Public List Access

Open to everyone
 Open to everyone
 Access for subscribers only
 No public access

General Settings

List Name: XYZ Monthly Newsletter
 List Description: monthly customer newsletter

Profile Fields

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail.	Boolean	n/a (shared field)
PRODUCT	Please select the XYZ titles you currently own.	Multiple Select (XYZ Products)	Optional
PRICE	How much did you pay for the newest title you purchased? Please round the price to the nearest whole dollar.	Number	Optional

Subscriber Name Fields: FNAME, LNAME

Use the **<- Back** button to return to the previous screen. Click **Finish** to save the list and return to the Recipient Dataset Details screen. After a hosted recipient list has been added to the dataset, it will appear in the dataset tree in the left frame represented by this icon  and accompanied by the list name.

Section 7 Creating Hosted LISTSERV Lists

Hosted LISTSERV lists contain data from the dataset. They can also have their own data fields that are not shared among lists in the dataset, but belong exclusively to the list. Lists that do have their own fields will also have their own Web subscription forms generated when the list is created. All the fields that appear in the dataset and in a particular list can be used as merged fields for messages sent to that list.

To create a new hosted LISTSERV recipient list, first select the dataset the list will be added to from the “*Recipient Datasets and Lookup Tables*” screen. The “*Recipient Dataset Details*” screen opens. This screen is split into two frames. The left frame will display all the lists (if any) that belong to the open dataset. Datasets with many lists can use folders called “categories” to organize lists so that they are easier to find. See Section 8 [Organizing Datasets](#) for more information.

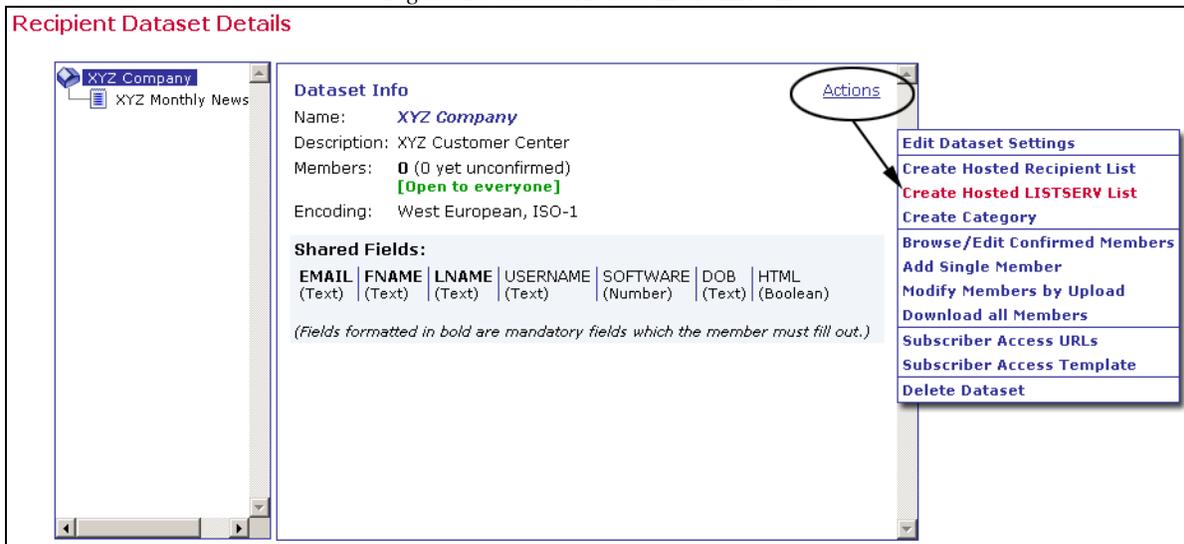
When LISTSERV Maestro creates a LISTSERV list, it is assembling a “list header” that is made up of “key words.” The key words define the settings in the list such as who may send mail to the list, who administers the list, how are bounces handled, and many other settings. Once the key words are defined and written to the list header, the system can create a LISTSERV list.

LISTSERV Maestro provides a wizard that can create three different types of LISTSERV list. Each type of list provides unique ways for subscribers to manage their settings and communicate. The three type of LISTSERV list available are:

- **Announcement List** – This type of list is used for announcements and newsletters. Communication with subscribers is one-way, stemming from the LISTSERV Maestro sender and going to the subscribers. Subscribers are not allowed to post back to the list.
- **Unmoderated Discussion List** – This type of list is used for open discussion among list subscribers and any LISTSERV Maestro senders. Communication is two-way, originating from both subscribers and LISTSERV Maestro senders. Postings go directly to the list without being reviewed or edited.
- **Moderated discussions** – This type of list is used for a controlled discussion among subscribers and any LISTSERV Maestro senders. Postings sent to the list from subscribers are reviewed by a moderator who can approve the message for distribution to the rest of the list or reject the posting so it is not sent on the rest of the list subscribers. Messages originating from LISTSERV Maestro are not subject to moderation.

Once the list is created in the hosted recipient list wizard, it can be edited outside of LISTSERV Maestro using LISTSERV, either with WA or without. This is an advanced skill for those administrators familiar with LISTSERV. If any changes to the list header are made outside of LISTSERV Maestro, the list wizard cannot be used again on the same list without losing all of the changes.

Figure 20 Create Hosted LISTSERV List



7.1 Creating LISTSERV Announcement Lists

Similar to creating a dataset and creating a hosted recipient list, creating a hosted LISTSERV list is accomplished by using a wizard that details all the steps of designing the list and the accompanying web subscription form. The hosted LISTSERV list definition wizard is comprised of eight main screens. The settings available in the wizard vary depending on the type of LISTSERV list that is created.

A LISTSERV announcement list permits communication to run in one direction, from the sender of the message to the subscribers. Subscribers are not allowed to post back to the list, although they can send mail back to the sender of the message. Subscribers are, however, allowed to manage their own subscription settings based on the features of the list itself.

7.1.1 General Setting for LISTSERV Announcement List

The first screen, "General", defines the general information pertaining to the list.

- **Name** – This is the name of the mailing list. Subscribers will see this name of the list on the web form when they subscribe. Data administrators will see the list name in the dataset tree (see [Figure 58](#)) and if they create a target group from a classic LISTSERV list (see Section 14 [Classic LISTSERV List Target Groups](#) for details). Regular users will see the list name if they are allowed to define recipients for a job using by sending to an "Existing LISTSERV List".
- **Internal Description** – The internal description is seen by users working within the Maestro User Interface.
- **Public Description** – The public description of the list appears on the subscription web form. If subscribers are permitted to select the lists they want to join and can view and change their subscription settings, having accurate descriptions will help them accomplish those tasks.

Figure 21 Hosted LISTSERV List Wizard - General

LISTSERV List Definition

General | Profile Fields | Profile Field Details | List Type | List Options | Posting Restrictions | Topics | Summary

Cancel | Save & Exit | <- Back | Next ->

General

Specify the name and the description of the LISTSERV list.

Name: NEWS-FROM -XYZ

Internal Description: Announcement list for XYZ users and developers

Public Description (Optional): Join our news list for XYZ customers. Breaking news for users and developers such as upgrades and bug fixes will be announced here. New product release schedules and calls for beta testers will also be distributed.

This is a suffix that appears on all LISTSERV hosted lists created by this user group. Suffixes are defined in the HUB and prevent groups from using the same list name.

Click **Next ->** to continue.

7.1.2 Profile Fields for LISTSERV Announcement List

The second wizard screen is called “*Profile Fields*”. Every new list begins with the fields in the dataset. Other fields can be added to the list. Any added list fields will not be shared among the other lists in the dataset. To add a new field, click the **Add Field** link.

For each new field, enter the following information:

- **Name** – The name of the field as it will be used internally by the system for mail merging and querying. Field names can only use upper and lower case letters A-Z and a-z, the numbers 0 – 9 and the underscore “_”. Spaces and other special characters are not allowed.
- **Display Name** – The display name is the label that identifies the blank field on the web form. The display name will be seen by anyone accessing the list’s public subscription page on the Web. All alphanumeric characters are permitted, as well as spaces and most special characters.
- **Data Type** – Choose the type of data to be entered in the field from the drop-down menu. Three different classifications of data are available (selection lists are not available for hosted LISTSERV lists):
 - **Text** – Text fields can accept any type of text, including dates in specific formats such as dd/mm/yyyy or mm.dd.yyyy
 - **Number** – Number fields accept any whole integers.
 - **Boolean** – Boolean fields are based on two states, one being true, the other false.
- **Mandatory** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Boolean fields cannot be optional due to the nature of the data type – the selection equates to either true or false.

After list fields are created, they can be edited, removed, moved up or moved down by using the corresponding links on the right side of the table. Fields that are part of the dataset cannot be moved or edited from this screen.

Figure 22 Hosted LISTSERV List Wizard - Profile Fields

LISTSERV List Definition

General **Profile Fields** Profile Field Details List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Next ->

Profile Fields

The list below displays the shared fields of the recipient dataset together with the profile fields of the LISTSERV list. Click "Add Field" to add a new field to the list. Click on the links next to the list field to select it for editing or to remove the field from the list.

Name	Display Name	Data Type	Mandatory	
EMAIL	E-Mail Address	Text	Mandatory	(shared field)
FNAME	First name	Text	Mandatory	(shared field)
LNAME	Last name	Text	Mandatory	(shared field)
USERNAME	Screen name	Text	Optional	(shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional	(shared field)
DOB	Date of birth	Text	Optional	(shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a	(shared field)

These fields belong to the dataset and cannot be changed from here.

usertype Check the box if you are a developer Boolean Optional [Reset](#) [Up](#) [Down](#) [Remove](#)

[Add Field](#) Use this link to add a field to the list

Click **Next ->** to continue.

7.1.3 Profile Field Details for LISTSERV Announcement List

The next screen in the wizard is "Profile Field Details". Hosted LISTSERV lists require a full name be defined for each subscriber comprised of a first name and last name separated by a space. If a single mandatory data field exists for each subscriber containing a full name that meets this criterion, move that field from the "Profile Fields" box to the "Name Fields" box. If two fields are required to make up a full name, each of these fields must be mandatory. Move each of the fields from the Profile Fields box to the Name Fields box. The second field is added after the first field, leaving a space in between. This makes it easy to combine a first name field with a last name field to produce a "full name" field, for example. Use the **Move Up** and **Move Down** links to change the order of the name fields.

Figure 23 LISTSERV List Wizard - Profile Fields Details

LISTSERV List Definition

General Profile Fields Profile Field Details List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Next ->

Profile Fields Details

Specify which of the LISTSERV list fields are used to assemble the "Full Name" of the list subscriber.

Select a mandatory single field that contains a valid full name consisting of at least a first name and a last name, separated by a space. This will be validated during input.

Alternatively, select several fields, two of which must be mandatory (any remaining fields may be optional) that the "Full Name" can be assembled from by appending the fields in the given order (with a separating space between each). No additional input validation is required.

Profile Fields

USERNAME <Optional>
 DOB <Optional>

Use the arrows to move the profile fields into the name fields column.

"Full Name" Fields:

FNAME <Mandatory>
 LNAME <Mandatory>

Move Up
 Move Down

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a (shared field)
USERTYPE	Check the box if you are a developer	Boolean	n/a

Click **Next ->** to continue.

7.1.4 List Type for LISTSERV Announcement List

The next screen in the wizard is "List type". Use the option buttons to select "Announcement List".

- **Announcement List** – This type of list is used for announcements and newsletters. Communication with subscribers is one-way, stemming from the LISTSERV Maestro sender and going to the subscribers. Subscribers are not allowed to post back to the list.

Figure 24 LISTSERV List Wizard - List Type

Click **Next ->** to continue.

7.1.5 List Options for LISTSERV Announcement Lists

The “*List Options*” screen is divided into tabbed pages: “*General Options*”, “*Reply Behavior*”, “*Bounce Handling*” and “*List Archive*”. The last tab, List Archive is optional and will not appear unless archives have been set up in the HUB. For more information on archives, see the LISTSERV Maestro Administrator’s Manual.

All list types require that a list administrator called a “list owner” be set on the General Options tab. Enter at least one e-mail address that will become the administrator (owner) of the LISTSERV list. Click the **Edit** link to add a new address or edit the existing ones in the pop-up dialog box. Entries must contain a valid Internet e-mail address.

Figure 25 LISTSERV List Wizard - Set the List Administrator

Click **OK** to accept the administrator address and return to the General Options tab.

Two “*General List Options*” for announcement lists that can be enabled by checking the adjacent check box. They are:

- **DIGEST Mode** – Check the box next to “*Allow subscribers to enable DIGEST mode*” to give subscribers the opportunity to receive a digest of the list’s postings. List digests group list messages together and send them in one message. If a list has many postings, allowing subscribers to receive a digest cuts down the number of messages they get per day.
- **Mail Merging** – Mail merging uses any recipient data headings to insert subscriber specific content into the message based upon the data associated with each subscriber. More information on using mail merging can be found in ...

The next tab, “*Reply Behavior*” determines where any replies from subscribers are sent. There are three options available:

- **Sender** – Replies are sent to the sender of the e-mail message. The sender address is the address based on the “From:” field of the posting.
- **List Administrator** – Replies can be sent to the list administrator address. This is the address that was entered in the General Options tab under the heading “*List Administrator E-mail Addresses*”. If there is more than one list administrator, each address will receive all replies.
- **Separate address** – Replies are sent to an address that is entered in the text box of this tab.

Figure 26 List Wizard for LISTSERV List - Reply Behavior

List Options
Specify additional options of the LISTSERV list.

General Options Reply Behavior Bounce Handling List Archive

Please define which E-Mail address will be used as the reply-to address for postings distributed by the LISTSERV list.

Replies to List Postings Should Go To:

Sender (according to the "From:" address in the posting)

List Administrator

Separate Address: list-help@XYZCompany.com

The next tab, “*Bounce Handling*” determines what happens to the subscriber addresses when messages sent to them bounce (are rejected from the e-mail server and returned to the sender undeliverable). LISTSERV lists can handle bounces by removing the subscriber addresses of bounced messages automatically, or by collecting bounces for manual action. Manually processed bounces are sent to the list administrator's mailbox. Select one of the three available the bounce processing options:

- **Remove immediately after first bounce** – The address that bounced the mail will be removed from the list after the first bounce. Subscribers will have to be re-added to the list to receive any additional mail.
- **Remove subscribers after X bounces within X days** – Enter the number of bounces that are permitted in the first text box, and the number days they can occur over in the second box. This setting is more flexible than the first setting in that if the reason for the

bounce is temporary, such as a full mailbox, the message can be sent again with the set number of days. Subscribers will not be removed from the list if the message can be delivered within the set number of allowable bounces and days.

- **Collect bounces for manual processing** – Bounce addresses will be sent to a specific address where they can be reviewed and action can be taken manually. Subscriber addresses that generate bounces will not be removed from the list automatically, no matter the number of bounces.

Figure 27 LISTSERV List Wizard – Bounce Handling

The screenshot shows the 'List Options' window with the 'Bounce Handling' tab selected. The text reads: 'Specify additional options of the LISTSERV list.' Below this are four tabs: 'General Options', 'Reply Behavior', 'Bounce Handling', and 'List Archive'. The main content area contains the instruction: 'Please define how bounced messages will be handled by the LISTSERV list.' Underneath is the heading 'Action to Take on Bounces:' followed by three radio button options: 'Remove subscribers immediately on first bounce', 'Remove subscribers after 10 bounces within 4 days' (which is selected), and 'Collect bounces for manual processing'.

The next tab, “*List Archives*” will only appear if archives have been enabled in the HUB. List archives are a searchable history of all the messages posted to the list.

- **Disabled/Enabled** – Click the adjacent option button to enable or disable archives for the list. Although the ability to have archives is granted in the HUB, archives for individual lists can be disabled here.
- **Create new archive files** – Set the time frame for the creation of new archive files using the drop-down menu. Archives can be created on a weekly, monthly or yearly basis.
- **Archive viewable by** – Sets the access level for list archives. Archives can be open to anyone, subscriber or non-subscriber of a list, open to only subscribers, or open to administrators only.

Figure 28 LISTSERV List Wizard - Archives

The screenshot shows the 'List Options' window with the 'List Archive' tab selected. The text reads: 'Specify additional options of the LISTSERV list.' Below this are four tabs: 'General Options', 'Reply Behavior', 'Bounce Handling', and 'List Archive'. The main content area contains the instruction: 'Please define the archive behavior of the LISTSERV list.' Underneath is the heading 'Archive Postings to This List:' followed by two radio button options: 'Disabled' and 'Enabled' (which is selected). Below this is the text 'Create new archive files:' followed by a dropdown menu set to 'Every week'. At the bottom, it says 'The Archive will be viewable by:' followed by three radio button options: 'Anyone' (selected), 'Subscribers only', and 'Administrators only'.

Click **Next** -> to continue.

7.1.6 Posting Restrictions for LISTSERV Announcement Lists

Posting restrictions set limitations on message attachments, message size and the number of messages that can be sent to the list. These restrictions affect the sender of messages to the LISTSERV list when they are submitted as “standard list postings.” A standard list posting is a normal e-mail message sent to the list with no mail merging. Standard list messages can be received in a digest form, and can be viewed in the list archives if archives have been created for the list. Standard list messages limit the type of available tracking to blind tracking only. There are two tabs that set posting restrictions for an announcement list:

- **Attachment Handling** – Sets the action the list will take when standard messages are receive with attachments. There are three options:
 - Accept all posts even if contain attachments
 - Accept all posts but remove attachments – the message itself will be delivered to the list but any attachments will be stripped off.
 - Reject all posts if they contain attachments – any message submitted to the list with attachments will be automatically rejected.

Figure 29 LISTSERV List Wizard - Handling Attachments

Posting Restrictions
Specify the restrictions that will be applied to postings on the list.

Attachment Handling | Size / Message Limits

Handling of Attachments:

- Accept postings even if they contain attachments
- Accept postings but remove all attachments
- Reject postings if they contain attachments

- **Size / Message Limits** – Sets a size limit for each message posted to the list. The size can be limited by the number of lines in the message, the number of kilobits (KB) or the number of megabits (MB) of the message. The total number of messages allowed to be posted to the list for the day can be set as well as the total number of postings per user per day. Fields left blank will have no limitations imposed.

Figure 30 LISTSERV List Wizard - Size and Message Limits

Posting Restrictions

Specify the restrictions that will be applied to postings on the list.

Attachment Handling Size / Message Limits

Size / Message Limits:

The following settings specify limits for the data that is sent to the list. Leave a field empty to set the limit to "unlimited".

Limit each message to: lines

Maximum postings allowed per day for whole list: lines

Maximum postings allowed per day for each user: KB

7.1.7 Topics for LISTSERV Announcement Lists

Large active LISTSERV lists often use "sub-groups" within the list to give subscribers the opportunity to receive only the posts to the list they are most interested in reading. Sub-groups are created in LISTSERV by defining the keyword `Topics` in the list header. Lists can have up to 23 topics defined in the header. List subscribers can elect to receive only those messages that fit into the topic(s) they are interested in reading. Similarly, messages can be posted only to specific topics. For example, a large list could have the general subject of XYZ Software. Topics could be defined by the types of users of the software, the type software purchased, the tips and tricks for using the software. For more information on Topics, see the LISTSERV List Owner's Manual.

To define a new topic, simply click the **New Topic** link and fill out the empty topic row that appears. In the list, topics are displayed either in the display mode or in the editable mode. In the display mode, each topic has an associated **Edit** link to set it into the editable mode. In the editable mode, each topic has the associated links **Reset** (forget changes and reset the topic to the state it had when the editable mode was last entered for it), **Up** (move the topic up one step in the topics list), **Down** (move the topic down one step in the topics list) and **Remove** (remove the topic).

When the topics settings of a list that already has subscribers changes, all current subscribers' topics selections need to be adjusted. This will occur when the LISTSERV list wizard is completed. The adjustment may take some time and a progress bar will be displayed as the system works.



Changing topics on for a list where subscribers are currently very active needs to be carefully considered so a major disruption does not occur. A better strategy would be to temporarily close the hosted LISTSERV list for maintenance, (see [Summary](#) page) adjust the topics, and then re-open the list.

When adding new topics to a list that already has subscribers, an additional checkbox option "*Existing subscribers will have the new topics selected automatically*" will appear. Check this option to add all the existing subscribers to the new topics automatically. When left unchecked, existing subscribers will not be subscribed to the new topics. Subscribers will be able to change their settings to add or drop the new topics when they wish. This checkbox option applies to all topics that are added on this page during the same list wizard session. To add several topics, some of which the current subscribers are automatically subscribed to and some not, the list

wizard has to be engaged twice, once with the box checked for those topics to be added to all subscribers and once with the box unchecked for those topics that will not be added to all subscribers.

Figure 31 LISTSERV List Wizard – Topics

LISTSERV List Topics
Specify the topics that will be available for the LISTSERV List.

Topic Name	
DEVELOPERS <new>	Edit
INSTRUCTORS <new>	Edit
PARENTS <new>	Edit
CHILDREN <new>	Edit
ART	Reset Up Down Remove
LANGUAGE <new>	Edit
MUSIC <new>	Edit
MATH <new>	Edit
New Topic	

Click the edit link to change the settings of the topic.

Use these links to change the currently defined topic.

Add a new topic with this link.

7.1.8 Summary for LISTSERV Announcement Lists

The Summary screen displays all the selections made for the LISTSERV list during its creation. Use the **<- Back** button or any of the links in the top bar to revisit any page in the wizard to make changes. As long as there are no subscribers, the list settings can be edited from the Recipient Dataset Details screen by selecting the list and clicking the **Actions** link.

Before the list can be used, its access level needs to be set. The list can be set to be accessible to anyone wishing to subscribe, to be accessible to only list subscribers, or to have no public access. If a list is accessible to everyone, it will appear on the membership area Web page to anyone visiting that page. If the list is accessible only to members, the list will not appear in the membership area to everyone, it will only appear only to those who are subscribed to the list. This essentially closes the list to those who wish to sign themselves up and leaves adding subscribers to the LISTSERV Maestro users, while allowing existing subscribers to manage their own settings. Lists with no public access do not appear in the membership area to anyone.

Figure 32 LISTSERV List Wizard – Summary

LISTSERV List Definition

General Profile Fields Profile Field Details List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the settings of the LISTSERV list. Click Finish to accept the changes. Click Cancel to return to the recipient dataset details page without saving your changes.

Public List Access

Open to everyone Set the access level for the list

Closed for maintenance Close the list temporarily by checking this box

General Settings

List Name: NEWS-FROM-XYZ
List Description: Announcement list for XYZ users and developers

Profile Fields

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a (shared field)
USERTYPE	Check the box if you are a developer	Boolean	n/a

"Full Name" Fields: FNAME, LNAME

List Type Settings

Type of List: Announcement List

Optional List Settings

Archival mode for list: No archive is maintained
Mail Merging: Mail merging is **disabled**
Digest Mode: Subscribers may not enable DIGEST mode
Bounce Handling: Bounced e-mail addresses are removed from the list automatically after the first bounce

Posting Restrictions

Handling of Attachments: Remove all attachments before postings are distributed

Topics

List Topics: DEVELOPERS, INSTRUCTORS, PARENTS, CHILDREN, ART, LANGUAGE, MUSIC, MATH

Click **Finish** to accept the list as it is summarized and return to the Recipient Dataset Details screen.

7.2 Creating *LISTSERV* Unmoderated Discussion Lists

Unmoderated discussion lists allow for two-way interaction between group members. These open forums facilitate ongoing discussions among members. They are most commonly used for internal communication within an organization or group of people. For instance, many universities use secure "class lists" for interaction between students and teachers or to conduct remote teaching.

Unlike a one-way list, a discussion list not only allows, but also encourages interaction between members who are part of the group. Every member can write to the list, and in doing so, all members will receive a copy of the message. In this way, discussions can take place and views can be exchanged among a large number of people. Two-way discussion lists can be open for anyone to join or closed so that membership is controlled by the data administrator. Open public discussion lists tend to be large with many messages being posted (high volume). They can take up a lot of server space and they can be open to spamming, spoofing, and flaming if there are no oversight measures in place.

Unmoderated discussion groups where membership is determined by the data administrator can also be large and high volume, or they can be medium sized or very small. Subscribers communicate amongst themselves on a specific topic. Incidents of spamming and flaming are generally low because only subscribers can post to the list, and their subscription request has been reviewed.

Unmoderated discussion lists can provide a dynamic platform for disseminating information, sharing options, collaborative learning, and much more. Unmoderated discussion lists can generate a large amount of mail and take up server resources if archives are kept. Some thought needs to be given to the number and type of subscribers permitted to join this type of *LISTSERV* list and some monitoring needs to take place in order to keep the level and topics of discussion pertinent to list.

7.2.1 General Settings for Unmoderated Discussion Lists

The first screen, "*General*", defines the general information pertaining to the list.

- **Name** – This is the name of the mailing list. Subscribers will see this name of the list on the web form when they subscribe. Data administrators will see the list name in the dataset tree (see [Figure 58](#)) and if they create a target group from a classic *LISTSERV* list (see Section 14 [Classic *LISTSERV* List Target Groups](#) for details). Regular users will see the list name if they are allowed to define recipients for a job using by sending to an "*Existing *LISTSERV* List*".
- **Internal Description** – The internal description is seen by users working within the Maestro User Interface.
- **Public Description** – The public description of the list appears on the subscription web form. If subscribers are permitted to select the lists they want to join and can view and change their subscription settings, having accurate descriptions will help them accomplish those tasks.

Figure 33 LISTSERV List Wizard - General

LISTSERV List Definition

General Profile Fields Profile Field Details List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Next ->

General

Specify the name and the description of the LISTSERV list.

Name: Talk-back-to -XYZ

Internal Description: customer discussion list - unmoderated

Public Description: (Optional) Join our open discussion list for XYZ customers. Share your tips and tricks with other users of XYZ software. The most creative ideas will be published in our award winning monthly newsletter.

This is a suffix that appears on all LISTSERV hosted lists created by this user group. Suffixes are defined in the HUB and prevent groups from using the same list name.

Click **Next ->** to continue.

7.2.2 Profile Fields for Unmoderated Discussion Lists

The second wizard screen is called “*Profile Fields*”. Every new list begins with the fields in the dataset. Other fields can be added to the list. Any added list fields will not be shared among the other lists in the dataset. To add a new field, click the **Add Field** link.

For each new field, enter the following information:

- **Name** – The name of the field as it will be used internally by the system for mail merging and querying. Field names can only use upper and lower case letters A-Z and a-z, the numbers 0 – 9 and the underscore “_”. Spaces and other special characters are not allowed.
- **Display Name** – The display name is the label that identifies the blank field on the web form. The display name will be seen by anyone accessing the list’s public subscription page on the Web. All alphanumeric characters are permitted, as well as spaces and most special characters.
- **Data Type** – Choose the type of data to be entered in the field from the drop-down menu. Three different classifications of data are available (selection lists are not available for hosted LISTSERV lists):
 - **Text** – Text fields can accept any type of text, including dates in specific formats such as dd/mm/yyyy or mm.dd.yyyy
 - **Number** – Number fields accept any whole integers.
 - **Boolean** – Boolean fields are based on two states, one being true, the other false.
- **Mandatory** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Boolean fields cannot be optional due to the nature of the data type – the selection equates to either true or false.

After list fields are created, they can be edited, removed, moved up or moved down by using the corresponding links on the right side of the table. Fields that are part of the dataset cannot be moved or edited from this screen.

Figure 34 LISTSERV List Wizard - Profile Fields

LISTSERV List Definition

General **Profile Fields** Profile Field Details List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Next ->

Profile Fields

The list below displays the shared fields of the recipient dataset together with the profile fields of the LISTSERV list. Click "Add Field" to add a new field to the list. Click on the links next to the list field to select it for editing or to remove the field from the list.

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a (shared field)

These fields belong to the dataset and cannot be changed from here.

permission Can we quote you in our newsletter? Ch Boolean Optional Reset Up Down Remove

Add Field Use this link to add a field to the list

Click **Next ->** to continue.

7.2.3 Profile Field Details for Unmoderated Discussion Lists

The next screen in the wizard is "Profile Field Details". Hosted LISTSERV lists require a full name be defined for each subscriber comprised of a first name and last name separated by a space. If a single mandatory data field exists for each subscriber containing a full name that meets this criterion, move that field from the "Profile Fields" box to the "Name Fields" box. If two fields are required to make up a full name, each of these fields must be mandatory. Move each of the fields from the Profile Fields box to the Name Fields box. The second field is added after the first field, leaving a space in between. This makes it easy to combine a first name field with a last name field to produce a "full name" field, for example. Use the **Move Up** and **Move Down** links to change the order of the name fields.

Figure 35 LISTSERV List Wizard - Profile Field Details

LISTSERV List Definition

General Profile Fields Profile Field Details List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Next ->

Profile Fields Details

Specify which of the LISTSERV list fields are used to assemble the "Full Name" of the list subscriber.

Select a mandatory single field that contains a valid full name consisting of at least a first name and a last name, separated by a space. This will be validated during input. Alternatively, select several fields, two of which must be mandatory (any remaining fields may be optional) that the "Full Name" can be assembled from by appending the fields in the given order (with a separating space between each). No additional input validation is required.

Profile Fields

USERNAME <Optional>
DOB <Optional>

Use the arrows to move the profile fields into the name fields column.

"Full Name" Fields:

FNAME <Mandatory>
LNAME <Mandatory>

Move Up
Move Down

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a (shared field)
PERMISSION	Can we quote you in our newsletter? Check box for yes.	Boolean	n/a

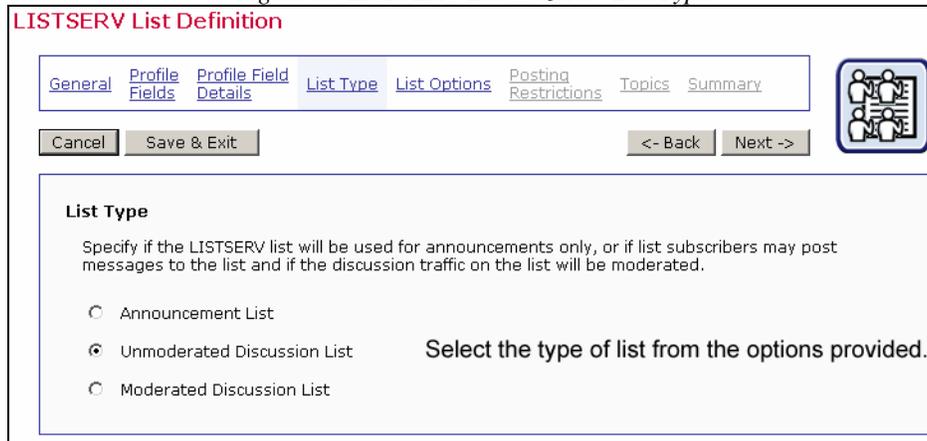
Click **Next ->** to continue.

7.2.4 List Type for Unmoderated Discussion Lists

The next screen in the wizard is "List type". Use the option buttons to select "Unmoderated Discussion List".

- **Unmoderated Discussion List** – This type of list is used for two-way communication. Subscribers are allowed to post to the list directly. List postings are not reviewed by a moderator or editor.

Figure 36 LISTSERV List Wizard - List Type



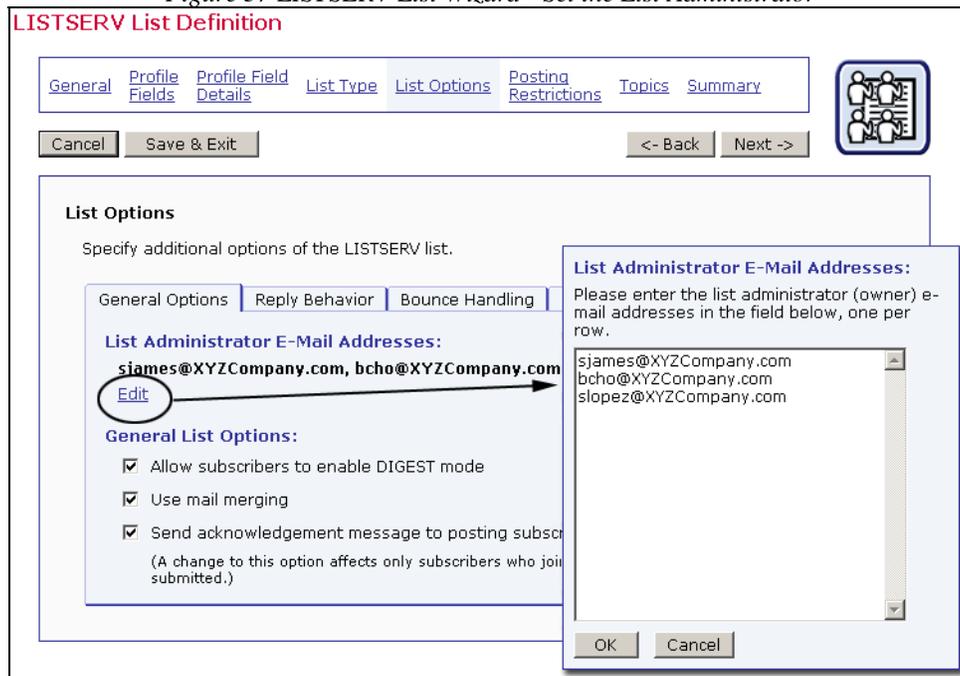
Click **Next ->** to continue.

7.2.5 List Options for Unmoderated Discussion Lists

The "List Options" screen is divided into tabbed pages: "General Options", "Reply Behavior", "Bounce Handling" and "List Archive". The last tab, List Archive is optional and will not appear unless archives have been set up in the HUB. For more information on archives, see the LISTSERV Maestro Administrator's Manual.

All list types require that a list administrator called a "list owner" be set on the General Options tab. Enter at least one e-mail address that will become the administrator (owner) of the LISTSERV list. Click the **Edit** link to add a new address or edit the existing ones in the pop-up dialog box. Entries must contain a valid Internet e-mail address.

Figure 37 LISTSERV List Wizard - Set the List Administrator



Click **OK** to accept the administrator address and return to the General Options tab.

There are three “*General List Options*” for announcement lists that can be enabled by checking the adjacent check box. They are:

- **DIGEST Mode** – Check the box next to “*Allow subscribers to enable DIGEST mode*” to give subscribers the opportunity to receive a digest of the list’s postings. List digests group list messages together and send them in one message. If a list has many postings, allowing subscribers to receive a digest cuts down the number of messages they get per day.
- **Mail Merging** – Check the box next to “*Use mail merging*” to allow the system to insert subscriber specific content into the message based upon the data associated with each subscriber. More information on using mail merging can be found in ...
- **Acknowledgements** – Check the box next to “*Send acknowledgement message to posting subscriber*” to have e-mail messages sent to posters telling them that their mail has been received by the list and distributed to the list subscribers. If this setting is changed while there are existing subscribers on the list, their settings will not be affected. Only those subscribers who join the list after the setting change will have the new setting.

The next tab, “*Reply Behavior*” determines where any replies from subscribers are sent. There are three options available:

- **Sender** – Replies are sent to the sender of the e-mail message. The sender address is the address based on the “From:” field of the posting.
- **List** – Replies are sent back to the list. If subscribers are not well informed that when they hit the “reply” key in their mail client their message goes to everyone, they can post private or off topic messages back to the list by mistake.
- **Both Sender & List** – Both parties receive replies.
- **Separate address** – Replies are sent to an address that is entered in the text box of this tab.

Figure 38 List Wizard for LISTSERV List - Reply Behavior

The screenshot shows a window titled "List Options" with the subtitle "Specify additional options of the LISTSERV list." There are four tabs: "General Options", "Reply Behavior" (which is selected), "Bounce Handling", and "List Archive". The "Reply Behavior" tab contains the following text: "Please define which E-Mail address will be used as the reply-to address for postings distributed by the LISTSERV list." Below this is the heading "Replies to List Postings Should Go To:" followed by four radio button options: "Sender (according to the 'From:' address in the posting)", "List (as a new posting)", "Both Sender & List", and "Separate Address:". The "Separate Address:" option has an empty text input field next to it.

The next tab, “*Bounce Handling*” determines what happens to the subscriber addresses when messages sent to them bounce (are rejected from the e-mail server and returned to the sender undeliverable). LISTSERV lists can handle bounces by removing the subscriber addresses of bounced messages automatically, or by collecting bounces for manual action. Manually

processed bounces are sent to the list administrator's address. Select one of the three available the bounce processing options:

- **Remove immediately after first bounce** – The address that bounced the mail will be removed from the list after the first bounce. Subscribers will have to be re-added to the list to receive any additional mail.
- **Remove subscribers after X bounces within X days** – Enter the number of bounces that are permitted in the first text box, and the number days they can occur over in the second box. This setting is more flexible than the first setting in that if the reason for the bounce is temporary, such as a full mailbox, the message can be sent again within the set number of days. Subscribers will not be removed from the list if the message can be delivered within the set number of allowable bounces and days.
- **Collect bounces for manual processing** – Bounce addresses will be sent to a specific address where they can be reviewed and action can be taken manually. Subscriber addresses that generate bounces will not be removed from the list automatically, no matter the number of bounces.

Figure 39 LISTSERV List Wizard - Bounce Handling

List Options
Specify additional options of the LISTSERV list.

General Options | Reply Behavior | **Bounce Handling** | List Archive

Please define how bounced messages will be handled by the LISTSERV list.

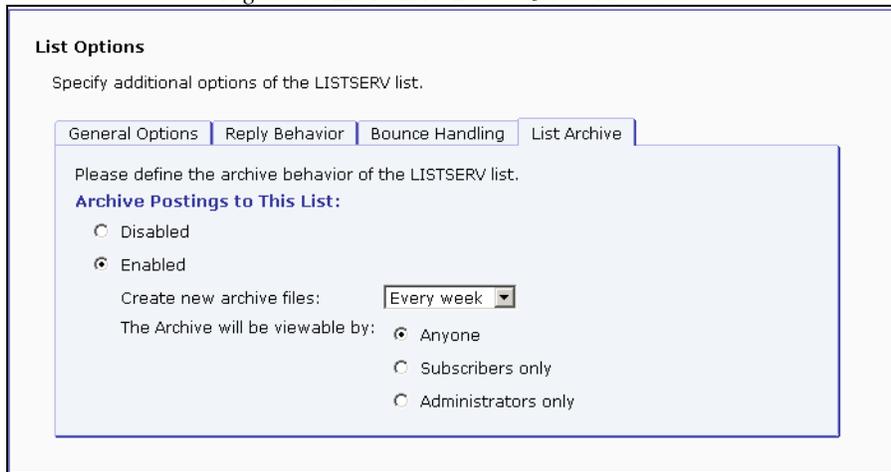
Action to Take on Bounces:

- Remove subscribers immediately on first bounce
- Remove subscribers after bounces within days
- Collect bounces for manual processing

The next tab, “*List Archives*” will only appear if archives have been enabled in the HUB. List archives are a searchable history of all the messages posted to the list.

- **Disabled/Enabled** – Click the adjacent option button to enable or disable archives for the list. Although the ability to have archives is granted in the HUB, archives for individual lists can be disabled here.
- **Create new archive files** – Set the time frame for the creation of new archive files using the drop-down menu. Archives can be created on a weekly, monthly or yearly basis.
- **Archive viewable by** – Sets the access level for list archives. Archives can be open to anyone, subscriber or non-subscriber of a list, open to only subscribers, or open to administrators only.

Figure 40 LISTSERV List Wizard - Archives



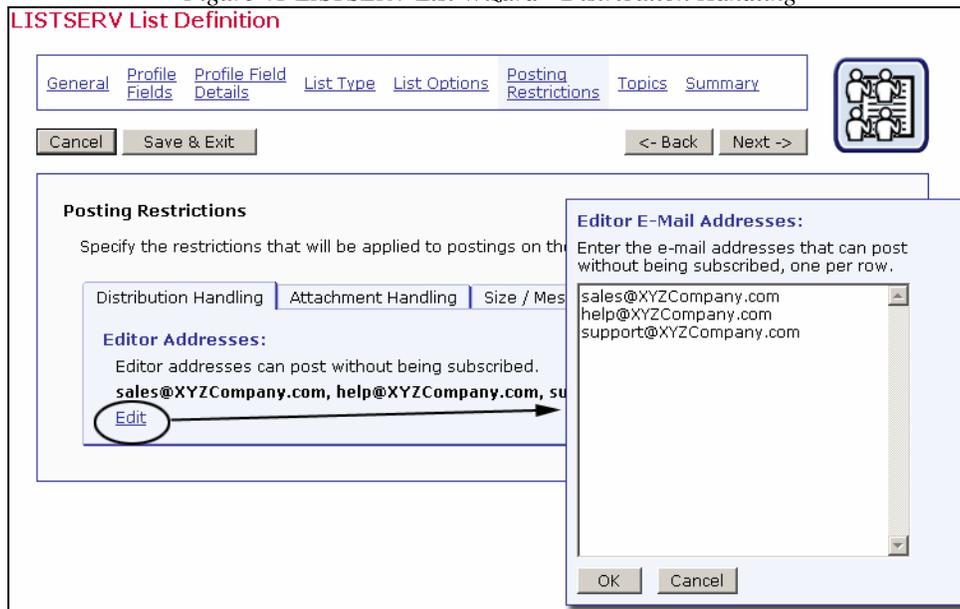
Click **Next ->** to continue.

7.2.6 Posting Restrictions for Unmoderated Discussion Lists

Posting restrictions for unmoderated discussion lists set limitations on who can post to the list, message attachments, message size and the number of messages that can be sent to the list. The posting restrictions screen has three tabs: “*Distribution Handling*”, “*Attachment Handling*”, and “*Size / Message Limits*”. Click each tab to enter its specific settings.

- **Distribution Handling** – Sets additional e-mail addresses that have permission to post to the list with out being subscribed to it. Additional addresses are optional. Addresses defined as the administrator addresses (on the General Settings screen) are allowed to post with out being subscribed.

Figure 41 LISTSERV List Wizard - Distribution Handling



- **Attachment Handling** – Sets the action the list will take when standard messages are receive with attachments. There are three options:

- Accept all posts even if contain attachments
- Accept all posts but remove attachments – the message itself will be delivered to the list but any attachments will be stripped off.
- Reject all posts if they contain attachments – any message submitted to the list with attachments will be automatically rejected.

Figure 42 LISTSERV List Wizard - Handling Attachments

Posting Restrictions
Specify the restrictions that will be applied to postings on the list.

Distribution Handling Attachment Handling **Size / Message Limits**

Handling of Attachments:

- Accept postings even if they contain attachments
- Accept postings but remove all attachments
- Reject postings if they contain attachments

These restrictions affect the sender of messages to the LISTSERV list when they are submitted as “standard list postings.” A standard list posting is a normal e-mail message sent to the list with no mail merging. Standard list messages can be received in a digest form, and can be viewed in the list archives if archives have been created for the list. Standard list messages limit the type of available tracking to blind tracking only.

- **Size / Message Limits** – Sets a size limit for each message posted to the list. The size can be limited by the number of lines in the message, the number of kilobits (KB) or the number of megabits (MB) of the message. The total number of messages allowed to be posted to the list for the day can be set as well as the total number of postings per user per day. Fields left blank will have no limitations imposed.

Figure 43 LISTSERV List Wizard - Size and Message Limits

Posting Restrictions
Specify the restrictions that will be applied to postings on the list.

Distribution Handling Attachment Handling **Size / Message Limits**

Size / Message Limits:
The following settings specify limits for the data that is sent to the list. Leave a field empty to set the limit to “unlimited”.

Limit each message to: 1 MB

Maximum postings allowed per day for whole list:

Maximum postings allowed per day for each user: 10

Click **Next** -> to continue.

These restrictions affect the sender of messages to the LISTSERV list when they are submitted as “standard list postings.” A standard list posting is a normal e-mail message sent to the list with no mail merging. Standard list messages can be received in a digest form, and can be viewed in the list archives if archives have been created for the list. Standard list messages limit the type of available tracking to blind tracking only.

7.2.7 Topics for Unmoderated Discussion Lists

Large active LISTSERV lists often use "sub-groups" within the list to give subscribers the opportunity to receive only the posts to the list they are most interested in reading. Sub-groups are created in LISTSERV by defining the keyword `Topics` in the list header. Lists can have up to 23 topics defined in the header. List subscribers can elect to receive only those messages that fit into the topic(s) they are interested in reading. Similarly, messages can be posted only to specific topics. For example, a large list could have the general subject of XYZ Software. Topics could be defined by the types of users of the software, the type software purchased, the tips and tricks for using the software. For more information on Topics, see the LISTSERV List Owner's Manual.

To define a new topic, simply click the **New Topic** link and fill out the empty topic row that appears. In the list, topics are displayed either in the display mode or in the editable mode. In the display mode, each topic has an associated **Edit** link to set it into the editable mode. In the editable mode, each topic has the associated links **Reset** (forget changes and reset the topic to the state it had when the editable mode was last entered for it), **Up** (move the topic up one step in the topics list), **Down** (move the topic down one step in the topics list) and **Remove** (remove the topic).

When the topics settings of a list that already has subscribers changes, all current subscribers' topics selections need to be adjusted. This will occur when the LISTSERV list wizard is completed. The adjustment may take some time and a progress bar will be displayed as the system works.



Changing topics on for a list where subscribers are currently very active needs to be carefully considered so a major disruption does not occur. A better strategy would be to temporarily close the hosted LISTSERV list for maintenance, (see [Summary](#) page) adjust the topics, and then re-open the list.

When adding new topics to a list that already has subscribers, an additional checkbox option "*Existing subscribers will have the new topics selected automatically*" will appear. Check this option to automatically add all the existing subscribers to the new topics. When left unchecked, existing subscribers will not be subscribed to the new topics. Subscribers will be able to change their settings to add or drop the new topics when they wish. This checkbox option applies to all topics that are added on this page during the same list wizard session. To add several topics, some of which the current subscribers are automatically subscribed to and some not, the list wizard has to be engaged twice, once with the box checked for those topics to be added to all subscribers and once with the box unchecked for those topics that will not be added to all subscribers.

Figure 44 *LISTSERV List Wizard – Topics*

LISTSERV List Topics

Specify the topics that will be available for the LISYSERV List.

Topic Name	
DEVELOPERS <new>	Edit
INSTRUCTORS <new>	Edit
PARENTS <new>	Edit
CHILDREN <new>	Edit
ART	Reset Up Down Remove
LANGUAGE <new>	Edit
MUSIC <new>	Edit
MATH <new>	Edit
New Topic	

Click the edit link to change the settings of the topic.

Use these links to change the currently defined topic.

Add a new topic with this link.

Click **Next** -> to continue.

7.2.8 Summary for Unmoderated Discussion Lists

The Summary screen displays all the selections made for the LISYSERV list during its creation. Use the **<- Back** button or any of the links in the top bar to revisit any page in the wizard to make changes. Click **Finish** to accept the list as it is summarized and return to the Recipient Dataset Details screen. As long as there are no subscribers, the list settings can be edited from the Recipient Dataset Details screen by selecting the list and clicking the **Actions** link.

Before the list can be used, its access level needs to be set. The list can be set to be accessible to anyone wishing to subscribe, to be accessible to only list subscribers, or to have no public access. If a list is accessible to everyone, it will appear on the membership area Web page to anyone visiting that page. If the list is accessible only to members, the list will not appear in the membership area to everyone, it will only appear only to those who are subscribed to the list. This essentially closes the list to those who wish to sign themselves up and leaves adding subscribers to the LISYSERV Maestro data administrator, while allowing existing subscribers to manage their own settings. Lists with no public access do not appear in the membership area to anyone.

7.3 Creating LISYSERV Moderated Discussion Lists

Similar to the unmoderated discussion list, a moderated list allows for the exchange of postings between subscribers, but an editor or moderator receives all incoming messages. The editor or moderator then decides to accept the message and post it to the list, or reject the message and not post it to the list. Lists can be set up with more than one moderator and they can take turns reviewing messages in a “round robin” fashion or all moderators can receive all messages.

Moderated lists can be of any size and subscriptions can be open to everyone or open to only subscribers. Spamming and flaming are much less likely to happen on this type of list because all the postings are subject to approval by a person before they can be posted to the list.

Moderators receive and review postings sent to the list. They then decide to approve the messages, sending them through to the list, or reject them, preventing them from being sent to the list. If there are multiple moderators, the list postings are sent to all moderators. The first moderator to take action, approving or rejecting the message will determine how the message is handled in regards to the list.

The editors are those addresses that are allowed to send messages to the list without requiring moderation. The list administrator address is always allowed to send mail to the list without moderation, and if no additional editor addresses are added, the list administrator automatically becomes the moderator so that all messages sent to the list will go to that address for approval or rejection.

7.3.1 General Settings for Moderated Discussion Lists

The first screen, “*General*”, defines the general information pertaining to the list.

- **Name** – This is the name of the mailing list. Subscribers will see this name of the list on the web form when they subscribe. Data administrators will see the list name in the dataset tree (see [Figure 58](#)) and if they create a target group from a classic LISTSERV list (see Section 14 [Classic LISTSERV List Target Groups](#) for details). Regular users will see the list name if they are allowed to define recipients for a job using by sending to an “*Existing LISTSERV List*”.
- **Internal Description** – The internal description is seen by users working within the Maestro User Interface.
- **Public Description** – The public description of the list appears on the subscription web form. If subscribers are permitted to select the lists they want to join and can view and change their subscription settings, having accurate descriptions will help them accomplish those tasks.

Figure 45 LISTSERV List Wizard – General

Click **Next ->** to continue.

7.3.2 Profile Fields for Moderated Discussion Lists

The second wizard screen is called “*Profile Fields*”. Every new list begins with the fields in the dataset. Other fields can be added to the list. Any added list fields will not be shared among the other lists in the dataset. To add a new field, click the **Add Field** link.

For each new field, enter the following information:

- **Name** – The name of the field as it will be used internally by the system for mail merging and querying. Field names can only use upper and lower case letters “A-Z” and “a-z”, the numbers “0 – 9” and the underscore “_”. Spaces and other special characters are not allowed.
- **Display Name** – The display name is the label that identifies the blank field on the web form. The display name will be seen by anyone accessing the list’s public subscription page on the Web. All alphanumeric characters are permitted, as well as spaces and most special characters.
- **Data Type** – Choose the type of data to be entered in the field from the drop-down menu. Three different classifications of data are available (selection lists are not available for hosted LISTSERV lists):
 - **Text** – Text fields can accept any type of text, including dates in specific formats such as dd/mm/yyyy or mm.dd.yyyy
 - **Number** – Number fields accept any whole integers.
 - **Boolean** – Boolean fields are based on two states, one being true, the other false.
- **Mandatory** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Boolean fields cannot be optional due to the nature of the data type – the selection equates to either true or false.

After list fields are created, they can be edited, removed, moved up or moved down by using the corresponding links on the right side of the table. Fields that belong to the dataset cannot be moved or edited from this screen.

Figure 46 LISTSERV List Wizard - Profile Fields

LISTSERV List Definition

General Profile Fields Profile Field Details List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Next ->

Profile Fields

The list below displays the shared fields of the recipient dataset together with the profile fields of the LISTSERV list. Click "Add Field" to add a new field to the list. Click on the links next to the list field to select it for editing or to remove the field from the list.

Name	Display Name	Data Type	Mandatory	
EMAIL	E-Mail Address	Text	Mandatory	(shared field)
FNAME	First name	Text	Mandatory	(shared field)
LNAME	Last name	Text	Mandatory	(shared field)
USERNAME	Screen name	Text	Optional	(shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional	(shared field)
DOB	Date of birth	Text	Optional	(shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a	(shared field)

BETATEST Check box if interested in beta testing Boolean Mandatory Reset Up Down Remove

Add Field Use this link to add a field to the list

These fields belong to the dataset and cannot be changed from here.

Click **Next ->** to continue.

7.3.3 Profile Field Details for Moderated Discussion Lists

The next screen in the wizard is “*Profile Field Details*”. Hosted LISTSERV lists require a full name be defined for each subscriber comprised of a first name and last name separated by a space. If a single mandatory data field exists for each subscriber containing a full name that meets this criterion, move that field from the “*Profile Fields*” box to the “*Name Fields*” box. If two fields are required to make up a full name, each of these fields must be mandatory. Move each of the fields from the “*Profile Fields*” box to the “*Name Fields*” box. The second field is added after the first field, leaving a space in between. This makes it easy to combine a first name field with a last name field to produce a “full name” field, for example. Use the **Move Up** and **Move Down** links to change the order of the name fields.

Figure 47 LISTSERV List Wizard - Profile Field Details

Profile Fields

USERNAME <Optional>
DOB <Optional>

Use the arrows to move the profile fields into the name fields column.

"Full Name" Fields:

FNAME <Mandatory>
LNAME <Mandatory>

[Move Up](#)
[Move Down](#)

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail	Boolean	n/a (shared field)
PERMISSION	Can we quote you in our newsletter? Check box for yes.	Boolean	n/a

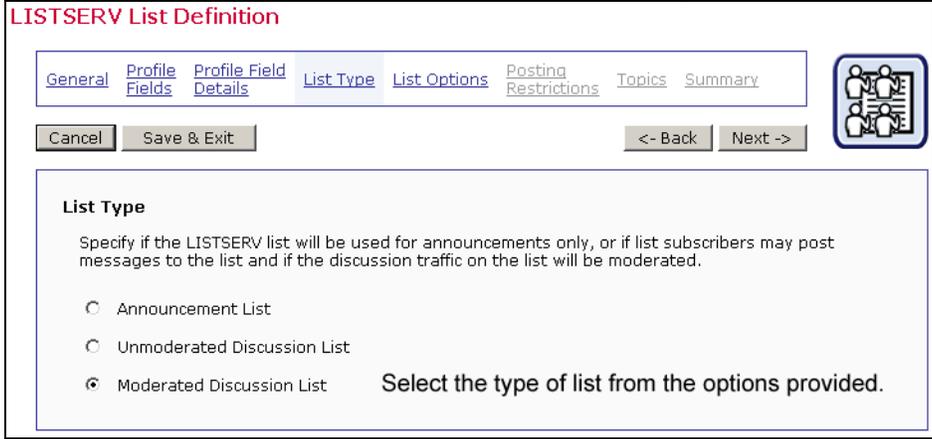
Click **Next ->** to continue.

7.3.4 List Type for Moderated Discussion Lists

The next screen in the wizard is “*List type*”. Use the option buttons to select “*Unmoderated Discussion List*”.

- **Moderated Discussion List** – This type of list is used for two-way communication. Subscribers' posts are sent to a list moderator who can approve the message and have it distributed to the list members, or reject the message so it is not sent on the list members.

Figure 48 LISTSERV List Wizard - List Type



The screenshot shows the "LISTSERV List Definition" wizard with the "List Type" tab selected. The interface includes a navigation bar with tabs for General, Profile Fields, Profile Field Details, List Type, List Options, Posting Restrictions, Topics, and Summary. Below the navigation bar are buttons for "Cancel", "Save & Exit", "<- Back", and "Next ->". A small icon of three people is visible on the right. The main content area is titled "List Type" and contains the following text: "Specify if the LISTSERV list will be used for announcements only, or if list subscribers may post messages to the list and if the discussion traffic on the list will be moderated." Below this text are three radio button options: "Announcement List", "Unmoderated Discussion List", and "Moderated Discussion List". The "Moderated Discussion List" option is selected. To the right of the radio buttons, the text "Select the type of list from the options provided." is displayed.

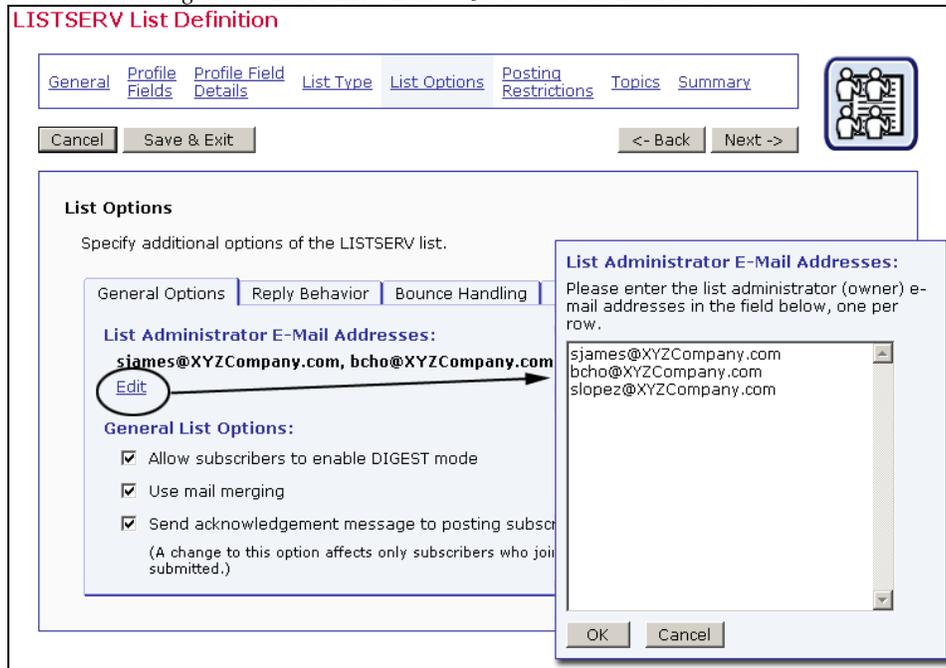
Click **Next ->** to continue.

7.3.5 List Options for Moderated Discussion Lists

The "List Options" screen is divided into tabbed pages: "General Options", "Reply Behavior", "Bounce Handling" and "List Archive". The last tab, List Archive is optional and will not appear unless archives have been set up in the HUB. For more information on archives, see the LISTSERV Maestro Administrator's Manual.

All LISTSERV list types require that a list administrator called a "list owner" be set on the General Options tab. Enter at least one e-mail address that will become the administrator (owner) of the LISTSERV list. Click the **Edit** link to add a new address or edit the existing ones in the pop-up dialog box. Entries must contain a valid Internet e-mail address.

Figure 49 LISTSERV List Wizard - Set the List Administrator



Click **OK** to accept the administrator address and return to the General Options tab.

There are three “*General List Options*” for announcement lists that can be enabled by checking the adjacent check box. They are:

- **DIGEST Mode** – Check the box next to “*Allow subscribers to enable DIGEST mode*” to give subscribers the opportunity to receive a digest of the list’s postings. List digests are...If a list has many postings, allowing subscribers to receive a digest cuts down the number of messages they get per day.
- **Mail Merging** – Check the box next to “*Use mail merging*” to allow the system to insert subscriber specific content into the message based upon the data associated with each subscriber. More information on using mail merging can be found in ...
- **Acknowledgements** – Check the box next to “*Send acknowledgement message to posting subscriber*” to have e-mail messages sent to posters telling them that their mail has been received by the list and distributed to the list subscribers. If this setting is changed while there are existing subscribers on the list, their settings will not be affected. Only those subscribers who join the list after the setting change will have the new setting.

The next tab, “*Reply Behavior*” determines where any replies from subscribers are sent. There are three options available:

- **Sender** – Replies are sent to the sender of the e-mail message. The sender address is the address based on the “From:” field of the posting.
- **List** – Replies are sent back to the list. If subscribers are not well informed that when they hit the “reply” key in their mail client their message goes to everyone, they can post private or off topic messages back to the list by mistake.
- **Both Sender & List** – Both parties receive replies.

- **Separate address** – Replies are sent to an address that is entered in the text box of this tab.

Figure 50 List Wizard for LISTSERV List - Reply Behavior

The next tab, “*Bounce Handling*” determines what happens to the subscriber addresses when messages sent to them bounce (are rejected from the e-mail server and returned to the sender undeliverable). LISTSERV lists can handle bounces by removing the subscriber addresses of bounced messages automatically, or by collecting bounces for manual action. Manually processed bounces are sent to the list administrator. Select one of the three available the bounce processing options:

- **Remove immediately after first bounce** – The address that bounced the mail will be removed from the list after the first bounce. Subscribers will have to be re-added to the list to receive any additional mail.
- **Remove subscribers after X bounces within X days** – Enter the number of bounces that are permitted in the first text box, and the number days they can occur over in the second box. This setting is more flexible than the first setting in that if the reason for the bounce is temporary, such as a full mailbox, the message can be sent again within the set number of days. Subscribers will not be removed from the list if the message can be delivered within the set number of allowable bounces and days.
- **Collect bounces for manual processing** – Bounce addresses will be sent to a specific address where they can be reviewed and action can be taken manually. Subscriber addresses that generate bounces will not be removed from the list automatically, no matter the number of bounces.

Figure 51 LISTSERV List Wizard - Bounce Handling

The next tab, “*List Archives*” will only appear if archives have been enabled in the HUB. List archives are a searchable history of all the messages posted to the list.

- **Disabled/Enabled** – Click the adjacent option button to enable or disable archives for the list. Although the ability to have archives is granted in the HUB, archives for individual lists can be disabled here.
- **Create new archive files** – Set the time frame for the creation of new archive files using the drop-down menu. Archives can be created on a weekly, monthly or yearly basis.
- **Archive viewable by** – Sets the access level for list archives. Archives can be open to anyone, subscriber or non-subscriber of a list, open to only subscribers, or open to administrators only.

Figure 52 LISTSERV List Wizard - Archives

List Options
Specify additional options of the LISTSERV list.

General Options | Reply Behavior | Bounce Handling | List Archive

Please define the archive behavior of the LISTSERV list.

Archive Postings to This List:

Disabled
 Enabled

Create new archive files: Every week

The Archive will be viewable by: Anyone
 Subscribers only
 Administrators only

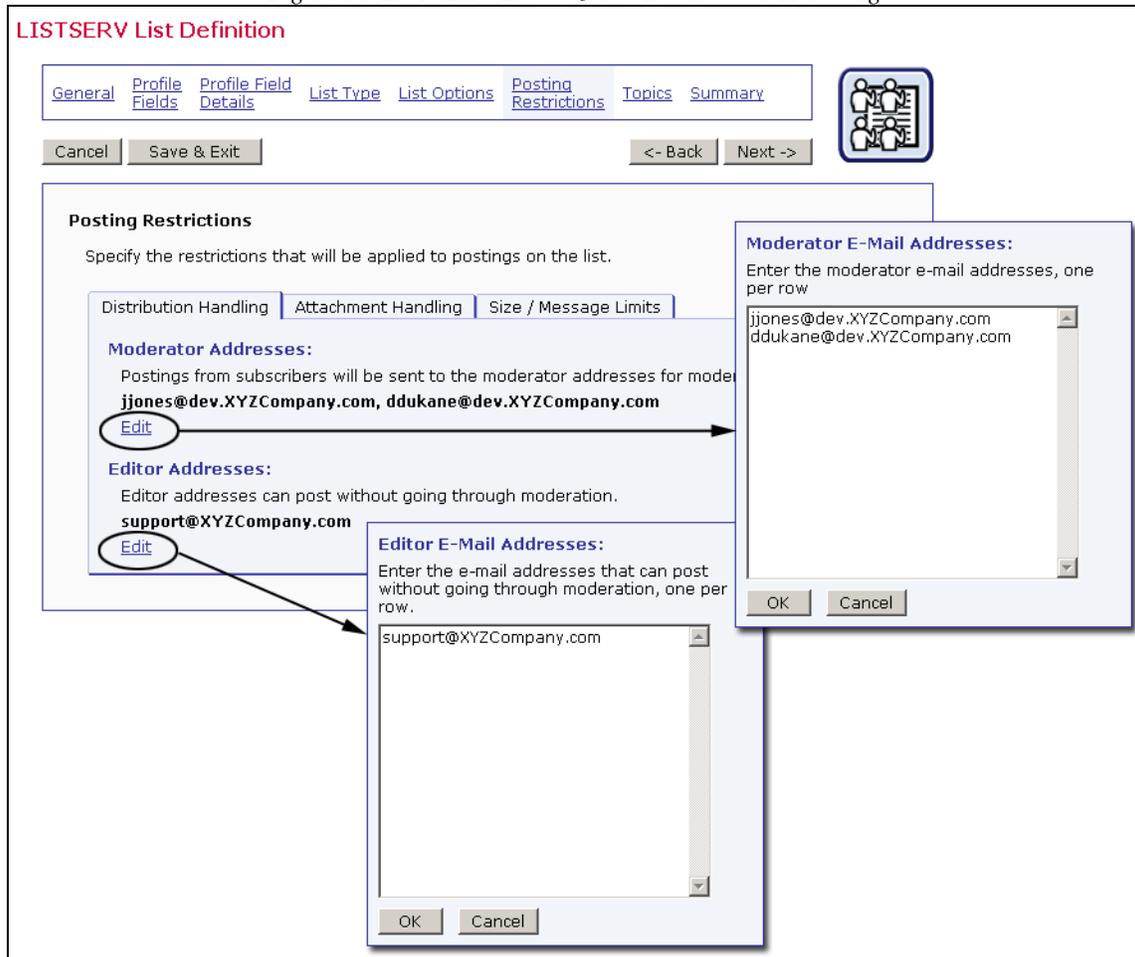
Click **Next ->** to continue.

7.3.6 Posting Restrictions for Moderated Discussion Lists

Posting restrictions for moderated discussion lists set limitations on who can post to the list, message attachments, message size and the number of messages that can be sent to the list. The posting restrictions screen has three tabs: “*Distribution Handling*”, “*Attachment Handling*”, and “*Size / Message Limits*”. Click each tab to enter its specific settings.

- **Distribution Handling** – Sets moderator and editor addresses.
 - **Moderator Addresses** – This address or addresses will receive postings from subscribers. Each address will receive all incoming messages, and the first address to approve or reject the message will determine the whether the message is sent to the list for distribution.
 - **Editor Addresses** – These additional e-mail addresses that have permission to post to the list with out being subscribed to it and without going through moderation. Additional addresses are optional. Addresses defined as the administrator addresses (on the General Settings screen) are allowed to post with out being subscribed.

Figure 53 LISTSERV List Wizard - Distribution Handling



- **Attachment Handling** – Sets the action the list will take when standard messages are receive with attachments. There are three options:
 - Accept all posts even if contain attachments.
 - Accept all posts but remove attachments – the message itself will be delivered to the list but any attachments will be stripped off.
 - Reject all posts if they contain attachments – any message submitted to the list with attachments will be automatically rejected.

Figure 54 LISTSERV List Wizard - Handling Attachments

Posting Restrictions
Specify the restrictions that will be applied to postings on the list.

Distribution Handling Attachment Handling **Size / Message Limits**

Handling of Attachments:

- Accept postings even if they contain attachments
- Accept postings but remove all attachments
- Reject postings if they contain attachments

These restrictions affect the sender of messages to the LISTSERV list when they are submitted as “standard list postings.” A standard list posting is a normal e-mail message sent to the list with no mail merging. Standard list messages can be received in a digest form, and can be viewed in the list archives if archives have been created for the list. Standard list messages limit the type of available tracking to blind tracking only.

- **Size / Message Limits** – Sets a size limit for each message posted to the list. The size can be limited by the number of lines in the message, the number of kilobits (KB) or the number of megabits (MB) of the message. The total number of messages allowed to be posted to the list for the day can be set as well as the total number of postings per user per day. Fields left blank will have no limitations imposed.

Figure 55 LISTSERV List Wizard - Size and Message Limits

Posting Restrictions
Specify the restrictions that will be applied to postings on the list.

Distribution Handling Attachment Handling **Size / Message Limits**

Size / Message Limits:
The following settings specify limits for the data that is sent to the list. Leave a field empty to set the limit to "unlimited".

Limit each message to:

Maximum postings allowed per day for whole list:

Maximum postings allowed per day for each user:

Click **Next** -> to continue.

These restrictions affect the sender of messages to the LISTSERV list when they are submitted as “standard list postings.” A standard list posting is a normal e-mail message sent to the list with no mail merging. Standard list messages can be received in a digest form, and can be viewed in the list archives if archives have been created for the list. Standard list messages limit the type of available tracking to blind tracking only.

7.3.7 Topics for Moderated Discussion Lists

Large active LISTSERV lists often use "sub-groups" within the list to give subscribers the opportunity to receive only the posts to the list they are most interested in. Sub-groups are created in LISTSERV by defining the keyword `TOPICS` in the list header. Lists can have up to 23 topics defined in the header. List subscribers can elect to receive only those messages that fit into the topic(s) they are interested in reading. Similarly, messages can be posted only to

specific topics. For example, a large list could have the general subject of XYZ Software. Topics could be defined by the types of users of the software, the type software purchased, the tips and tricks for using the software. For more information on Topics, see the LISTSERV List Owner's Manual.

To define a new topic, simply click the **New Topic** link and fill out the empty topic row that appears. In the list, topics are displayed either in the display mode or in the editable mode. In the display mode, each topic has an associated **Edit** link to set it into the editable mode. In the editable mode, each topic has the associated links **Reset** (forget changes and reset the topic to the state it had when the editable mode was last entered for it), **Up** (move the topic up one step in the topics list), **Down** (move the topic down one step in the topics list) and "Remove" (remove the topic).

When the topics settings of a list that already has subscribers changes, all current subscribers' topics selections need to be adjusted. This will occur when the LISTSERV list wizard is completed. The adjustment may take some time and a progress bar will be displayed as the system works.



Changing topics on for a list where subscribers are currently very active needs to be carefully considered so a major disruption does not occur. A better strategy would be to temporarily close the hosted LISTSERV list for maintenance, (see Summary page) adjust the topics, and then re-open the list.

When adding new topics to a list that already has subscribers, an additional checkbox option "*Existing subscribers will have the new topics selected automatically*" will appear. Check this option to automatically add all the existing subscribers to the new topics. When left unchecked, existing subscribers will not be subscribed to the new topics. Subscribers will be able to change their settings to add or drop the new topics when they wish. This checkbox option applies to all topics that are added on this page during the same list wizard session. To add several topics, some of which the current subscribers are automatically subscribed to and some not, the list wizard has to be engaged twice, once with the box checked for those topics to be added to all subscribers and once with the box unchecked for those topics that will not be added to all subscribers.

Figure 56 LISTSERV List Wizard – Topics

Topic Name	
DEVELOPERS <new>	Edit
INSTRUCTORS <new>	Edit
PARENTS <new>	Edit
CHILDREN <new>	Edit
ART	Reset Up Down Remove
LANGUAGE <new>	Edit
MUSIC <new>	Edit
MATH <new>	Edit
New Topic	

Click **Next ->** to continue.

7.3.8 Summary for Moderated Discussion Lists

The "*Summary*" screen displays all the selections made for the LISTSERV list during its creation. Use the <- **Back** button or any of the links in the top bar to revisit any page in the wizard to make changes. Click **Finish** to accept the list as it is summarized and return to the Recipient Dataset Details screen. As long as there are no subscribers, the list settings can be edited from the Recipient Dataset Details screen by selecting the list and clicking the **Actions** link.

Before the list can be used, its access level needs to be set. The list can be set to be accessible to anyone wishing to subscribe, to be accessible to only list subscribers, or to have no public access. If a list is accessible to everyone, it will appear on the membership area Web page to anyone visiting that page. If the list is accessible only to members, the list will not appear in the membership area to everyone, it will only appear only to those who are subscribed to the list. This essentially closes the list to those who wish to sign themselves up and leaves adding subscribers to the LISTSERV Maestro data administrator, while allowing existing subscribers to manage their own settings. Lists with no public access do not appear in the membership area to anyone.

Figure 57 LISTSERV List Wizard - Summary

LISTSERV List Definition

General Profile Profile Field List Type List Options Posting Restrictions Topics Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the settings of the LISTSERV list. Click Finish to accept the changes. Click Cancel to return to the recipient dataset details page without saving your changes.

Public List Access

Access for subscribers only

Closed for maintenance

General Settings

List Name: DEVELOP.XYZ
List Description: discussion list for XYZ developers - moderated by software engineering

Profile Fields

Name	Display Name	Data Type	Mandatory
EMAIL	E-Mail Address	Text	Mandatory (shared field)
FNAME	First name	Text	Mandatory (shared field)
LNAME	Last name	Text	Mandatory (shared field)
USERNAME	Screen name	Text	Optional (shared field)
SOFTWARE	Number of XYZ products currently owned	Number	Optional (shared field)
DOB	Date of birth	Text	Optional (shared field)
HTML	Check the box to receive HTML formatted mail. Leave unchecked for text mail.	Boolean	n/a (shared field)
BETATEST	Check box if interested in beta testing	Boolean	n/a

"Full Name" Fields: FNAME, LNAME

List Type Settings

Type of List: Moderated Discussion List
Moderator E-Mail Address(es): jjones@dev.XYZCompany.com, ddukane@dev.XYZCompany.com
Action required by moderator to approve list postings for distribution:

Optional List Settings

Archival mode for list: One file per month
Mail Merging: Mail merging is **enabled**
Digest Mode: Subscribers are allowed to enable DIGEST mode
Bounce Handling: Bounced e-mail addresses are removed from the list automatically after 10 bounces in 4 days
Acknowledgement for Postings: Send acknowledgement message to posting subscriber

Posting Restrictions

Handling of Attachments: Postings may contain attachments

Topics

List Topics: WINDOWS, MAC, LINUX

Click **Finish** to save the list and return to the Recipient Dataset Details screen.

Section 8 Organizing Datasets

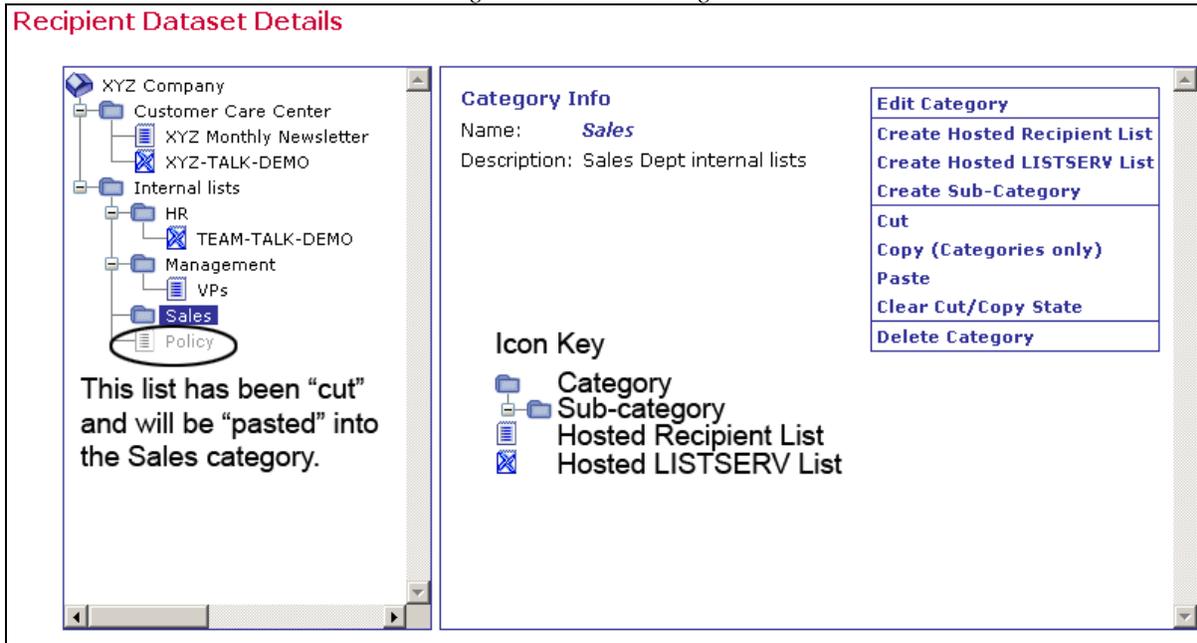
Datasets that have few lists usually have no special need to organize them in any particular way. Lists are displayed in alphabetical order by list name, regardless of the type of list, hosted recipient list or hosted LISTSERV list. Subscribers will be able to see all the lists available to them on one page and will not have to scroll to find them. Administrators will recognize each list present in the dataset. Datasets that have many lists, or that want to make a clear distinction between one set of lists and another, can use categories and sub-categories to organize the lists.

Categories act like folders and sub-folders. They can be created at any time, either before or after the creation of hosted lists. Existing lists can be moved into and out of categories by cutting and pasting. New lists can be created inside existing categories.

To create a new category in a dataset, click the **Actions** link and then click the **Create Category** link. Give the category a name. The name will appear in the left frame and on any public web pages that subscribers can access. Add a description of the lists that appear in the category. This description is to assist the data administrator and only appears for internally.

To move an existing list into a category, select the list in the left frame. Click the **Action** link and then click **Cut**. The list will appear in the dataset as “grayed out”. The list still exists within LISTSERV Maestro, and it has not been disabled in any way. It will remain in its current position in the dataset tree until it is pasted somewhere else. Select the category to move the list into, and then click the **Action** link. Click **Paste** to move the list into the category. To cancel the cut state and leave the list where it is, click **Clear Cut/Copy State** from the Action menu.

Figure 58 Dataset Categories



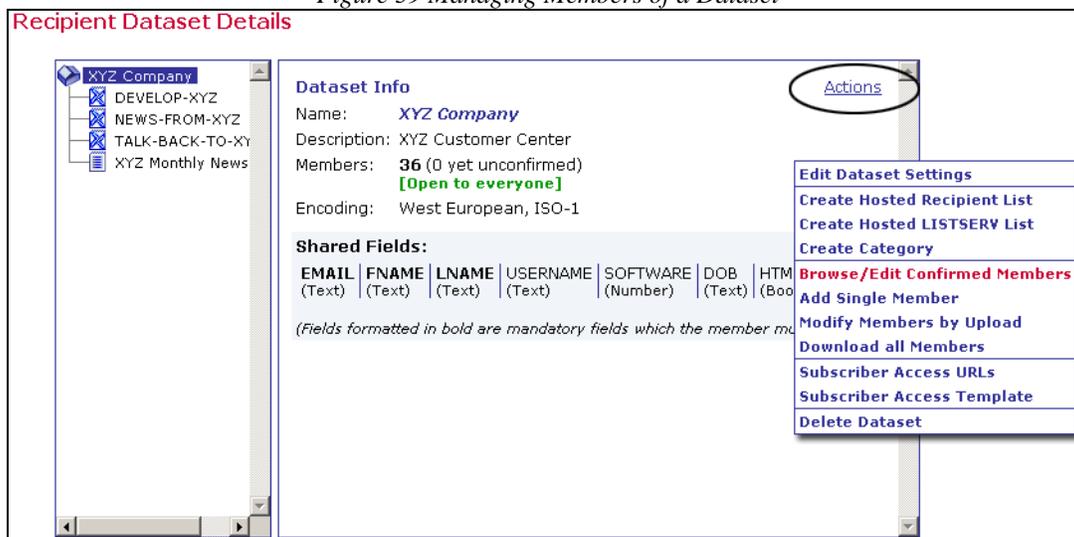
Section 9 Adding and Maintaining Dataset Members and List Subscribers

Dataset members and list subscribers can be added to a dataset and to lists by the data administrator. Alternatively, they can add themselves if the dataset (membership area) or any lists in the dataset are visible to the public on the Web. Anyone joining a membership area using the web form has the option of subscribing to any available lists there. Subscribing directly to a list using the list’s web form will automatically add the subscriber to the list’s dataset. More information on self-subscribing to membership areas and lists is covered in Section 10 [Members Join a Dataset Themselves](#)

Once members belong to a dataset, they can be managed within the dataset by the data administrator. Management can take place at the dataset level and at the list level. The data administrator can search for members, delete members, change a member’s data, add a single member, modify multiple members by uploading a file and download all members. Members of a dataset are managed by selecting the dataset. Subscribers to a list are managed by selecting the list.

To perform an action on members in a dataset, select the dataset from the “*Recipient Datasets and Lookup Tables*” screen. The “*Recipient Dataset Details*” screen opens. Click the **Actions** link in the right corner to open the actions menu.

Figure 59 Managing Members of a Dataset



To perform an action on subscribers to a list in the dataset, first select the dataset, and then select the list. Click the **Actions** link in the right corner to open the actions menu.

Figure 60 Manage List Subscribers



9.1 Managing Members of a Dataset and List Subscribers

Members of a dataset and list subscribers can be reviewed, their settings changed, and they can be deleted by clicking the **Browse / Edit Confirmed Members** link on the actions menu. If subscribers of a list are deleted from the list, they are not automatically deleted from the dataset. However, if members are deleted from a dataset, they will be deleted from all lists in that dataset. The functions and rules for managing dataset members and list subscribers are almost identical and will both be covered in this section. Pertinent differences will be pointed out in the text and screen shots.

The "Manage Members of Recipient Dataset" screen displays a listing of all the confirmed members of a dataset. Confirmed members are those members who have been added to the dataset by the data administrator or have added themselves from the web form and then

confirmed their membership using a special e-mail message sent to them by LISTSERV Maestro. Unconfirmed members are not displayed here. Unconfirmed members are those who have joined the membership area or subscribed to a list themselves, but have not yet replied to the confirmation e-mail message sent to them by the system.

The members of a dataset or list are displayed 15 at a time per page. A navigation system for paging through members appears when more than 15 members are in a dataset or list. Each page number is a clickable link and contains the next 15 members or subscribers. A maximum of ten page links will appear on the screen at a time. Datasets and list with more than ten pages will use << to denote pages behind the open page, and >> to denote pages ahead of the open page.

Members and subscribers are sorted alphabetically by e-mail address. Members have their entire dataset profile displayed on the screen. Subscribers have their dataset profile along with any list specific fields displayed on the screen. The table header lists the profile field names in the dataset and list. Each column in the table represents one profile field on the web form. Each field is filled out with the corresponding value for that profile field and member. Mandatory fields have all values filled in for members, while optional fields can be blank. Boolean fields will have a "T" for true and an "F" for false. Datasets with selection menus that allow for multiple selections will display all selected values separated by a commas. LISTSERV lists that have topics have all the selected topics displayed.

Figure 61 Managing Members of a Dataset

Manage Members of Recipient Dataset

This page displays the members of the selected dataset.

Page: 1 2 3 (Selected by filter: 36 of 36 members) [Delete](#)

Use these page navigation links to view members 15 per page.

Profile field names
Optional fields can be blank

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML
Anna@maestro-demo.lsoft.com	Anna	Anchor	battle-ship-blues	4	1972	T
Bob@maestro-demo.lsoft.com	Bob	Bouchard	look-up-99			T
Chuck@maestro-demo.lsoft.com	Chuck	Cho	rock-music	1		T
Darren@maestro-demo.lsoft.com	Darren	Donagel	beam-me-up	2	1960	F
Evelyn@maestro-demo.lsoft.com	Evelyn	Eavensong	midnite-12		1950	F
Frank@maestro-demo.lsoft.com	Frank	Fortuna	lucky7	2	1964	T
Gina@maestro-demo.lsoft.com	Gina	Gallino	italian-fil78	3	1982	T
Hilda@maestro-demo.lsoft.com	Hilda	Hines	catch-me-now			T
Ines@maestro-demo.lsoft.com	Ines	Ito	pack-rat6	4	1974	T
Jocelyne@maestro-demo.lsoft.com	Jocelyne	Jones	dow-joney	3	1976	F
Ken@maestro-demo.lsoft.com	Ken	Kawasowi	hotrod62	2	1962	F
Lisa@maestro-demo.lsoft.com	Lisa	Lopez	sky88	3	1984	T
Mirjam@maestro-demo.lsoft.com	Mirjam	McIntosh	apple-pie	1	1969	T
Nancy@maestro-demo.lsoft.com	Nancy	Nelson	nelly	2	1982	T
Odette@maestro-demo.lsoft.com	Odette	Owi	leap-frog	1	1976	T

Figure 62 Managing List Subscribers

Manage Subscribers of Hosted List

This page displays the subscribers of the selected list.

Page: 1 2 3 (Selected by filter: 35 of 35 subscribers) [Delete](#)

Use these page navigation links to view subscribers 15 per page.

Profile field names
Optional fields can be blank

Selected LISTSERV topics

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	Topics
Bob@maestro-demo.lsoft.com	Bob	Bouchard	look-up-99	3		T	F	PARENTS, MATH
Chuck@maestro-demo.lsoft.com	Chuck	Cho	rock-music	1	1983	T	F	DEVELOPERS, MUSIC, MATH
Darren@maestro-demo.lsoft.com	Darren	Donagel	beam-me-up	2	1960	F	T	CHILDREN, ART
Evelyn@maestro-demo.lsoft.com	Evelyn	Eavensong	midnite-12	1	1950	F	T	INSTRUCTORS, ART, MUSIC, MATH
Frank@maestro-demo.lsoft.com	Frank	Fortuna	lucky7		1964	T	T	PARENTS, ART, LANGUAGE
Gina@maestro-demo.lsoft.com	Gina	Gallino	italian-fil78	3		T	F	INSTRUCTORS, ART, LANGUAGE
Hilda@maestro-demo.lsoft.com	Hilda	Hines	catch-me-now	2	1972	T	F	CHILDREN
Ines@maestro-demo.lsoft.com	Ines	Ito	pack-rat6		1974	T	F	DEVELOPERS, INSTRUCTORS, PARENTS
Jocelyne@maestro-demo.lsoft.com	Jocelyne	Jones	dow-joney	3		F	F	INSTRUCTORS, ART, LANGUAGE
Ken@maestro-demo.lsoft.com	Ken	Kawasowi	hotrod62	2	1962	F	T	DEVELOPERS, MATH
Lisa@maestro-demo.lsoft.com	Lisa	Lopez	sky88	3	1984	T	F	INSTRUCTORS, MUSIC, MATH
Mirjam@maestro-demo.lsoft.com	Mirjam	McIntosh	apple-pie		1969	T	T	PARENTS, Other
Nancy@maestro-demo.lsoft.com	Nancy	Nelson	nelly	2	1982	T	F	INSTRUCTORS, PARENTS, CHILDREN
Odette@maestro-demo.lsoft.com	Odette	Owi	leap-frog			T	F	INSTRUCTORS, ART
Pat@maestro-demo.lsoft.com	Pat	Pascal	munchin-foo	2	1978	T	T	INSTRUCTORS, LANGUAGE

9.1.1 Editing a Member Profile

Each e-mail address is a clickable link that opens the profile page for that member. Click on the e-mail address of the member to be edited. Enter the new data in the profile fields then click **OK** to save the new data and return to the previous screen. Click **Cancel** to return to the previous screen without saving the new data. Click **Delete** to delete the member from the dataset.

Member profiles will contain only those fields that belong to the dataset. Subscriber profiles will contain the member profile in the top part of the screen with the values grayed out and the list specific fields below. It is possible to edit the member profile from the list profile screen by clicking the **Edit** link located on the upper right (see [Figure 64](#)).

Figure 63 Edit Dataset Member

Edit Member - Dataset Specific Fields

Here you can change the general values of the member with the e-mail address **Anna@maestro-demo.Isoft.com** for the recipient dataset **XYZ Company**.

E-Mail Address*:

First name*: **Fields with asterisks cannot be left blank.**

Last name*:

Screen name:

Number of XYZ products currently owned:

Date of birth:

Check the box to receive HTML formatted mail. Leave unchecked for text mail:

(Values marked with an asterisk <*> are mandatory.)

Deletes the member from the dataset

Figure 64 Edit List Subscriber

Edit Subscriber - List Specific Fields

Here you can change the list specific data of the subscriber with the e-mail address **Bob@maestro-demo.Isoft.com** for the list **NEWS-FROM**.

Shared Recipient Dataset Fields

E-Mail Address*:

First name*:

Last name*:

Screen name:

Number of XYZ products currently owned:

Date of birth:

Check the box to receive HTML formatted mail. Leave unchecked for text mail:

List Specific Fields

Check the box if you are a developer:

LISTSERV Topics

The subscriber will only receive messages for the topics checked below:

DEVELOPERS INSTRUCTORS PARENTS
 CHILDREN ART LANGUAGE
 MUSIC MATH
 Mail Without Topics

(Values marked with an asterisk <*> are mandatory.)

Delete removes the subscriber from the list, but not from the dataset

Use this link to open the dataset fields for editing [Edit](#)

Change any list specific fields in the lower part of this screen.

9.1.2 Filtering Members

Locating members within a large dataset can be easily accomplished by using the filtering system available on the "Manage Members of a Recipient Dataset" screen. Locating members within a large list can be accomplished using the filtering system on the "Manage Members of Host List screen" Filtering works the same way for members and subscribers. A funnel icon  located in the upper left of the recipient data table denotes a row of blank edit boxes at the top of each column. Use the boxes to enter filtering conditions to narrow the search for specific members or subscribers. After adding the filtering conditions in the text boxes, click the

funnel icon to filter the members. A new set of members will be displayed on the screen. This set can be filtered again by adding additional conditions in the text boxes and clicking the funnel again. After filtering, the members can be downloaded by clicking the download icon  located in the blue header row of the table. The file that is downloaded is in zipped format.

Figure 65 Edit List Subscriber

Manage Members of Recipient Dataset

This page displays the members of the selected dataset.
 [selected by filter: 6 of 37 members] [Delete](#) Deletes all selected members.

Enter filtering conditions in the boxes.

Click the disk to download members. 

Click the funnel to apply the condition. 

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML
<input type="text" value=""/>	<input type="text" value=">q"/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value="<2"/>	<input type="text" value=""/>	<input type="text" value="True"/>
Mirjam@maestro-demo.lsoft.com	Mirjam	McIntosh	apple-pie	1	1969	T
Odette@maestro-demo.lsoft.com	Odette	Owi	leap-frog	1	1976	T
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	T
temp3@cherry.ease.lsoft.com	Kerry	Sanders	quarterback	1	1985	T
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	T
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	T

There are many ways to enter conditions to filter members of a dataset or list subscribers. The type of profile field determines what types of filtering can take place. Wildcards and operators can assist with filtering.

- **Text Field Filtering** – Fields based on text can be filtered using the following operators and wildcards:

Text Box Content	Filtering Result
empty	No filtering, all members displayed
GINA	All members with a field value of "GINA"
=GINA	All members with a field value of "GINA"
<GINA>	All members with a field value not equal to "GINA"
<GINA	All members with a field value less than "GINA" (less than in terms of alphabetical order)
<=GINA	All members with a field value less than or equal to "GINA" (less than in terms of alphabetical order)
>GINA	All members with a field value greater than "GINA" (greater than in terms of alphabetical order)
>=GINA	All members with a field value greater than or equal to "GINA" (greater than in terms of alphabetical order)
GINA*	All members with a field value that starts with "GINA"
*GINA	All members with a field value that ends with "GINA"

Text Box Content	Filtering Result
GINA	All members with a field value with "GINA" in it somewhere

The text "GINA" was used as an example in this table. Any text string can be filtered using these rules.

- **Number Field Filtering** – Fields that are based on numbers can be filtered using the following operators and wildcards:

Text Box Content	Filtering Result
empty	No filtering, all members displayed
23	All members with a field value of "23"
=23	All members with a field value of "23"
<23>	All members with a field value not equal to "23"
<23	All members with a field value less than "23"
<=23	All members with a field value less than or equal to "23"
>23	All members with a field value greater than "23"
>=23	All members with a field value greater than or equal to "23"
23*	All members with a field value that starts with "23"
*23	All members with a field value that ends with "23"
23	All members with a field value with "23" in it somewhere

The number "23" was used as an example in this table. Any number can be filtered using these rules.

- **Boolean Fields** – Fields that are based on Boolean logic display a drop-down menu with the choice of three filters:

Filter Choice	Filtering Result
ignore	No filtering, all members displayed
True	All members with a field value of “T” for true
False	All members with a field value of “F” for false

- **Single Select Fields** – Fields that are based on single selection menus can be filtered using the same rules for filtering text ([see above](#)).
- **Multiple Select Field Filtering** – Fields based on multiple selection menus cannot be filtered.
- **Topics Field Filtering** – LISTSERV lists that contain topics cannot be filtered using the special topics field that is displayed when browsing the list members.

9.2 Adding a Single Member

The data administrator can add members to a dataset or subscribers to a list one at a time. This is the fastest way to add someone directly to a specific dataset or list. It is important to have the necessary data for each addition. To add a single member to a dataset:

1. Select the dataset
2. Click the **Add Single Member** link from the actions menu
3. Fill in all the fields marked with an asterisk “*”
4. Optionally, fill in any other fields
5. Click **OK**

The member will be added to the dataset. Members added to a dataset are not automatically added to any lists in that dataset set. To add or change information at the dataset level, use the **Browse / Edit Confirmed Members** link in the actions menu.

To add a single subscriber to a list:

1. Select the list
2. Click the **Add Single Subscriber** link from the actions menu
3. Enter the e-mail address of the new subscriber in the edit box
4. Click **OK**
6. If the address is not already a member of the dataset, fill in all the mandatory fields for the dataset and the mandatory fields for the list. If the e-mail address already is a member of the dataset, the dataset fields will already be filled in and their values will appear in gray. Fill in the list specific fields.
7. Optionally, fill in any other list fields.

8. Click **OK**

New list subscribers that are not dataset members are automatically added to the dataset when they are subscribed to any list in that dataset. To add or change information at the dataset level, use the **Browse / Edit Confirmed Members** link in the actions menu. To add or change information on the list level, use the **Browse / Edit Confirmed Subscribers** link in the actions menu.

9.3 Modifying Members by Upload

Any existing dataset or list can have its current membership modified by the data administrator uploading a file in to the system. This is the easiest way to add many members to a dataset or subscribers to a list as well as update data for numerous members and subscribers. As with other management tasks, the steps for uploading a file to change data for a dataset and to change data for a list follow very similar procedures.

9.3.1 The Upload Wizard

LISTSERV Maestro uses a wizard to assist the data administrator with modifying the data in an existing dataset or list. The wizard is comprised of seven pages that go through the process of modifying the data of an existing dataset or list step by step. Depending on the choices made on some wizard pages, other pages may become disabled or appear in different versions. If a wizard page is disabled, it is not necessary with the current selections and can safely be ignored.

Files uploaded to the system must be in .TXT or .CSV format, one record per line. The columns of data in the file do not have to be in the same order as they appear in the dataset or list. A header row is not required, but if the file has a header row, the header names do not have to be the same as the field names in the dataset or list. The upload wizard will assist with parsing the data and matching header and field names. For more information on text formatted files, see Appendix B [About Comma Separated Files](#)

To modify the current members of a dataset select the dataset, then click **Modify Members by Upload** from the actions menu. To modify subscribers of a list, select the list and then click **Modify Members by Upload** from the actions menu.

9.3.1.1 Type

The first screen of the upload wizard is “*Type*”. The existing data can be modified five different ways. Select the option button next to the type of modification to be performed. Available types for datasets are:

- **Add to Dataset** – Adds new members to the dataset. All existing members are left unchanged.
- **Update in Dataset** – Updates the existing members with the values found in the file. Does not add any new members to the dataset.
- **Synchronize with Dataset** – This is a combination of the "add" and "update" functions. Adds any new members found in the file and updates values for existing members found in the file.
- **Full Synchronize with Dataset** – The dataset in the file will become the exact data in the dataset. Adds any new members found in the file and updates values for existing

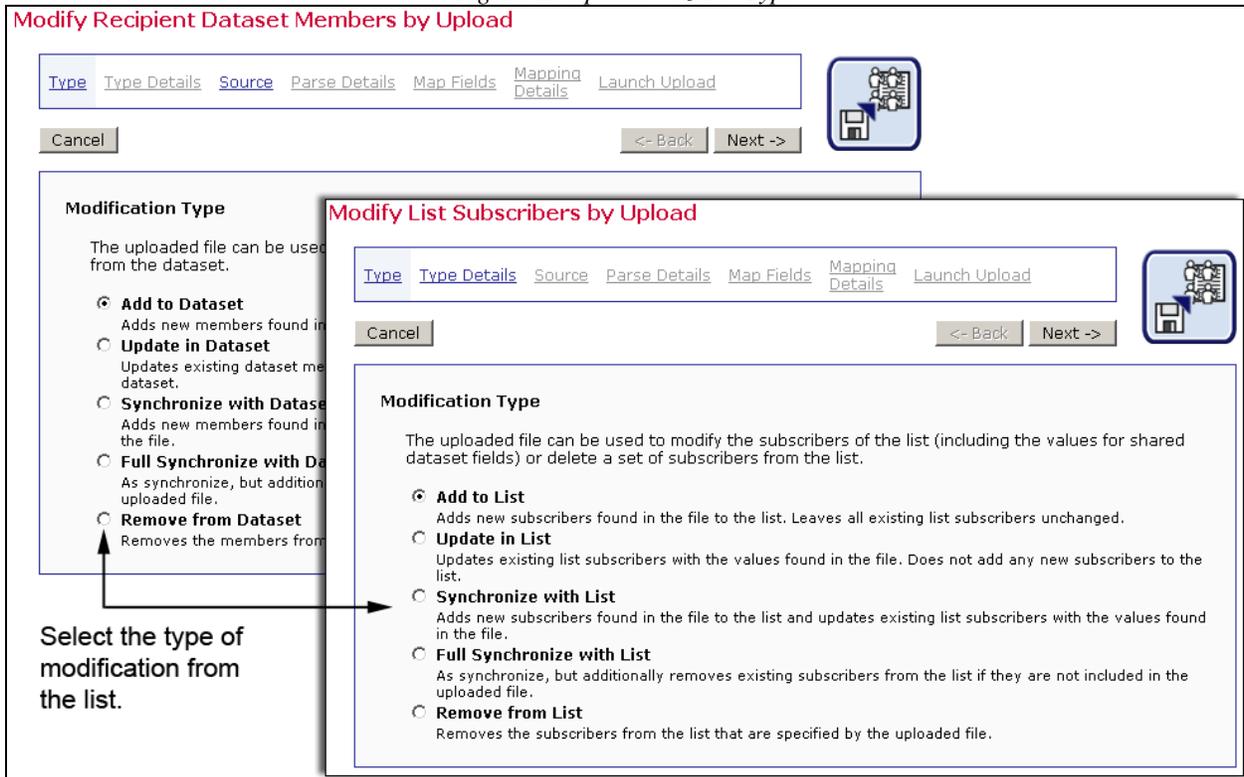
members found in the file. Any existing members not included in the file will be deleted from the dataset as well as and from any lists they are subscribed to.

- **Remove from dataset** – Removes members listed in the file from the dataset as well as from any lists they are subscribed to. The file has only to contain the e-mail addresses of those members to be deleted; all other columns are ignored.

When modifying subscribers for a list, the values for the dataset are included. The available modifications for lists are:

- **Add to List** – Adds new subscribers to the list. All existing subscribers are left unchanged.
- **Update in List** – Updates the existing subscribers with the values found in the file. Does not add any new subscribers to the list.
- **Synchronize with List** – This is a combination of the "add" and "update" functions. Adds any new subscribers found in the file and updates values for existing subscribers found in the file.
- **Full Synchronize with List** – The list data in the file will become the exact data in the list. Adds any new subscribers found in the file and updates values for existing subscribers found in the file. Any existing subscribers not included in the file will be deleted from the lists. Subscribers removed from the list will not be removed from the dataset.
- **Remove from List** – Removes subscribers listed in the file from the list. The file has only to contain the e-mail addresses of those members to be deleted; all other columns are ignored.

Figure 65 Upload Wizard -Type



Click **Next ->** to continue.

9.3.1.2 Type Details

The next screen in the wizard is called "*Type Details*". Type Details defines the details for the selected modification type. This screen may not be available for all modification types. For modifying datasets the following details are available:

Modification Type	Type Details Available
Add to Dataset	No Details Available.
Update in Dataset	<p>Overwrite Manual Changes: If members have changed their settings since the last upload modification, will their changes be overwritten?</p> <p>Yes, overwrite manual changes with uploaded values.</p> <p>No, keep values of manually changed members.</p>

Modification Type	Type Details Available
Synchronize with Dataset (select the desired option button)	<p>Overwrite Manual Changes: If members have changed their settings since the last upload modification, will their changes be overwritten?</p> <p>Yes, overwrite manual changes with uploaded values.</p> <p>No, keep values of manually changed members.</p>
Full Synchronize with Dataset (select the desired option button)	<p>Overwrite Manual Changes: If members have changed their settings since the last upload modification, will their changes be overwritten?</p> <p>Yes, overwrite manual changes with uploaded values.</p> <p>No, keep values of manually changed members.</p>
Remove from Dataset	No Details Available.

For modifying lists the following details are available:

Modification Type	Type Details Available
Add to List (select the desired option button)	<p>If the new subscriber is not yet part of the dataset:</p> <p>Add as new dataset member – Adds the subscriber to the dataset and the list</p> <p>Ignore subscriber row – Skips the row in the data file and does not add the subscriber to the dataset or the list.</p>
Update in List (select the desired option button for each of the two sets of alternatives)	<p>The Update may be applied to:</p> <p>List and dataset values – All changes to both the dataset and the list will be accepted.</p> <p>List values only – Changes in the list will be accepted and any changes to the dataset will be ignored.</p> <p>Overwrite Manual Changes: If subscribers have changed their settings since the last upload modification, will their changes be overwritten?</p> <p>Yes, overwrite manual changes with uploaded values.</p> <p>No, keep values of manually changed subscribers.</p>

Modification Type	Type Details Available
<p>Synchronize with List</p> <p>(select the desired option button for each of the three sets of alternatives)</p>	<p>If the new subscriber is not yet part of the dataset:</p> <p>Add as new dataset member – Adds the subscriber to the dataset and the list</p> <p>Ignore subscriber row – Skips the row in the data file and does not add the subscriber to the dataset or the list.</p> <p>The Update may be applied to:</p> <p>List and dataset values – All changes to both the dataset and the list will be accepted.</p> <p>List values only – Changes in the list will be accepted and any changes to the dataset will be ignored.</p> <p>Overwrite Manual Changes: If subscribers have changed their settings since the last upload modification, will their changes be overwritten?</p> <p>Yes, overwrite manual changes with uploaded values.</p> <p>No, keep values of manually changed subscribers.</p>
<p>Full Synchronize with List</p> <p>(select the desired option button for each of the three sets of alternatives)</p>	<p>If the new subscriber is not yet part of the dataset:</p> <p>Add as new dataset member – Adds the subscriber to the dataset and the list</p> <p>Ignore subscriber row – Skips the row in the data file and does not add the subscriber to the dataset or the list.</p> <p>The Update may be applied to:</p> <p>List and dataset values – All changes to both the dataset and the list will be accepted.</p> <p>List values only – Changes in the list will be accepted and any changes to the dataset will be ignored.</p> <p>Overwrite Manual Changes: If subscribers have changed their settings since the last upload modification, will their changes be overwritten?</p> <p>Yes, overwrite manual changes with uploaded values.</p> <p>No, keep values of manually changed subscribers.</p>
<p>Remove from List</p>	<p>No Details Available</p>

After the type details are selected, **click Next ->** to continue.

9.3.1.3 Source

The third screen in the upload wizard is “*Source*”, and it is used to determine where the uploaded text file originates. The file uploaded to the system must be encoded with the same character set (charset) that has been defined for the dataset being modified. For more information about character sets, see Appendix C [E-mail and International Character Sets](#).

Browser for the file on a local drive and then click **Upload**. If a file has already been uploaded to the system, a link to upload a different file appears.

Figure 66 Upload Wizard - Source for Datasets

Modify Recipient Dataset Members by Upload

Type Type Details **Source** Parse Details Map Fields Mapping Details Launch Upload

Cancel <- Back Next ->

Source

Information about the dataset members source file.

Dataset Members File

To be compatible to the dataset, the members file has to be encoded with the "ISO-8859-1" encoding.

[Upload a file with dataset member rows](#)

Upload a File

Select the text file containing the dataset members.

Click Upload to replace the current members file with the new file. Click Cancel to keep the current members file.

File Name: Browse...

Upload Cancel

Figure 67 Upload Wizard - Source for Lists

Modify List Subscribers by Upload

Type Type Details **Source** Parse Details Map Fields Mapping Details Launch Upload

Cancel <- Back Next ->

Source

Information about the list subscribers source file.

List Subscribers File

To be compatible to the list, the subscribers file has to be encoded with the "ISO-8859-1" encoding.

[Upload a list subscribers file](#)

Upload a File

Select the text file containing the list subscribers.

Click Upload to replace the current subscribers file with the new file. Click Cancel to keep the current subscribers file.

File Name: Browse...

Upload Cancel

Click **Next ->** to continue.

9.3.1.4 Parse Details

The next screen in the wizard is called “*Parse Details*”. When a text file is uploaded, LISTSERV Maestro will try to determine how the columns of data are separated, and how each column or field of data is labeled (header). In order to modify a dataset or list, LISTSERV Maestro must correctly interpret which column contains the e-mail address of the recipient. Other fields may be included and will appear in the “*Preview*” table located on the lower half of the screen.

Figure 68 Upload Wizard - Parse Details for Dataset

Modify Recipient Dataset Members by Upload

Type Type Details Source Parse Details Map Fields Mapping Details Launch Upload

Cancel <- Back Next ->

Parse Details

The uploaded source file needs to be parsed correctly before the member information can be extracted. The preview below shows the result of the parsing performed using the settings specified on this page.

Column Separator and Quote Character

To be compatible to the dataset, the uploaded file has to be encoded with the “ISO-8859-1” encoding. The system will try to determine the separator and quote character automatically. [Specify details manually](#)

Header Row

Yes, the first row in the file contains the headers
 No, the file does not have a header row

Preview

email	fname	lname	username	software	dob	html	usertype	permission	betatest
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Refresh Preview

Click the **Next ->** button to continue if the parsing is accurate with each column of data is separated correctly and labeled with a header row. Note: In the interest of keeping this document shorter, a screen shot of Parse Details for a list is not included.

If LISTSERV Maestro has not interpreted the data correctly, or an unconventional delimiter and/or quote character has been used, click on the link **Specify details manually** to configure the data manually.

Use the **Specify details manually** link when the delimiter (separator character) or the quote character is used in some of the data fields. For example, if the USERNAME field contained Tom “the cool cat” Jones as an entry, and double quotes happened to be the quote character for the file, the details would have to be specified manually. The same would be true if a field

named LOCATION contained the entry Atlanta , GA where the comma was the separator character.

Figure 69 Upload Wizard - Parse Manually

Modify Recipient Dataset Members by Upload

Type Type Details Source Parse Details Map Fields Mapping Details Launch Upload

Cancel <- Back Next ->

Parse Details

The uploaded source file needs to be parsed correctly before the member information can be extracted. The preview below shows the result of the parsing performed using the settings specified on this page.

Column Separator and Quote Character

To be compatible to the dataset, the uploaded file has to be encoded with the "ISO-8859-1" encoding.

Specify how the columns in the file are separated:
 Columns are separated by: Comma (,) Select a separator character from the drop-down menu.

Specify if and how the columns in the file are enclosed:
 Columns are not enclosed by a quote character
 Columns are enclosed by: Other If appropriate, select a quote character from the drop-down menu, or type in one.

[Let the system try again](#) Use this link to have the system attempt to parse the file again.

Header Row

Yes, the first row in the file contains the headers
 No, the file does not have a header row

Preview

email	fname	lname	username	software	dob	html	usertype	permission	betatest
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Refresh Preview Click this button to refresh the preview table to see if the file is parsed correctly.

Note: In the interest of keeping this document shorter, a screen shot of Parse Details for a list is not included.

LISTSERV Maestro has four selections for choosing separator characters:

- Tab (\t)
- Comma (,)
- Semicolon (;)
- Other – if this is chosen, type the character into the adjacent box.

Columns can be defined as “*not enclosed by a quote character*” or select the quote character from three choices:

- Double Quotes (“)
- Apostrophe (’)
- Other – if this is chosen, type the character into the adjacent box.

After separator and quote characters have been entered, and any encoding change made, click **Refresh Preview** to have LISTSERV Maestro attempt to parse the file again with the new settings. The new columns will then be displayed. If the columns are now separated correctly, proceed. If the columns are not correct, repeat the process and click **Refresh Preview** to see the new changes. Click the **Next ->** button to continue if the parsing is accurate with each column of data is separated correctly and labeled with a header row.

Headers are specially defined rows in database tables. Headers are used by database tables to label the columns of data so that the system and the user can correctly identify the columns. An uploaded text file may contain headers or not. If the file does not contain headers, select the option button “*No, the file does not contain a header row*” and the system will automatically add a header row. Each column of data in the header row will have a generic name using the pattern COL1, COL2, COL3, and so on. If the uploaded file does have a header row, select the option button “*Yes, the first row in the file contains headers*” and the headers within the file will be used. Click the **Next ->** button to continue if the parsing is accurate with each column of data is separated correctly and labeled with a header row.

9.3.1.5 Map Fields

The next screen in the upload wizard is “*Map Fields*”. If the header names for the columns of data do not match the names of the fields in the dataset or list, they can be “mapped” to the correct fields. All mandatory fields must be mapped to a unique column in the uploaded file. Boolean fields in this context are considered mandatory. Optional fields can be mapped, but it is not necessary for a successful upload. Any “extra” fields that may be contained in the file (fields that are not listed in the dataset or list) will be ignored by the system. This way, data to be used to modify datasets and lists does not need to match the format of the dataset or list exactly, but can contain other fields and different header names.

If the uploaded file contains headers, LISTSERV Maestro will attempt to map the fields to the column names. Fields that are mapped successfully appear with a green checkmark icon next to them. Fields that cannot be mapped automatically appear with a yellow arrows icon, and fields that are mapped to more than one column have a red null icon.

To map a column from a file to a list or dataset field, use the drop-down menu under the header to locate the correct field and select it. Optional fields can be mapped, or they can be ignored by selecting <ignore> from the drop-down menu.

Figure 70 Upload Wizard - Map Fields

Modify Recipient Dataset Members by Upload

Type Type Details Source Parse Details **Map Fields** Mapping Details Launch Upload

Cancel <- Back Next ->

Map Fields

This page allows you to map the columns of your uploaded file to the fields defined in the dataset.
Please map all mandatory dataset fields to corresponding file columns to supply the required data for the recipients you want to modify in the dataset.

Mandatory fields: EMAIL FNAME LNAME HTML
Optional fields: USERNAME SOFTWARE DOB

These are extra columns in the file that will be ignored by the system.

email	fname	lname	username	software	dob	html	usertype	permission	betatest
zoe@maestro-demo.lsoft.com	USERNAME	LNAME	USERNAME	DOB	DOB	HTML	<ignore>	<ignore>	<ignore>
yvette@maestro-demo.lsoft.com	FNAME	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	LNAME	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	SOFTWARE	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	DOB	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	HTML	Ursula	Underhill	hobbit-girl	1	1991	y	n	n
Toby@maestro-demo.lsoft.com	USERNAME	Toby	Tuttle	slow-poky	3	1992	y	n	y
Seth@maestro-demo.lsoft.com	SOFTWARE	Seth	Simpson	Homer	1	1982	y	y	y
Ron@maestro-demo.lsoft.com	DOB	Ron	Remmington	remmer	3	1979	y	y	n
Quod@maestro-demo.lsoft.com	HTML	Quod	Quartermaster	four-ways	4	1974	n	n	n

field not mapped field is mapped field is mapped to more than one file column

Note: In the interest of keeping this document shorter, a screen shot of Map Fields for a list is not included. Once all the mandatory fields are correctly mapped, it will be possible to proceed by clicking the **Next ->** button.

9.3.1.6 Mapping Details

The “*Mapping Details*” screen is only available when there are Boolean fields and/or multiple selection fields in the dataset or list that need to be interpreted by LISTSERV Maestro. If there are both Boolean fields and multiple selection fields, the Mapping Details screen will appear with two tabs, one representing each type of field. When each portion of the tabbed page is mapped, a green checkmark will appear on that tab.

When Boolean fields are present in a dataset or list, LISTSERV Maestro needs to know what value equates to “true” and what value equates to “false” for each field. These values do not have to be the same for all fields in the dataset or list. Each Boolean field can have its own true and false values. For example, one field might have the digit “1” represent true and the digit “0” represent false, and another field might have the letter “Y” represent true and the letter “N” represent false. Once the true and false values have been defined, they can be used to tell the system how to use the values to register a true or false for the file.

A “true” value can be registered by selecting one of the options:

- True is every value that is equal to the value entered in the edit box
- True is every value not equal to the False value in the edit box

A “false” value can be registered by selecting one of the options:

- False is every value that is equal to the value entered in the edit box
- False is every value not equal to the True value in the edit box

Three valid combinations of these options are possible:

- A value representing “true” is specified and a value representing “false” is specified. This combination will assign the corresponding Boolean values to all rows that have the specific true and false values. Any rows that do not have the specified true and false values will be skipped as invalid and can be downloaded from the “*Results Statistics*” screen after the upload is completed.
- A value representing “true” is specified and the “false” is every value that is not equal to the true value. This combination will assign the true value to those rows that have the specified value, and assign false to all other rows.
- A value representing “false” is specified and “true” is every value that is not equal to the false value. This combination will assign the true value to all those rows that do not have the false value, and false to all the rows that have the specified false value.

In the second step of Boolean field mapping, select which field to apply the values to by clicking the name of the field. If there are multiple Boolean fields that will use the same definitions, click the link **apply to all fields**.

Figure 71 Upload Wizard - Mapping Details for Boolean Fields

Modify List Subscribers by Upload

Type Type Details Source Parse Details Map Fields **Mapping Details** Launch Upload

Cancel <- Back Next ->

Mapping Details

You have mapped the file columns below to boolean fields in your list.

Boolean Values Parse Details for Multiple Select Values

Specify for each boolean list field which of the values in the uploaded file represent the True/False state.

Use the drop-down menus to select how the value is interpreted.

1. Enter a boolean value mapping.
 True is every entry that is equal to the following value:
 False is every entry that is equal to the following value:

Enter true and/or false values in the edit boxes where necessary.

2. Click on the name of a field to apply the mapping above to a single field or [apply it to all fields](#).

HTML	PERMISSION
True: y	True: <i>undefined</i>
False: n	False: <i>undefined</i>
n	y
y	y
y	n
y	y
n	n
y	n
y	y
y	y
y	n
n	n

Click on the field name to apply the Boolean mapping value indicated in step one to that single field.

Note: In the interest of keeping this document shorter, a screen shot of Mapping Details for a dataset is not included.

If there are multiple selection list fields in the dataset or list, LISTSERV Maestro needs to know how multiple entries are separated (what the separator character is - see Section 9.3.1.4 [Parse Details](#) for more information on separator characters). If the separator character is used in one or more of the list entries, those entries need to be surrounded by a quote character that LISTSERV Maestro needs to be aware of as well (see Section 9.3.1.4 [Parse Details](#) for more information on quote characters).

Figure 72 Upload Wizard - Mapping Details for Multiple Selection Lists

Note: In the interest of keeping this document shorter, a screen shot of Mapping Details for a dataset is not included. Click **Next ->** to continue if there are no other tabs to set mapping details for, or if each tab has a green checkmark.

9.3.1.7 Launch Upload

The last screen in the upload wizard, “*Launch Upload*” summarizes the options for the upload. Use the **<- Back** button to return to the previous screen, or any of the links in the navigation bar to return to a previous screen to change selections. Click the **Launch** button to upload the file and modify the dataset or list. An “*Operations in Progress*” bar will display until the upload and modification are completed. Results of the modification will be displayed. Download any unprocessed rows by using the **download** links.

Figure 73 Upload Wizard - Upload Results Statistics

Upload Subscribers Result Statistics

List Subscribers File
Source File: XYZCompany2.csv
Total rows: 38

Upload Options
Modification Type: Add to List
Type Details: If a new subscriber is not yet a member of the dataset, add it as a new dataset member.

Results
Subscribers added to the list: 26
Unprocessed subscriber rows: 12

Details of Unprocessed Rows
Invalid rows: 11 [download](#)
Subscribers that already exist on the list: 1 [download](#)

If you want to keep the information about the failed subscribers, download the corresponding files.
Note: This information is only available until you leave this page.

OK

Download any unprocessed rows from the data file in a zipped file format before clicking OK.

Click **OK** to accept all modifications and return to the Recipient Dataset Details screen.

Section 10 Members Join a Dataset Themselves

Although data administrators can add members to a dataset and subscribers to a list, allowing people to sign themselves up to receive the e-mail they want is the best way to grow an internal mailing list. One of the best practices an organization can undertake to ensure their messages are received, opened, and reacted to by those who wish to participate is building a strong authentic subscriber base. Allowing people to join a dataset, subscribe to the lists they want, and manage their own settings can save the data administrator time and create goodwill between an organization and its membership.

LISTSERV Maestro provides several different levels of access for dataset members and list subscribers so that the data administrator can control how members and subscribers are added and removed from the system. Access to datasets and lists are set on the Summary screen of each definition wizard (dataset and list).

For datasets, the access levels pertain to the availability of the membership area on the Web. The membership area contains a form to join for non-members, login for current members, and once logged in, a membership profile settings page (made up of the values of the fields in the dataset and their password) and subscription settings. There are three levels of access to membership areas:

- **Open to everyone** – The membership area is open to anyone who can access the URL from the Web. Anyone can join, login, and manage profile and subscription settings. Passwords are created by individuals joining the membership area. Membership is not confirmed until new members respond to a confirmation e-mail message sent by the system to the address used in the sign up form. This level of access requires the lowest level of interaction from the data administrator and the highest level of interaction from members.
- **Access for members only** – The data administrator must add members to the dataset. Membership is automatically confirmed without the need for a confirmation e-mail.

Passwords are not assigned by the data administrator, but generated by LISTSERV Maestro. Members must request a password before they can login to manage their settings. Once added and with a valid password, these members have access to the membership area. This level of access requires a moderate level of interaction from the data administrator and a moderate level of interaction from members.

- **No public access** – The membership area is closed to everyone. Members cannot join, manage their profiles, or leave. This level of access requires the highest level of interaction from the data administrator and the lowest level of interaction from members. Members wishing to be removed from a dataset will need to contact the data administrator and request removal.

Access levels can be changed at any time, but care needs to be exercised if access levels are suddenly going from being open to being restricted.

10.1 Joining a Membership Area (Dataset)

When people want to subscribe to a list, they can join the membership area that contains the list using the web form created by LISTSERV Maestro when the dataset was created. By filling out this form, they automatically become members of the dataset that contains the list. They will be able to log into the membership area and subscribe to lists, but they will not receive any list mail until they confirm their membership by replying to an automatically generated e-mail message that was sent to the address they used when subscribing. Members usually have 48 hours to confirm a membership. They can also request another confirmation message be sent to them if they deleted the original one.

Joining a dataset using the membership form is a two step process. The first step is to enter an e-mail address and password. The second step involves filling out the profile fields in the form. Mandatory fields must be filled out in order to join successfully. Optional fields can be left blank.

Figure 74 Joining a Membership Area

The screenshot shows a web form titled "Join XYZ Company" with the following content:

Join our XYZ Company Customer Care Center to stay informed on all the new products showcasing this season. Sign up to beta test our new software, join our discussion lists to talk about your favorite XYZ product.

To join, follow the steps outlined below. Joining will allow you to subscribe to any of the mailing lists. If you already are a member, please go to the [login page](#).

Step 1: E-mail Address and Password

E-mail Address:*

Password:*

Repeat Password:*

Step 2: Profile

First name*:

Last name*:

Screen name:

Number of XYZ products currently owned:

Date of birth:

Check the box to receive HTML formatted mail. Leave unchecked for text mail:

Once the form is filled out and sent, a perspective member will be sent to the membership area where profile data can be changed and lists can be subscribed to, but no mail will be sent to the address until the member has confirmed their membership.

Figure 75 Membership Area for an Unconfirmed Member

XYZ Company [Logout](#)

Join our XYZ Company Customer Care Center to stay informed on all the new products showcasing this season. Sign up to beta test our new software, join our discussion lists to talk about your favorite XYZ product.

Welcome!

You can subscribe to any of the mailing lists under My Lists and manage your membership settings under My Profile.

Confirmation Required! Your membership is still unconfirmed.
 A confirmation e-mail was sent to "ugodocgal@hotmail.com". Follow the instructions in the message to confirm your membership. You will not receive any list mail until you do so.

My Lists		My Profile	
Subscribed	List Name	Action	Description
---	NEWS-FROM	Subscribe	Join our news list for XYZ customers. Breaking news for users and developers such as upgrades and bug fixes will be announced here. New product release schedules and calls for beta testers will also be distributed.
---	TALK-BACK-TO	Subscribe	Join our open discussion list for XYZ customers. Share your tips and tricks with other users of XYZ software. The most creative ideas will be published in our award winning monthly newsletter.
---	XYZ Monthly Newsletter	Subscribe	Join our monthly XYZ Company newsletter and receive special online sales announcements, product reviews, money saving coupons and much more!

LISTSERV Maestro will send a confirmation e-mail message to the address used in the membership form. A link in the message must be clicked in order for the membership to be confirmed. A "Confirmation Accepted" message will appear once the link is accessed. From here, a new confirmed member can go to the login page.

Figure 76 Confirmed Membership Message

Confirmation Accepted

Your request to join XYZ Company is hereby confirmed.

You have been subscribed with the e-mail address "**luckyme75@yahoo.com**".

As a member, you can to subscribe to any XYZ Company mailing lists.

To login, use your e-mail address (as given above) and the password that you defined when you submitted your request to join.
 Once logged in, you will be able to manage all your mailing list subscriptions and subscription profiles.

[Click here](#) to go to the login page.

A confirmed member's login page will appear without the "Confirmation Required!" warning. Members can subscribe and unsubscribe to any mailing lists that appear on the "My Lists" tab. Members can edit their profiles, change their passwords, and unregister from the "My Profile" tab. Unregistering from a membership area removes the member from the dataset and unsubscribes them from all lists in that dataset.

Figure 77 Membership Area for Confirmed Member

XYZ Company [Logout](#)

Join our XYZ Company Customer Care Center to stay informed on all the new products showcasing this season. Sign up to beta test our new software, join our discussion lists to talk about your favorite XYZ product.

My Lists [My Profile](#)

Subscribed	List Name	Action	Description
---	NEWS-FROM	Subscribe	Join our news list for XYZ customers. Breaking news for users and developers such as upgrades and bug fixes will be announced here. New product release schedules and calls for beta testers will also be distributed.
Yes	TALK-BACK-TO	Edit Profile Unsubscribe	Join our open discussion list for XYZ customers. Share your tips and tricks with other users of XYZ software. The most creative ideas will be published in our award winning monthly newsletter.
---	XYZ Monthly Newsletter	Subscribe	Join our monthly XYZ Company newsletter and receive special online sales announcements, product reviews, money saving coupons and much more!

XYZ Company [Logout](#)

Join our XYZ Company Customer Care Center to stay informed on all the new products showcasing this season. Sign up to beta test our new software, join our discussion lists to talk about your favorite XYZ product.

My Lists **My Profile**

You are subscribed with the e-mail address:
ugodcgal@hotmail.com

Use the links below to manage your membership settings.

[Edit Profile](#) Change your e-mail address and other profile data.
[Change Password](#) Change your login password.
[Unregister](#) Unsubscribe from all mailing lists and delete your profile.

10.2 Subscribing to a List

There are two different ways that people can self-subscribe to a list. They can join a membership area as described in Section 10.1 [Joining a Membership Area \(Dataset\)](#) and subscribe to the lists displayed there, or they can subscribe to a list directly if the data administrator has made the list subscription link accessible to anyone.

10.2.1 Subscribing from the Membership Area

Once a member, anyone can subscribe themselves to any visible lists from the My Lists tab. Any lists that a member is not subscribed to has a **Subscribe** link in the “Action” column. By clicking this link and filling out any mandatory list specific fields, a member becomes subscribed to the list. Once a member is subscribed to a list, two new links become available in the Action column, **Edit Profile** and **Unsubscribe**. The edit profile link will open any list specific profile fields that can then be changed and saved. The unsubscribe link removes the member from the mailing list, but does not remove the member from the membership area (dataset).

10.2.2 Subscribing from a List URL

Each list has its own web subscription form. If this form is made accessible to everyone, subscribers can fill out the form and subscribe to a list. There are two steps to this process. The first step requires a valid e-mail address and a password. LISTSERV Maestro checks to see if the e-mail address is already a member of the list’s dataset. If so, the dataset’s profile fields will be automatically filled in, leaving only the list specific fields (if any) to be filled in by the subscriber. If the subscriber is not a member of the dataset, the mandatory dataset fields will have to be filled in along with any mandatory list specific fields.

Figure 78 Subscribing from a List URL

Subscribe to NEWS-FROM

Join our news list for XYZ customers. Breaking news for users and developers such as upgrades and bug fixes will be announced here. New product release schedules and calls for beta testers will also be distributed.

Step 1: E-mail Address and Password

E-mail Address:*

Password:*

Step 2: Profile

The address you have entered is already a member, so you only need to fill out the list profile fields. The member profile fields are already completed in the table below and reflect your current settings:

Subscriber is already a member of the dataset, so all the dataset fields are automatically filled in.

First name*:

Last name*:

Screen name:

Number of XYZ products currently owned:

Date of birth:

Check the box to receive HTML formatted mail. Leave unchecked for text mail:

Check the box if you are a developer:

The mailing list offers you a choice between the following topics. Please check the topics you want to subscribe to. You will only receive messages which specify a topic that you have subscribed.

DEVELOPERS INSTRUCTORS PARENTS
 CHILDREN ART LANGUAGE
 MUSIC MATH

Also receive messages which do not specify any topic

List specific fields will be editable, and any mandatory fields must be filled in to subscribe to the list.

10.3 Sending Mail to Hosted Lists

Sending mail to a hosted list can be accomplished once the list is complete and subscribers are added. The method for sending mail can be different, depending on the type of hosted list. For hosted LISTSERV lists, regular users that have permission can send mail directly to any hosted LISTSERV list by selecting "Send to an Existing LISTSERV List" using the recipients definition wizard when defining the recipients for a mail job. If regular users do not have the right to use that recipient definition, the data administrator will have to create a target group based on the hosted LISTSERV list. See Section 14 [Classic LISTSERV List Target Groups](#) for instructions.

Regular users need a target group to be able to send mail to hosted recipients lists. Whenever a hosted recipient list is created and at least one subscriber is added, LISTSERV Maestro automatically creates a corresponding target group that encompasses all the current subscribers of that list. This target group is placed within a special target group category called "<Hosted Recipients Lists Target Group>". The data administrator must enable this target group for use before any mail can be sent to the hosted recipient list. See Section 13 [Hosted Recipient List Target Groups](#) for instructions.

Section 11 Subscriber Access URLs and Customization

One of the final steps in the process of setting up a Recipient Warehouse to collect, organize, and manage recipient data and e-mail lists, is providing people with access to the membership and list subscription areas. LISTSERV Maestro automatically generates URLs to all of the public pages of a dataset as each dataset and the lists within it are created. These URLs can then be copied onto a web site or sent in an e-mail message in order to invite members and subscribers

to join. Subscriber access URLs can be found by clicking the **Subscriber Access URLs** link found on the Actions menu of the Recipients Dataset Details screen. Each dataset will contain:

- **Login:** – This URL will bring existing members to their membership page when they enter their e-mail address and password. Members that have been added by the data administrator but do not have a password can enter their e-mail address and request a password. Members that have forgotten their password can request a new one. There is also a link that brings people who are not members to the join membership area page.
- **Join Membership Area:** – This URL brings a prospective member to the sign up page for the membership area (dataset). [See Figure 74.](#)
- **Subscribe List [list name]:** – This URLs brings a prospective subscriber to the list’s subscription page. [See Figure 78.](#) Every list in the dataset will have its own subscription URL.

Figure 79 Subscriber Access URLs

Recipient Dataset Details

Dataset Info
 Name: **XYZ Company**
 Description: XYZ Customer Center
 Members: **38** (0 yet unconfirmed)
 [Open to everyone]
 Encoding: West European, ISO-1

Shared Fields:

EMAIL	FNAME	LNAME	USERNAME
(Text)	(Text)	(Text)	(Text)

 (Fields formatted in bold are mandatory fields)

Edit Dataset Settings
 Create Hosted Recipient List
 Create Hosted LISTSERV List
 Create Category
 Browse/Edit Confirmed Members
 Add Single Member
 Modify Members by Upload
 Download all Members
Subscriber Access URLs
 Subscriber Access Template
 Delete all Members
 Delete Dataset

XYZ Company Quick-Access
 This page gives you shortcut access to all public pages of XYZ Company.

Login:
<http://papaya.ease.isoft.com/list/login.html?mContainer=53&mOwner=5>

Join Member Area:
<http://papaya.ease.isoft.com/list/subscribe.html?mContainer=53&mOwner=5>

Subscribe List DEVELOP:
<http://papaya.ease.isoft.com/list/subscribe.html?mContainer=53&mOwner=5&mListSeqNo=166>

Subscribe List NEWS-FROM:
<http://papaya.ease.isoft.com/list/subscribe.html?mContainer=53&mOwner=5&mListSeqNo=164>

Subscribe List TALK-BACK-TO:
<http://papaya.ease.isoft.com/list/subscribe.html?mContainer=53&mOwner=5&mListSeqNo=163>

Subscribe List XYZ Monthly Newsletter:
<http://papaya.ease.isoft.com/list/subscribe.html?mContainer=53&mOwner=5&mListSeqNo=162>

Click on each of the subscriber access URLs to view what the public pages look like. After seeing what the public sees, it may be necessary to go back and edit the dataset fields or list fields.

11.1 Customizing the Web Form

LISTSERV Maestro subscriber access URLs can be customized to fit the scheme of any organization’s web site. By matching the fonts, colors, and imagery of subscriber pages to an organization’s web presence, a unified theme can be created, ensuring brand recognition and maintaining subscriber confidence and trust. The fonts, colors and images of the public pages in

each LISTSERV Maestro dataset are set with a template that contains style information. A new template can be exchanged with the default template in each dataset so that different membership areas can have their own look and feel.

To upload a new template, select the dataset and click **Subscriber Access Template** from the Actions menu. The “*Upload Access Pages Template*” screen opens. This page displays a sample of the layout and styles used in the default template as a subscriber would see them. Use this screen as a guide for changing the styles in a custom template.

Figure 80 Default Subscriber Access Template

Upload Access Pages Template

On this page you may change the template used for displaying the subscriber access pages. A sample of the current layout is shown below.

You are currently using the default template. Click [here](#) to upload a user defined template.

Sample Access Page Layout

My Lists
My Profile

Current Category: [Sample Dataset](#) > [Sample Parent Category](#) > **Sample Category**

Sub-Categories: Sample Sub-Category Another Sub-Category Sub-Category 3	This is the description of the current category (which is the "Sample Category"). The text here is the user defined text entered as the "Category Description".																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Subscribed</th> <th style="width: 30%;">List Name</th> <th style="width: 20%;">Action</th> <th style="width: 40%;">Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Yes</td> <td>Sample List</td> <td style="text-align: center;"> Edit Profile Unsubscribe </td> <td>This is the description of the first sample list.</td> </tr> <tr> <td style="text-align: center;">Yes</td> <td>Another List</td> <td style="text-align: center;">Unsubscribe</td> <td>The description of the second sample list. The text shown here is user defined.</td> </tr> <tr> <td style="text-align: center;">---</td> <td>SAMPLE-L</td> <td style="text-align: center;">Subscribe</td> <td>The description of SAMPLE-L. The displayed description is the one entered as the "Public Description" of the hosted list.</td> </tr> </tbody> </table>	Subscribed	List Name	Action	Description	Yes	Sample List	Edit Profile Unsubscribe	This is the description of the first sample list.	Yes	Another List	Unsubscribe	The description of the second sample list. The text shown here is user defined.	---	SAMPLE-L	Subscribe	The description of SAMPLE-L. The displayed description is the one entered as the "Public Description" of the hosted list.	
Subscribed	List Name	Action	Description														
Yes	Sample List	Edit Profile Unsubscribe	This is the description of the first sample list.														
Yes	Another List	Unsubscribe	The description of the second sample list. The text shown here is user defined.														
---	SAMPLE-L	Subscribe	The description of SAMPLE-L. The displayed description is the one entered as the "Public Description" of the hosted list.														
Unsubscribe from all currently subscribed lists in this category.																	

The following shows a few HTML styles commonly used on the subscriber pages, including few further custom styles which are used for special purposes. Please see the manual for more details.

This is the header style <H1>...</H1>

This is the header style <H2>...</H2>

This is a standard text paragraph enclosed with <P>...</P>.

[This text](#) is a clickable link with <A>....

This text has the style class "small".

This text has the style class "emphasis".

This text has the style class "error".

This text has the style class "emphasisBackground".

This is the table header style <TH>...</TH>
This is the table cell style <TD>...</TD>
This sample table as a whole is assigned the custom style "tableframe"

a single-line input field	a disabled single-line input field
a button	a disabled button
<input type="checkbox"/> a checkbox	<input type="checkbox"/> a disabled checkbox
a drop-down selection list	a disabled drop-down selection list
a selection list option 2 option 3 etc...	a disabled selection list option 2 option 3 etc...

11.2 Creating a Custom Template

Custom templates for the public pages of LISTSERV Maestro are based on a standard HTML page. Create a new HTML document in an HTML editor or text editor. The HTML page must be fully defined, including the <HTML>, <HEAD>, and <BODY> tags. The page itself may include any desired HTML code, including a header, footer, and sidebar. Style information is normally included in the head section of the HTML page.

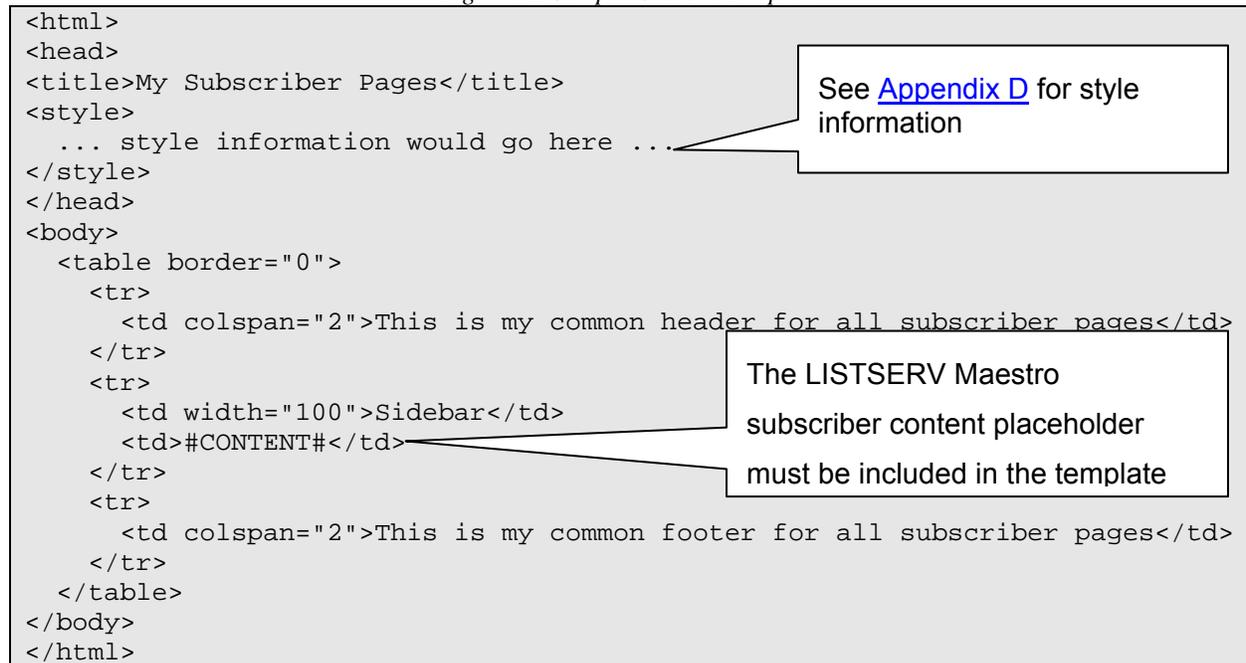
The LISTSERV Maestro functionality of the public pages is represented in the HTML document by adding the placeholder #CONTENT# within the HTML page in the exact place where the individual subscriber content will be displayed. This placeholder must be included in a template page in order to have the custom template accepted by the system.

The default template can be restored to a dataset at any time by clicking the **Default Template** link. A custom template can be downloaded by clicking the **Current Template** link.

Figure 81 shows an example of a simple custom template layout. The HTML code for a simple subscriber access pages template includes a page title "My Subscriber Pages" as well as a common header, footer, and a sidebar: The layout of the page is defined with the help of a HTML table with three rows. The first row contains the common header in a single column. The second row contains two columns. The left column is the sidebar with a width of 100 pixels. The right column contains the actual page content, so this is the location of the #CONTENT# placeholder. Finally, the third row contains the common footer in a single column.

Figure 81 Sample Custom Template

```
<html>
<head>
<title>My Subscriber Pages</title>
<style>
  ... style information would go here ...
</style>
</head>
<body>
  <table border="0">
    <tr>
      <td colspan="2">This is my common header for all subscriber pages</td>
    </tr>
    <tr>
      <td width="100">Sidebar</td>
      <td>#CONTENT#</td>
    </tr>
    <tr>
      <td colspan="2">This is my common footer for all subscriber pages</td>
    </tr>
  </table>
</body>
</html>
```



Using CSS styles (Cascading Style Sheet) to customize the look of page content can ensure that whatever styles are being used in other web pages can be used within LISTSERV Maestro too. The HTML code that LISTSERV Maestro uses to generate the #CONTENT# portion of the page employs some commonly used HTML tags as well as some custom style classes, the look of which can be defined with by creating a custom style sheet, or matching an existing one.

Appendix D contains all the [HTML tags and custom styles](#) used by LISTSERV Maestro. A [sample style sheet](#) used by the default template is also included.

Section 12 Introduction to Recipient Target Groups

The data administrator account can simplify and streamline the use of data sources, including databases, uploaded text files, and e-mail lists, to select recipients and recipient data to the point where regular account holders do not need to know anything about how and where data is stored. To do this, the data administrator creates predefined recipients lists, complete with a name and description called “*Recipient Target Groups*.”

Regular account holders can use these target groups to select the recipients for their jobs. The data administrator builds the recipient target groups by writing SQL statements to retrieve data from a database, a data source such as a spreadsheet, or in the case of hosted recipient data, building a query using the LISTSERV Maestro interface. The data administrator also designs the methods regular users employ to select the data (in a series of check boxes, drop-down menus and/or text boxes).

There are many advantages to using recipient target groups.

- Using recipient data stored in a database can save time and system resources.
- The database can be continually updated until the time the job is sent, ensuring that the most current data is used for the job.
- Recipient target groups are shared among group members and can be reused for multiple jobs.
- Parameters can be inserted into recipient target groups so that regular account holders have some control over what recipients are retrieved for each job. Using parameters reduces the number of individual queries that need to be written for jobs.
- The data administrator does not need to be involved with any other parts of e-mail jobs.
- Specific recipient target groups can be removed from use without deleting them. They can be reinstated whenever desired.
- Recipient target groups can be organized into categories for easy recognition.

12.1 Creating Recipient Target Groups

To create recipient target groups, the data administrator must first log into his/her account. Recipient target groups are created and saved under the Recipient Warehouse icon in the Maestro User Interface. Click on the icon **Recipient Warehouse** icon to open “*Administer the recipient warehouse*.” Click on **Recipient Target Groups** to open the “*Recipient Target Groups*” screen. This screen lists all defined target groups (if any) and provides a wizard to create new target groups.

Figure 82 Recipient Target Groups

Recipients Target Groups

All defined target groups for your account.

Category:

LISTSERV selects	Copy Delete
Target Group Type: LISYSERV Retrieves Recipients from Database Description: testing LISYSERV selects from a database Status: Enabled	
Mail Type	Copy Delete
Target Group Type: LISYSERV Maestro Retrieves Recipients from Database Description: Recipients preference of mail type - HTML or plain text. Appears as a check box. If checked, HTML mail will be sent. If unchecked, plain text mail will be sent. Uses "maestro_recipients_less" table in Oracle customer database Status: Enabled	
Pet Type	Copy Delete
Target Group Type: LISYSERV Maestro Retrieves Recipients from Database Description: Selects recipients pet type. Appears as a single input field. Uses "maestro_recipients-less" table in Oracle customer database. Status: Enabled	
Select by CITY	Copy Delete

[Delete Category](#) [Rename Category](#)

Create a new Target Group of the following type:

The Recipient Target Groups screen shows the list of target groups in the selected category. Choose the category to view from the "Category" drop-down menu. The table below will then be refreshed to show all target groups in that category.

Target groups not assigned to a specific category will be displayed under "<No Category>" in the drop-down menu. Target groups automatically created by the system for hosted lists will be displayed under "<Hosted Lists Default Target Groups>". Each target group is displayed with the following information:

- **Name** – The name of the target group. The name is a clickable link used to open the target group for editing in the target group wizard for all target groups except those listed under "<Hosted Lists Default Target Groups>". In order to edit target groups for hosted lists, they first must be copied (see below).
- **Copy** – Use the Copy link to create a new target group as a copy of the selected one. The name of a copied target group will be listed alphabetically as "Copy of 'original name'". This name can be changed when editing the target group. When a hosted list default target group is copied, the copy is placed in the <No Category> category by default. The category may be changed by engaging the target group wizard.
- **Delete** – Click the Delete link to delete the selected target group.
- **Target Group Based On** – Displays the type of the data the target group is based on. Currently five types are supported:
 - Hosted Recipient List
 - Classic LISYSERV List
 - Uploaded Text File
 - Database accessed by LISYSERV Maestro

-
- Database accessed by LISTSERV (see Section Selecting the Type of Target Group for more details).
 - **Description** – The description of the target group. It is important to create an accurate description of the type of data being retrieved so that regular users will be able to select an appropriate target group for their e-mail jobs.
 - **Status** – The current status of the target group:
 - **Incomplete** – This target group has not yet been completed. It may be partially defined and remain in this state while the target group administrator is still editing it.
 - **Complete** – This target group has been completed, but the target group has not been enabled for use. A target group in this state has been completed by the data administrator, or automatically created by the system for hosted lists, but is not open for users to select it for recipient definition.
 - **Enabled** – This target group has been completed and has been enabled for use in the recipients wizard. A target group in this state is complete and has been enabled for use as a recipient definition.

Below the list that displays the target groups in the selected category are links to manipulate the category itself:

- **Delete Category** – Allows the currently selected category to be deleted. Only available if the current category is empty. Not available for "<No Category>" or "<Hosted Lists Default Target Groups>".
- **Rename Category** – Allows the name of the currently selected category to be changed. Not available for "<No Category>" or "<Hosted Lists Default Target Groups>".

12.2 Selecting the Type of Target Group

To create a new target group, scroll to the bottom of the screen and find the drop-down menu that says "Create a new target group with recipients based on:" Select one of the five ways to create a new target group, and then click the **Create** button. A target group wizard will initiate the process of creating the new target group. Wizard pages will appear different for the different types of target groups. Each target group type is described below:

- **Hosted Recipient List** – This target group is based on a hosted recipient list. The target group wizard will display all the datasets and their respective hosted recipient lists. Once a list is selected, the wizard will allow for conditions and parameters to be set in order to segment the list.
- **Classic LISTSERV List** – This target group is based on the recipients type "Send to an Existing LISTSERV List" as available in the recipients wizard during recipients definition of a job. For more information on this part of the recipients wizard, see Section 4.2. Send to an Existing LISTSERV List in the LISTSERV Maestro User's Manual.

When this target group is selected, the target group wizard will display all available LISTSERV lists on the server where LISTSERV Maestro is installed. Select a list from the drop-down menu, and then select the type of LISTSERV message to send, standard or mail merge.

- **Uploaded Text File** – This target group is based on the recipients type "Upload a Recipients Text File" as available in the recipients wizard during recipients definition of a

job. For more information on this part of the recipients wizard, see Section 4.5. Upload a Recipient's Text File in the LISTSERV Maestro User's Manual.

The file can be uploaded into the system while the wizard is engaged, storing the recipients at that time, or a server file can be uploaded just before the job is delivered.

- **Database accessed by LISTSERV Maestro** – This target group type is based on the recipients type "*Select Recipients from a Database*", as available in the recipients wizard during recipients definition of a job. For more information on this part of the recipients wizard, see Section 4.6 Selecting Recipients From a Database in the LISTSERV Maestro User's Manual.

When this target group type is selected, the target group wizard will require that a database connection, a SQL statement, merge column headers, and duplicate elimination be entered, the same way as when using the underlying recipients type in the recipients wizard. Optionally, the SQL statement may be parameterized. Using parameters in the SQL statement allows the user to define variables in the recipient wizard when this target group is used for a recipient definition. For more information on using parameters, see Section 18 [Defining Parameters](#).

- **Database accessed by LISTSERV** – This target group type is based on the recipients type "*Let LISTSERV Select Recipients From a Database*", as available in the recipients wizard during recipients definition of a job. For more information on this part of the recipients wizard, see Section 4.7 Letting LISTSERV Select Recipients From a Database in the LISTSERV Maestro 2.0 User's Manual.

When this target group type is selected, the target group wizard will require that a database name, a SQL statement, and merge column headers be entered, the same way as when using the underlying recipients type in the recipients wizard. Optionally, the SQL statement may be parameterized. Using parameters in the SQL statement allows the user to define variables in the recipient wizard when this target group is used for a recipient definition. For more information on using parameters see Section 16.3 [Section 18 Defining Parameters](#).

The option selected here will determine the way the recipient target group wizard will look and what kinds of information will be needed to complete the wizard.

12.3 The Recipient Target Group Wizard

The target group wizard takes the data administrator through all the steps necessary to define the settings of the target group. The top row of the wizard displays links to each of the screens necessary to complete the wizard. The open screen is marked with a highlighted background. Depending on the choices made on some of the wizard screens, other screens may become disabled or be displayed differently. If a wizard screen is disabled, it means that the screen is not necessary with the current selections and can be safely ignored.

When the wizard is entered for the first time for a newly created target group, it is necessary to click **Finish** or **Save & Exit** in the wizard to create the target group. Exiting the wizard by clicking **Cancel**, clicking any of the navigational icons, or by closing the browser, will not create a new target group.

If the wizard is exited by clicking **Cancel**, clicking navigational icons, or closing the browser for an existing target group, the target group will still exist, but all changes made since the last save will not be applied.

The **Finish** button is only available on the “*Summary*” screen of the wizard. The Summary screen only becomes available if the entire wizard is completed. If the wizard is closed by clicking **Finish**, then the target group will exist in the “*Complete*” or in the “*Enabled*” state, depending on whether the “*Yes, allow the definition of recipients based on this target group*” checkbox on the summary screen was selected or not.

The **Save & Exit** button is available on every screen. Clicking this button saves the current state of the wizard, allowing the data administrator to re-enter the wizard and complete the definition. This will put the target group in any of the three states “*Incomplete*”, “*Complete*” or “*Enabled*,” depending on whether all screens in the wizard were completed, and if “*Yes allow the definition of recipients based on this target group*” checkbox on the summary screen was selected or not.

A completed target group may be enabled at any time by entering the target group wizard, and going directly to the Summary screen (click on the **Summary** link in the menu bar). On the Summary screen, check the box “*Yes, allow the definition of recipients based on this target group*”

Section 13 Hosted Recipient List Target Groups

Recipients for this type of target group are derived from lists that have their recipients stored (hosted) in LISTSERV Maestro. Once any type of list is created from a dataset, a default target group is automatically generated by the system. This default target group contains all of the list subscribers. These target groups are located in a special category named “*<Host Lists Default Target Groups>*”. They are named using the phrase “*Hosted Recipient List*” followed by the name of list.

Although the target group is automatically created, it must be enabled in order for it to be used in the recipient definition of a mail job. Click the **Enable** link in the upper right corner to allow the target group to be used.

Unlike other types of target groups, the name of a hosted list default target group is not a clickable link that engages the target group definition wizard. In order to manipulate an automatically generated target group, click the **Copy** link in the upper right corner to make a copy. The copy acts like a regular target group, with a clickable name that will access the wizard. Target groups based on hosted recipient lists can also be created from scratch by using the definition wizard as described below.



It can be faster to make a copy of an existing target group and edit it than create a new one from scratch.

13.1 General

General characteristics of the target group are comprised of a name, a category and a description. This information will be used by regular users to locate and identify the target groups they want to use for jobs. Both name and description are mandatory. Enter a meaningful name and a good description so the regular users who are selecting target groups in the recipients wizard will have all the information they need to decide which target group to use.

Target groups can be clustered in categories, making it easier for regular users to select a target group. A category is meant to contain target groups that are related to each other. The intent of categories is to minimize the time needed to locate a specific target group. By selecting

a category first, users do not need to browse through all the available target groups, but only those in the relevant category.

To add a target group to a category, select the category for the target group from the drop-down menu. To create a new category, click the **New Category** link and define a new category by entering its name into the edit field. Target group categories are optional. If no category is selected or created, target groups are placed into "<No Category>."

Figure 83 Target Group Wizard - General

Target Group Definition

General Source Source Details Parameters Input Layout Input Preview Summary

Cancel Save & Exit <- Back Next ->

General

Enter a target group name and a description. Optionally, select a category or create a new one.

Name:

Category: [Select Existing Category](#)

Category: [New Category](#) **Click here to enter add a new category**

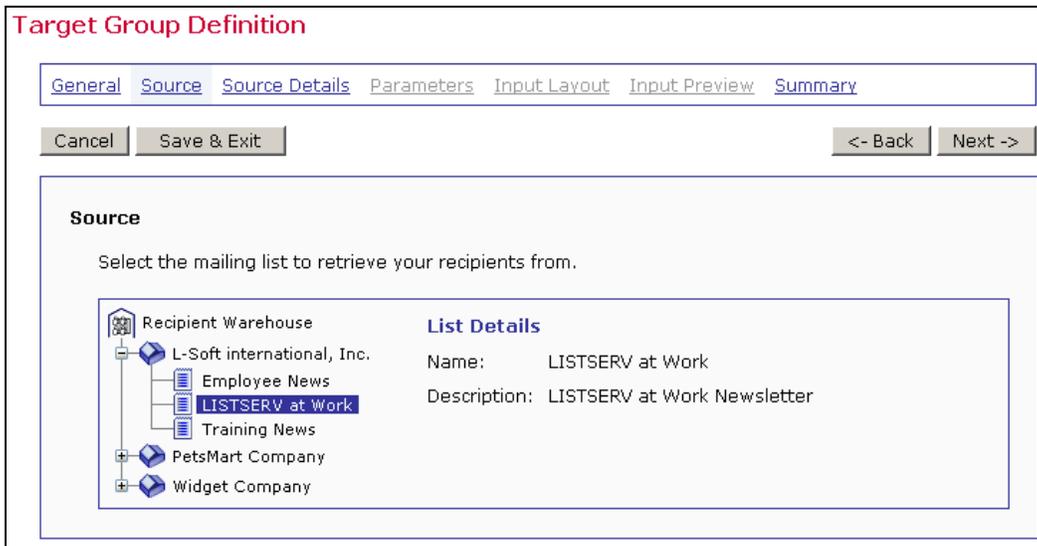
Description:

Click **Next ->** to continue.

13.2 Source

The "Source" screen displays all the datasets in the Recipient Warehouse. Select the dataset and the list to retrieve the recipients from. To open a dataset, click on the plus sign "+". If there are categories within the dataset, click on the plus sign to expand the category to see the available lists.

Figure 84 Target Group Wizard Source for Hosted Lists



Click **Next ->** to continue.

13.3 Source Details

The “*Source Details*” screen can be used to segment the list’s subscribers by setting conditions to pull certain recipients from the list. Conditions are based on the fields of data in the dataset and operators that select specific recipients based on what data is in their fields. Multiple fields of data can be used along with combined operators to fine tune which messages are sent to specific sets of recipients.

Selecting conditions and operators builds the query that is submitted to the dataset to pull recipients from the dataset. Like other queries in the target group wizard, they can be parameterized so that end users can fill in the details of the selection criteria. See Section 18 [Defining Parameters](#) for more information.

The Source Details screen defaults to opening with an AND operator in place after the list name. To set a list subscriber condition it is possible to change the operator, add a condition, add a job based condition, add a combination operator or copy a combination operator. As operators and conditions are selected, a diagram displays the selections and the query is displayed below. Click on the link **Actions on Selected Node** to select an action type:

- **Change Operator Type** – Changes the operator type. Select the operator from the drop-down menu and then click OK to accept the change or Cancel to disregard the selection. Available operators are:
 - Combines with AND
 - Combines with OR
 - Combines with AND, then negate the result
 - Combines with OR, then negate the result

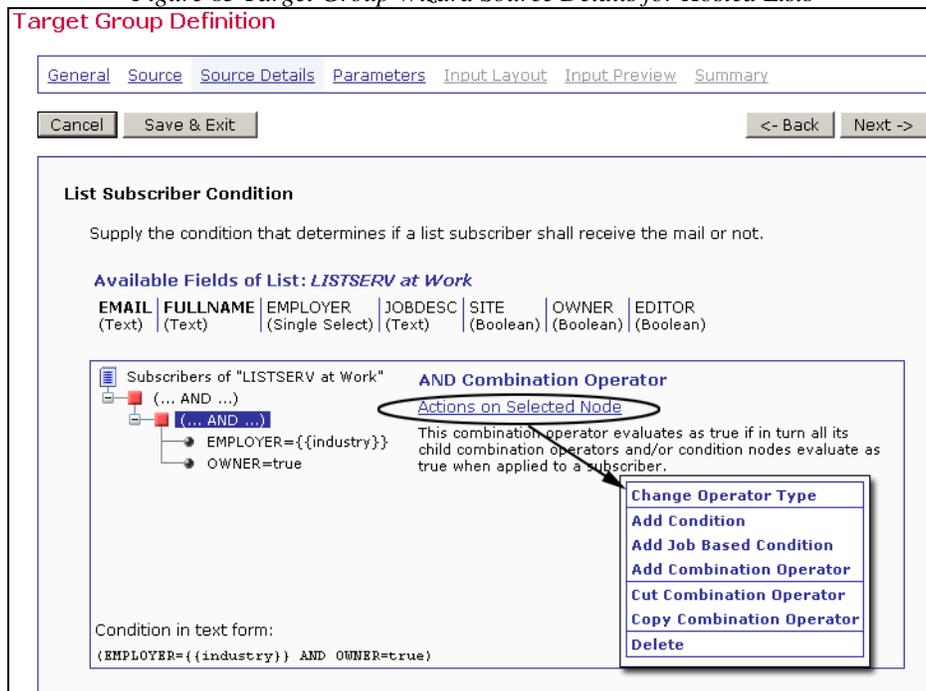
For more information on how operators act, see Appendix E [Building Hosted Recipient Queries](#).

- **Add Condition** – Adds a condition based on a field, a number, a text string, a Boolean value, or the value of a formula. Depending on the choice, different information is required to build the query. Parameters can be used so that end users have more flexibility to select targeted recipients. For more information, see Appendix E [Building Hosted Recipient Queries](#).
- **Add Job Based Condition** – Job based conditions are used when building a target group based on a reaction to a previous job. This is similar to the recipient type “*Based on a Previous Job*” in the recipient definition wizard of a job. Select whether the recipients were part of the original source job, and if so, what tracked behavior did they perform, or whether the recipients were not part of the original source job.
- **Add Combination Operator** – Adds another operator to the condition tree. Available operators are:
 - Combines with AND
 - Combines with OR
 - Combines with AND, then negate the result
 - Combines with OR, then negate the result

For more information on how operators act, see Appendix E [Building Hosted Recipient Queries](#).

- **Copy Combination Operator** – Copies the selected combination operator.

Figure 85 Target Group Wizard Source Details for Hosted Lists



Click **Next ->** to continue.

13.4 Parameters

The “Parameters” screen only becomes active if there are parameters in the target group. Click on each condition to define the parameter label and description. This text will appear on the screens regular users access when employing the target group for a recipient definition.

Figure 86 Target Group Wizard Parameters for Hosted Lists

The screenshot shows the 'Target Group Definition' wizard with the 'Parameters' tab selected. The breadcrumb trail includes 'General', 'Source', 'Source Details', 'Parameters', 'Input Layout', 'Input Preview', and 'Summary'. Navigation buttons include 'Cancel', 'Save & Exit', '<- Back', and 'Next ->'. The main content area is titled 'Parameters' and contains instructions: 'Enter the necessary details for each of the parameters in the condition. Navigate the condition tree to display the conditions containing parameters.' A condition tree on the left shows 'Subscribers of "LISTSERV at Work"' expanded to '(... AND ...)' and then to 'EMPLOYER={{industry}}'. To the right, the 'Parameter Details' section shows: 'Parameter: industry', 'Label: Industry' (with a text input field), 'Description: Industry subscribers are affiliated with (optional)' (with a text input field), and 'Input Type: Selection List' (with a dropdown menu).

Click **Next ->** to continue.

13.5 Input Layout

The “Input Layout” screen will only become active if there are parameters in a target group and they have been labeled on the previous screen. If there are multiple parameters, the order in which they appear to regular users may be reordered by using the **Up** and **Down** links.

To provide end users with more information on the parameters, optional headings can be added to each parameter or a group of parameters. Click the **New Heading** link to add a heading and optional introductory text. Click **Save Entry** to save headings and introductory text. Use the **Delete Heading** link to remove a saved heading.

Figure 87 Target Group Wizard Input Layout for Hosted Lists

Click **Next ->** to continue.

13.6 Input Preview

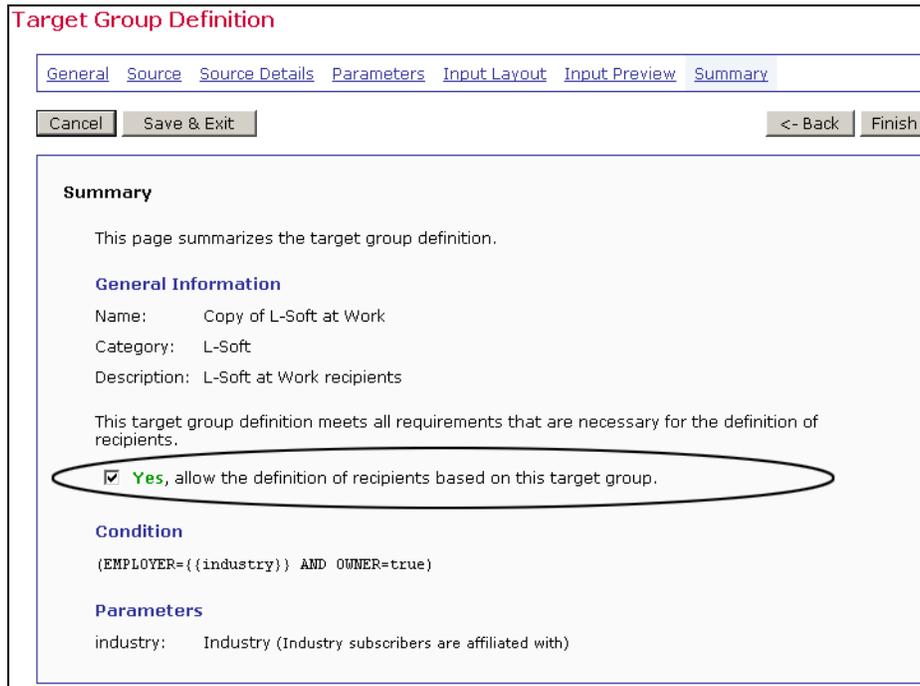
The “*Input Preview*” screen only becomes active if there are parameters in a target group and the Input Layout screen has been successfully completed. A preview of the parameter input page as regular users will see it is generated here. Verify that the layout is acceptable. If not, use the **<- Back** button to return to previous pages in the wizard to make changes.

Figure 88 Target Group Wizard Input Preview for Hosted Lists

13.7 Summary

The “*Summary*” screen displays the target group definition, listing conditions and parameters. In order for regular users to access the target group, it must be enabled. Check the box next to “*Yes, allow the definition of recipients based on this target group*” to enable it. If left unchecked, the target group will not appear in the list of available target groups to regular users.

Figure 89 Target Group Wizard Summary for Hosted Lists



Target Group Definition

General Source Source Details Parameters Input Layout Input Preview Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the target group definition.

General Information

Name: Copy of L-Soft at Work
Category: L-Soft
Description: L-Soft at Work recipients

This target group definition meets all requirements that are necessary for the definition of recipients.

Yes, allow the definition of recipients based on this target group.

Condition

{EMPLOYER={{industry}} AND OWNER=true}

Parameters

industry: Industry (Industry subscribers are affiliated with)

Click **Finish** to save the target group and return to the Recipient Target Groups screen.

Section 14 Classic LISTSERV List Target Groups

This target group type is based on the recipients type “*Send to an Existing LISTSERV List*”, as available in the recipients wizard during recipients definition of a job. Multiple screens take the data administrator through the process of defining a recipient target group using LISTSERV Maestro to select recipients from a LISTSERV List.

14.1 General

The “*General*” screen in the wizard defines the name, category, and description of the target group. Both name and description are mandatory. Enter a meaningful name and a good description so the regular users who are selecting target groups in the recipients wizard will have all the information they need to decide which target group to use.

Target groups can be clustered in categories, making it easier for regular users to select a target group. A category is meant to contain target groups that are related to each other. The intent of categories is to minimize the time needed to locate a specific target group. By selecting a category first, users do not need to browse through all the available target groups, but only those in the relevant category.

To add a target group to a category, select the category for the target group from the drop-down menu. To create a new category, click the **New Category** link and define a new category by

entering its name into the edit field. Target group categories are optional. If no category is selected or created, target groups are placed into "<No Category>."

Figure 90 Target Group Wizard - General

Target Group Definition

General Source Source Details Parameters Input Layout Input Preview Summary

Cancel Save & Exit <- Back Next ->

General

Enter a target group name and a description. Optionally, select a category or create a new one.

Name: Type in a descriptive name

Category: <No Category> **New Category** Click here to enter add a new category

Description: Descriptions should assist regular users in selecting the most appropriate target group for their jobs.

Selects NAME, USERNAME, INDUSTRY, from LISTSERV list "Talk-Back-to-XYZ"

Type the name of the new category here

Select Existing Category

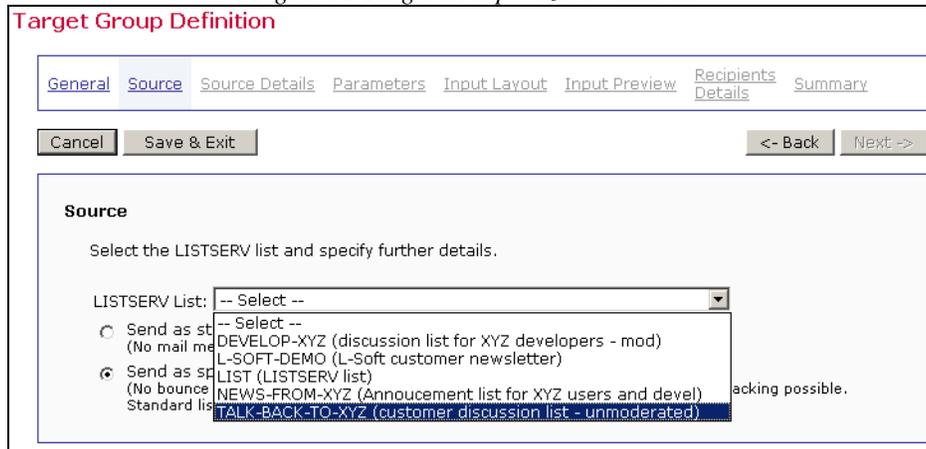
Click **Next ->** to continue.

14.2 Source

Select the LISTSERV list for the drop-down menu. Next, select the type of message by clicking the option button "*Send job as standard list message to list members*" or "*Send as special list message*". Standard list messages are sent to the list subscribers just as a normal list posting would be from a list subscriber or editor. Bounce reporting is possible. The message will be archived if there are list archives, and the message will be available for list digests. No personalization using mail merging is possible, and only blind tracking is available.

Special list messages are what LISTSERV calls a "distribute job". Mail merging is possible by using special substitution placeholders created by surrounding the names of the data fields (column headers) associated with the list with an ampersand "&" at the beginning and a semi-colon ";" at the end, for example `&INDUSTRY;` Bounce reporting is not available and neither is archiving or digests. More options for tracking are available including personal, unique, and blind.

Figure 91 Target Group Wizard – Source



Click **Next ->** to continue. If the job is sent as a standard list message to a list with no topics defined, the wizard will skip to the Summary screen. If the job is sent to a list with topics or as a special list message, the wizard will continue with additional pages.

14.3 Source Details

The “*Source Details*” screen will appear differently depending on the type of message being sent. Standard list messages for lists that have topics will need to select the topic or topics. Special list messages will need to select options and decide whether to set conditions that can segment the list based on the existing subscriber data.

14.3.1 Standard List Messages with Topics

Active LISTSERV lists often use “sub-groups” within the list to give subscribers the opportunity to receive only the posts they are most interested in and not receive all the list mail. Sub-groups are created in LISTSERV by defining the keyword `TOPICS` in the list header. If the LISTSERV list was created in LISTSERV Maestro, topics are defined on the seventh screen of the list definition wizard.

Lists can have up to 23 topics. List subscribers can elect to receive only those messages that fit into the topic(s) they are interested in reading. Similarly, list members can post their messages to only those topics their messages are relevant to, if subscribers are allowed to post to the list. For example, a list could have the general subject of Software Development. Topics could be defined by operating system, type of software, or type of development. For more information on Topics, see the LISTSERV List Owner's Manual.

Select the way that topics will be used in the target group definition from these options:

- **Send only to subscribers with the following topics** – The message will be sent to only to those list subscribers that selected any of the checked list topics.
 - Expose the topics as parameters so that regular users can select which topic or topics to use in their job definitions.
 - Use topics as selected above.

- **All subscribers, ignore topics** – The message will be sent to all list subscribers regardless of their topic selections. This setting will override topic settings of list subscribers and should be used with care.
- **Send to subscribers with no topics or with the OTHER topic** – The message will be sent to list subscribers who have no topics selected or with the “OTHER” topic.

Hide or expose the selected topics in the subject line of the message by selecting the corresponding option button. If the list subscribers are aware of the topics and are accustomed to using them, (they automatically move list messages to folders on their local computers) then consider exposing the topics in the subject line. However, if there are many topics selected for the message, a rather lengthy subject line will result. In this case, consider hiding the topics from the recipients. Hiding topics can also be useful if the topics are only used to sub-divide the list and are not used by the recipients.

Figure 92 Source Details for Standard List Message

Target Group Definition

General Source **Source Details** Parameters Input Layout Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Next ->

Source Details

Specify how LISTSERV will use the lists topics to determine which subscriber will receive the e-mail.

Send to LISTSERV List: DEVELOP-XYZ

Send only to subscribers with the following topics:

WINDOWS

The selected topics will not be visible to the recipients

[Select Topics](#)

During recipient definition, the topics settings specified above can be used as-is, or alternatively, the topics choices can be exposed as a user parameter.

Expose as parameter and allow user to choose from the topics selected above

Use topics as selected above

All subscribers, ignore topics

Send to subscribers with no topics or with the "OTHER" topic

Click this link to open the topics selection screen and choose which topics to use.

Decide to use the selected topics as a parameter or not.

Figure 93 Selecting Topics for a Standard List Message



14.3.2 Special List Messages

There are four “Options” for a LISTSERV list that can be set by checking the adjacent boxes. The options are standard LISTSERV settings that subscribers may have set for their subscriptions.

- MAIL – Will deliver the message to all normally subscribed users.
- DIGEST – Will deliver the message to users that receive only a digest.
- INDEX – Will deliver the message to users that receive only a topics index.
- NOMAIL – Will deliver the message to users that currently receive no mail.

Setting a “Condition” is a means of creating a subset of recipients from the selected LISTSERV list based on the e-mail address, or, in the case of DBMS backed or LISTSERV hosted lists, other information in the list’s database table. Conditions begin with an ampersand “&” followed by the name of the data column (header) and contain an operator such as equal to “=” or less than “<” and finally the value to be assessed. For example, a LISTSERV list could set the condition of sending mail to all those subscribers who own a dog or cat. This condition would look similar to this:

```
&pet =“dog” OR “cat”
```

Conditions may use parameters that are then filled out by regular users when they define the recipients of e-mail jobs. The condition in the example above containing parameters could look like this:

```
&pet =“{{pet_type}}” OR “{{pet_type}}”
```

The curly brackets are a “tag” that denotes a parameter name to the system. The text inside the brackets is the name of the placeholder that will be replaced by the selection made by the regular user when defining the recipients for a mail job. Setting parameters for a LISTSERV condition uses the same process as setting a parameter for an SQL query. See Section 18

[Defining Parameters](#) for further details. For information on setting conditions for a LISTSERV list, see the LISTSERV Developer's Guide, available online at <http://www.lsoft.com/resources/manuals.asp>

Figure 94 Source Details for Special List Message

The screenshot shows a web-based dialog box titled "Target Group Definition". At the top, there are several tabs: "General", "Source", "Source Details" (which is selected), "Parameters", "Input Layout", "Input Preview", "Recipients Details", and "Summary". Below the tabs are buttons for "Cancel", "Save & Exit", "<- Back", and "Next ->". The main content area is titled "Source Details" and contains the following text: "Specify a conditional expression that will be evaluated by LISTSERV and check list subscription options." Below this, it says "Send to LISTSERV List: DEVELOP-XYZ". Under "Options", there are four checkboxes: "MAIL" (checked), "DIGEST", "INDEX", and "NOMAIL". Under "Condition", there is a text input field containing the expression "&pet = "cat" OR "dog"". Below the input field, there is a link: "The LISTSERV Developer's Guide has information on setting conditions." At the bottom, it says "Parameter placeholders in the LISTSERV list condition are enclosed by the following tags:" followed by "Opening Tag: {{{" and "Closing Tag: }}".

Click **Next ->** to continue.

14.4 Parameters

The "Parameters" screen will only open if the target group is set up to send mail as a standard list message with the topics that are exposed as a parameter, or the target group is set up to send mail as a special list message containing a condition with parameters.

14.4.1 LISTSERV Topics as Parameters

A target group definition that uses the topics of a LISTSERV list as a parameter allows the regular users to select which topic or topics to use in the recipient definition of their e-mail jobs. Fill out the parameter details by giving the parameter a label and a description. These will help regular users understand what they are selecting for their recipients definition. Select the input type, either a single select list or a multiple select list. Single select allows one topic choice from the drop-down menu, and multiple select allows for more than one topic choice from the drop-down menu. Use the **Up** and **Down** links to shift the appearance order of the topics in the drop-down menu.

Figure 95 LISTSERV Topics as Parameters

Target Group Definition

[General](#) [Source](#) [Source Details](#) [Parameters](#) [Input Layout](#) [Input Preview](#) [Recipients Details](#) [Summary](#)

Parameters

Specify the label and optionally, a description for the topics parameter.
Additionally, you may edit the selection list entries for the topics parameter.

Parameter Details

Label:

Description: (optional)

Input Type: **Select multiple values or single value for the input type.**

Display Name	Corresponding Topic (read only)	
<input type="text" value="WINDOWS"/>	<input type="text" value="WINDOWS"/>	<input type="button" value="Save Entry"/>
<input type="text" value="WINDOWS"/>		
<input type="text" value="MAC"/>		
<input type="text" value="LINUX"/>		

Shift the order of the topics using these links.

Click **Next ->** to continue.

14.4.2 Conditional Expression Parameters

Conditional expressions may have one or more parameters. Parameters that are highlighted in yellow are undefined, and parameters appearing as normal links have already been defined. Click on any parameter, highlighted or not, to select it. Fill out the parameter's initial definition, or edit an existing definition in the lower part of the screen. The definition of the parameters made here will affect the choices that the end user will have when using this target group in the recipients wizard. For more information on creating parameters, and the different parameter types, see Section 18 [Defining Parameters](#).

Figure 96 Parameters in Conditional Expressions

Target Group Definition

General Source Source Details **Parameters** Input Layout Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Next ->

Parameters

Click the parameter link in the conditional expression to select the parameter for editing. Enter the input type and further validation rules for each of the parameters in the conditional expression.

Conditional Expression: &HTML="((type))"

Parameter Details

Parameter: type

Label: Check the box for HTML conter

Description: Mail will be sent in HTML format (optional)

Input Type: Edit Field (Single Value) Edit Field (Single Value) Date and/or Time **Checkbox** Selection List (Single Value) input: Allow free text input

Click **Next ->** to continue.

14.5 Input Layout

The “*Input Layout*” screen allows the data administrator to design how the recipient target group appears to regular users. Heading and additional screen text can be added to describe further the choices regular users have among the different selections available in the target group. If there are multiple parameters, they can be grouped under headings and their order can be arranged. The more description regular users have, the easier it will be for them to decide how to use the target groups to select the recipients they want for their e-mail jobs.

14.5.1 Input Layout for LISTSERV Lists with Topics

Target groups sending standard list messages to lists with topics expressed as a parameter will only have the single parameter to describe to regular users.

Figure 97 Input Layout for LISTSERV Lists with Topics as a Parameter

Target Group Definition

General Source Source Details Parameters **Input Layout** Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Next ->

Input Layout

Specify whether the topics parameter input page will be augmented with an additional heading. You may add an optional introductory text to help the user select the correct input value for the topics parameter.

Topics Parameter Heading

Heading Text: Operating Systems Topics (optional)

Additional Text: This LISTSERV List has three mail topics based on the type of operating system the developer is designing software for. (optional)

Click **Next ->** to continue.

14.5.2 Input Layout for LISTSERV Lists with Parameters in Conditions

Target groups sending special list messages to lists with conditions that have parameters may have one or more parameters to arrange and describe. Concise descriptions and intuitive layouts make using target groups easier for regular users.

Figure 98 Input Layout for LISTSERV Lists with Parameters in Conditions

Target Group Definition

General Source Source Details Parameters **Input Layout** Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Next ->

Input Layout

Specify how the input parameters are presented to the user. You may add headings and optional introductory text to help the user select the correct parameter input value.

Input Details

Click "up" or "down" to move, click "New Heading" to create a new heading, click "Delete Heading" to remove an existing heading.

Enter a heading for the parameter. Add optional text to provide more information about the parameter. Click "Save Entry" to accept the changes.

Software Development software (Software project)
New Heading
mail_type (Check for HTML mail) Up Down New Heading Delete Heading

Change the order of the parameters using the Up and Down links.

Heading: HTML Messaging

Optional Text: Add any additional descriptive text here.

Save Entry

Add a new heading or delete an existing one.

Click **Next ->** to continue.

14.6 Input Preview

The "Input Preview" screen reveals how the target group will appear to regular users. Use this screen to check the appearance of the target group and make selections that are run against the data. Use the **<- Back** button to return to the Input Layout screen to make changes.

Figure 99 Input Preview for LISTSERV Lists with Topics

Target Group Definition

General Source Source Details Parameters Input Layout **Input Preview** Recipients Details Summary

Cancel Save & Exit <- Back Next ->

Input Preview

This page shows a preview of the parameter input page as it will be displayed during a recipient definition based on this target group. Verify that the layout is satisfactory. If not, return to the previous pages to change the settings.

Operating Systems Topics

This LISTSERV List has three mail topics based on the type of operating system the developer is designing software for.

Topics: WINDOWS MAC LINUX (Operating system topics)

Figure 100 Input Preview for LISTSERV List with Conditions

Click **Next ->** to continue.

14.7 Recipients Details

The “*Recipients Details*” screen displays a view and in some cases allows for the addition of details about the recipients. In the case of hosted LISTSERV lists, no further data needs to be supplied and this screen is for informational purposes.

Figure 101 Recipient Details for Hosted LISTSERV Lists

Click **Next ->** to continue.

For LISTSERV lists not hosted by LISTSERV Maestro where mail merging is set in the list header and the list is DBMS backed, additional recipient fields can be added in the edit box, one column name per line. These column names can be used for mail merge placeholders in the body of the e-mail message.

Figure 102 Recipient Details for Non-Hosted LISTSERV Lists

The screenshot shows a web-based dialog box titled "Target Group Definition" with a red header. At the top, there are several tabs: "General", "Source", "Source Details", "Parameters", "Input Layout", "Input Preview", "Recipients Details" (which is selected and highlighted in blue), and "Summary". Below the tabs are four buttons: "Cancel", "Save & Exit", "<- Back", and "Next ->". The main content area is titled "Recipients Details" and contains the following text: "Specify the names of the columns you want to use for mail merge." Below this, there are two sections: "Recipient Identification Columns" with "E-mail Column: *TO" and "Name Column: FULL_NAME", and "Additional Mail Merge Columns" with the instruction "Enter the names of the columns that will be used for mail merging, one per row." Under "Additional Mail Merge Columns", there is a label "Merge Columns:" followed by a text input field containing "DOB", "HTML", and "SOFTWARE" on separate lines. To the right of the input field is the text "(optional)". To the right of the input field is a bold instruction: "Add merge columns from the DBMS to create personalized messages."

Click **Next ->** to continue.

14.8 Summary

The "Summary" screen displays all the selections for the target group definition, listing conditions and parameters. In order for regular users to access the target group, it must be enabled. Check the box next to "Yes, allow the definition of recipients based on this target group" to enable it. If left unchecked, the target group will not appear in the list of available target groups to regular users.

Figure 103 Summary

The screenshot shows a web-based dialog box titled "Target Group Definition". At the top, there are several tabs: "General", "Source", "Source Details", "Parameters", "Input Layout", "Input Preview", "Recipients Details", and "Summary". The "Summary" tab is currently selected. Below the tabs are buttons for "Cancel", "Save & Exit", "<- Back", and "Finish". The main content area is titled "Summary" and contains the following text:

This page summarizes the target group definition.

General Information

Name: XYZ Developers List
Description: XYZ Developers discussion list

This target group definition meets all necessary requirements for the definition of recipients.

Yes, allow the definition of recipients based on this target group.

LISTSERV List: DEVELOP-XYZ

Contribution Type: Send individual distribution messages to list members, (no bounce reporting possible, allows mail merging and "personal", "unique" and "blind" tracking).
Options: MAIL (Send this message to normally subscribed users.)

Condition

`&software={{software}}" &HTML={{mail_type}}"`

Parameters

software: Software project (Enter the software project being developed)
mail_type: Check for HTML mail

Recipients Details

Name Column: FULL_NAME
Mail Merge Columns: FNAME
 LNAME
 USERNAME
 SOFTWARE
 DOB
 HTML
 BETATEST

Click **Finish** to complete the target group definition and return to the Recipient Target Groups screen.

Section 15 Target Groups Based on an Uploaded Text File

This target group type is based on the recipients type "*Upload a Recipients Text File*", as available in the recipients wizard during recipient definition of a job. Multiple screens take the data administrator through the process of defining a recipient target group using LISTSERV Maestro to select recipients from an uploaded text file.

15.1 General

General characteristics of the target group are comprised of a name, a category and a description. This information will be used by regular users to locate and identify the target groups they want to use for jobs. Both name and description are mandatory. Enter a meaningful name and a good description so the regular users who are selecting target groups in the recipients wizard will have all the information they need to decide which target group to use.

Target groups can be clustered in categories, making it easier for regular users to select a target group. A category is meant to contain target groups that are related to each other. The

intent of categories is to minimize the time needed to locate a specific target group. By selecting a category first, users do not need to browse through all the available target groups, but only those in the relevant category.

To add a target group to a category, select the category for the target group from the drop-down menu. To create a new category, click the **New Category** link and define a new category by entering its name into the edit field. Target group categories are optional. If no category is selected or created, target groups are placed into "<No Category>."

Figure 104 General for Uploaded Text File

The screenshot shows the 'Target Group Definition' form with the 'General' tab selected. At the top, there are tabs for 'General', 'Source', 'Source Details', 'Parameters', 'Input Layout', 'Input Preview', and 'Summary'. Below the tabs are buttons for 'Cancel', 'Save & Exit', '<- Back', and 'Next ->'. The main content area is titled 'General' and contains the following elements:

- Instruction: "Enter a target group name and a description. Optionally, select a category or create a new one."
- Name field: "Type in a descriptive name"
- Category field: "Web signup form data" with a "Select Existing Category" link.
- Category dropdown: "<No Category>" with a "New Category" link circled in red. An annotation points to this link with the text "Click here to enter add a new category".
- Description field: A text area containing "Descriptions should assist regular users in selecting the most appropriate target group for their jobs." and "Selects NAME, AGE, GENDER from international database."

Additional annotations include an arrow pointing to the "Select Existing Category" link with the text "Type the name of the new category here" and another arrow pointing to the "New Category" link with the text "Click here to enter add a new category".

15.2 Source

The "Source" screen for a target group based on an uploaded text file contains two options concerning when the recipients file will be uploaded to the system. Select "Define recipients now" to upload immediately a file from a local drive that will become the source of the recipients for the target group. Once the file is uploaded, the recipient definition is static, meaning it will not change between the upload time and the job delivery time.

Select "Load recipients just before sending from a server file" to link to a file on the server running LISTSERV Maestro to become the source of the recipients for the target group just before the job is sent for delivery. This recipient definition is dynamic, meaning that the file containing the recipients can change between the time the target group is defined and the time the mail job is delivered.

Select the option button "Define recipients now" to enable the link **Upload a recipients file**. Click the link to upload a text file from a local drive. Browse for the file on a local drive and select the encoding for the file if necessary. For more information on encoding, see Appendix F [E-mail and International Character Sets](#).

Figure 105 Define Recipients from an Uploaded File

The screenshot shows the 'Define Recipients' web interface. At the top, there are navigation tabs: 'Options', 'Source' (selected), 'Source Details', 'Recipients Details', and 'Summary'. Below the tabs are 'Cancel', '<- Back', and 'Next ->' buttons. A 'Source' section contains the text 'Information about the recipients source file.' and a 'Recipients File' sub-section. Under 'Recipients File', there are two radio buttons: 'Define recipients now.' (selected) and 'Load recipients just before sending from a server file.'. Below the first radio button is a link 'Upload a recipients file'. Below the second radio button are 'File Name:' and 'File Encoding:' fields, both with 'West European, ISO-1' selected. A note below reads: 'Note: The given file name and path must be a valid path on the server running LISTSERV Maestro.' An 'Upload a File' dialog box is open, showing instructions to select a text file, press 'Upload' to replace the current file, or 'Cancel' to keep the current one. It has 'File Name:' and 'Encoding:' fields, and 'Upload' and 'Cancel' buttons. An arrow points from the 'Upload a recipients file' link to the dialog box.

Figure 106 Uploaded File

The screenshot shows the 'Define Recipients' web interface after a file has been uploaded. The 'Source' section now displays the following information: 'Source File: recipients.csv', 'Upload Date/Time: Feb. 7, 2003 02:54:16 PM', and a link 'Upload a different file'. The 'File Name:' and 'File Encoding:' fields remain empty and set to 'West European, ISO-1' respectively. The note about the file path remains the same.

Once a file had been uploaded, information about that file will appear on the screen. The link to upload a file will change to **Upload a different file** after one file has been successfully uploaded to the system.

Select the option “*Load recipients just before sending from a server file*” and then enter the path and name of the file the recipients will be taken from at the moment just before the message is sent. The file must be on a valid path on the server running LISTSERV Maestro. The file must also be included in a list of files that can be accessed by LISTSERV Maestro. This list of permissible files is controlled by the system administrator and is necessary to maintain server security. See the LISTSERV Maestro Administrator’s Manual for more information on granting access to server files. If the file is not available at the moment of sending, the job will fail. Click **Next ->** to continue or **<- Back** to return to the previous page.

15.3 Source Details

The “*Source Details*” screen parses the text file containing recipients for the target group. When a text file is uploaded, LISTSERV Maestro will try to determine how the columns of data are separated, and how each column or field of data is labeled (header). In order to create a target group, LISTSERV Maestro must correctly interpret which column contains the names of the recipients and which column contains the e-mail addresses of the recipients. Other fields may be included and will appear in the results table located on the lower half of the screen.

Figure 107 Parse Recipients for a Target Group

Target Group Definition

[General](#) [Source](#) [Source Details](#) [Recipients Details](#) [Duplicate Elimination](#) [Summary](#)

Parse Recipients

Character Encoding, Column Separator, and Quote Character

The system will interpret the recipients file with standard encoding and will try to determine the separator and quote character automatically.
[Specify details manually](#)

Header Row

Yes, the first row in the file contains the headers
 No, the file does not have a header row

Preview

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Click the **Next ->** button to continue if the parsing is accurate with each column of data separated correctly and labeled with a header row.

If LISTSERV Maestro has not interpreted the data correctly, or an unconventional delimiter and/or quote character has been used, click on the link **Specify details manually** to configure the data manually.

Use the **Specify details manually** link when the delimiter (separator character) or the quote character is used in some of the data fields. For example, if the `USERNAME` field contained Tom “the cool cat” Jones as an entry, and double quotes happened to be the quote character for the file, the details would have to be specified manually. The same would be true if a field named `LOCATION` contained the entry Atlanta, GA where the comma was the separator character.

Figure 108 Upload Wizard - Parse Manually

Target Group Definition

General Source Source Details Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Parse Recipients

Character Encoding, Column Separator, and Quote Character

Specify how the columns in the file are separated:
 Columns are separated by: Comma (,) Select a separator character from the drop-down menu.

Specify if and how the columns in the file are additionally enclosed:
 Columns are not enclosed by a quote character
 Columns are enclosed by: Other If appropriate, select a quote character from the drop-down menu, or type in one.

Specify the language that the file is encoded with:
 Character Encoding: West European, ISO-1

[Let the system try again](#) Use this link to have the system attempt to parse the file again.

Header Row

Yes, the first row in the file contains the headers
 No, the file does not have a header row

Preview

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Refresh Preview

LISTSERV Maestro has four selections for choosing separator characters:

- Tab (\t)
- Comma (,)
- Semicolon (;)
- Other – if this is chosen, type the character into the adjacent box.

Columns can be defined as “not enclosed by a quote character” or select the quote character from three choices:

- Double Quotes (“)
- Apostrophe (‘)
- Other – if this is chosen, type the character into the adjacent box.

After separator and quote characters have been entered, and any encoding change made, click **Refresh Preview** to have LISTSERV Maestro attempt to parse the file again with the new settings. The new columns will then be displayed. If the columns are now separated correctly, proceed. If the columns are not correct, repeat the process and click **Refresh Preview** to see the new changes. Click the **Next ->** button to continue if the parsing is accurate with each column of data is separated correctly and labeled with a header row.

Headers are specially defined rows in database tables. Headers are used by database tables to label the columns of data so that the system and the user can correctly identify the columns. An uploaded text file may contain headers or not. If the file does not contain headers, select the option button “*No, the file does not contain a header row*” and the system will automatically add a header row. Each column of data in the header row will have a generic name using the pattern COL1, COL2, COL3, and so on. If the uploaded file does have a header row, select the option button “*Yes, the first row in the file contains headers*” and the headers within the file will be used. Click the **Next ->** button to continue if the parsing is accurate with each column of data is separated correctly and labeled with a header row.

15.4 Recipient Details

Once LISTSERV Maestro can successfully separate the recipient data into columns or otherwise quantify the data, the next steps are to define the column that identifies the e-mail address, decide whether to use additional recipient data for mail merging and tracking, and to edit the column headers, if necessary. The “*Recipients Details*” screen is split into three sections to accommodate these steps.

15.4.1 Usage of Recipients Data

LISTSERV Maestro needs to know if additional recipient data will be used for mail merging and tracking, or whether this information is to be ignored and the job sent as bulk e-mail. If the “*Use additional recipient data for mail merging and tracking*” option button is selected, columns from the text file or database can be used in the e-mail message to create personalized messages. These columns can then also be used to identify recipients for more detailed tracking reports. For more information on using mail merging, see the LISTSERV Maestro User’s Manual, Section 5.6 Merge Fields and Conditional Blocks.

If the “*Ignore additional recipient data and send job as bulk e-mail*” option button is selected, any additional columns that were uploaded with the file or that appear in the database will be ignored by the system. It will not be possible to use mail merging. Tracking for the message will be limited to “blind” tracking, meaning that the tracking data available from the job will not be associated with identifiable individuals or other demographic information. It is possible to enter an address and optional name for the “TO:” field in the message header (see [Figure 110](#)).

15.4.2 Recipient Identification Columns

In order to process an e-mail job, LISTSERV Maestro needs to know which column represents the recipients’ e-mail addresses. Use the drop-down menus to select the E-mail Column. When additional recipient data is being used for mail merging, it is possible to select the Name Column as well (see [Figure 109](#)). This drop-down menu will not appear when sending bulk e-mail (see [Figure 110](#)).

15.4.3 Header Definition

Headers are specially defined rows in databases. Headers are used by database tables to label the columns of data so that the system and the user can correctly identify the columns.

Recipient data files containing a header will be sorted or parsed by LISTSERV Maestro based on that header row, and the table reflected on the screen will have the columns labeled. It is possible to edit the existing headers for an uploaded text file in order to make them easier to use in mail merging. Changing the headers in LISTSERV Maestro will not change the headers in the original text file.

If the recipient data file does not contain a header, it is possible to define a header within LISTSERV Maestro.

Header labels are limited to upper and lower case letters, the numbers 0-9, and the underscore “_”. Any illegal characters in the headers will have to be changed before proceeding. Before continuing to the next screen, specify the “E-mail Column” and the “Name Column” using the drop-down menus.

Figure 109 Recipient Details Using Additional Recipient Data

Target Group Definition

General Source Source Details Recipients Details Duplicate Elimination Summary

Cancel Save & Exit < Back Next >

Recipients Details

Select the columns in the recipient data containing the e-mail address and name.

Usage of Recipients Data

Use additional recipient data for mail merging and tracking
 Ignore additional recipient data and send job as bulk e-mail
(No mail merging possible, only "blind" tracking possible)

Recipient Identification Columns

Select the columns that identify the recipients e-mail address and name:

E-mail Column: [EMAIL] **Select the e-mail column and the name column from the drop-down menus.**
Name Column: [FNAME] (optional)

Header Definition

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	2	1961	n	n	Y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	Y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	Y	n	Y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	Y	Y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	Y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1962	y	Y	Y	Y
Ron@maestro-demo.lsoft.com	Ron	Remington	remmer	3	1979	y	Y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Figure 110 Recipient Details Ignoring Additional Recipient Data

Target Group Definition

General Source Source Details **Recipients Details** Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Recipients Details

Select the columns in the recipient data containing the e-mail address and name.

Usage of Recipients Data

Use additional recipient data for mail merging and tracking

Ignore additional recipient data and send job as bulk e-mail
(No mail merging possible, only "blind" tracking possible)

Recipient Identification Columns

Select the column that identifies the recipients e-mail address and enter the name and address that will appear in the "To:" header.

E-mail Column: EMAIL Select the column for e-mail addresses.

"To:" header information that will be used for all recipients:

Address: Enter a "To:" address and optionally, a name.

Name: (optional)

Header Definition

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Click **Next ->** to continue.

15.5 Duplicate Elimination

On the "Duplicate Elimination" screen, define how duplicate recipients that may exist in the text file will be handled. Choose between the following options:

- **Do not remove duplicates** – All recipients in the text file will be used for delivery, even if some of them are duplicates.
- **Remove duplicates with the same e-mail addresses** – If the text file contains entries with the same e-mail address, then only the first of these entries will be used for delivery, the others will be ignored.
- **Use my list of columns to determine duplicates** – If the text file contains entries with the same values in all of the columns selected in the column list below this option, they will be considered duplicates. Only the first of instance of each will be used for delivery; the others will be ignored. Select the columns that will be considered for this comparison from the list. Use **SHIFT** and **CTRL** to select multiple entries.

The recipient sample at the bottom of the screen is displayed to make it easier to understand the contents of each column. This will assist with deciding which columns are to be considered for comparison and which are not to be considered.



Removing duplicates from recipient data can be a useful way to ensure that multiple messages are not sent to the same recipient. It is common practice for one person to have more than one e-mail address, for example, a work e-mail address and a personal e-mail address. By creatively selecting one or more criteria to remove duplicates, it is possible to avoid sending multiple messages to the same person with different e-mail addresses. Similarly, several recipients may use the same e-mail address, for example, family members sharing an ISP may also share an e-mail address. In this case, it might be desirable to send multiple messages to the same address shared by multiple recipients, but addressed to each individual using the e-mail account.

Figure 111 Duplicate Elimination

Target Group Definition

General Source Source Details Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Duplicate Elimination

To avoid sending double messages to the same recipient, use this page to remove duplicates from your recipient data.

Duplicate Elimination Options

- Do not remove duplicates
- Remove duplicates with the same e-mail address
- Use my list of columns to determine duplicates

EMAIL
FNAME
LNAME
USERNAME

Recipient Sample

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Click **Next ->** to continue.

15.6 Summary

The “*Summary*” screen displays all the selections for the target group definition. In order for regular users to access the target group, it must be enabled. Check the box next to “*Yes, allow the definition of recipients based on this target group*” to enable it. If left unchecked, the target group will not appear in the list of available target groups to regular users.

Figure 112 Summary for Uploaded Text File Target Group Definition

Target Group Definition

General Source Source Details Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the settings specified for this target group definition.

General Information

Name: Uploaded text file
 Description: File from international database.

This target group definition meets all requirements necessary for the definition of recipients.

Yes, allow the definition of recipients based on this target group. **Completed target groups must be enabled so that they can be used in the recipient definition of a mail job.**

Recipients Statistics

The recipients will be retrieved: Now, as defined in this wizard
 E-mail Column: EMAIL
 Name Column: FNAME
 Usage of Recipients Data: Used for mail merging and tracking

Duplicate Elimination

Selected Duplicate Elimination: Use my list of columns to determine duplicates

Recipients Sample

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Click **Finish** to complete the target group and return to the Recipient Target Groups screen.

Section 16 Target Groups from a Database Accessed by LISTSERV Maestro

This target group type is based on the recipients type "*Select Recipients from a Database*", as available in the recipients wizard during recipient definition of a job. Multiple screens take the data administrator through the process of defining a recipient target group using LISTSERV Maestro to select recipients from a database.

16.1 General

The "*General*" screen in the wizard defines the name, category, and description of the target group. Both name and description are mandatory. Enter a meaningful name and a good description so the regular users who are selecting target groups in the recipients wizard will have all the information they need to decide which target group to use.

Target groups can be clustered in categories, making it easier for regular users to select a target group. A category is meant to contain target groups that are related to each other. The intent of categories is to minimize the time needed to locate a specific target group. By selecting a category first, users do not need to browse through all the available target groups, but only those in the relevant category.

To add a target group to a category, select the category for the target group from the drop-down menu. To create a new category, click the **New Category** link and define a new category by entering its name into the edit field. Target group categories are optional. If no category is selected or created, target groups are placed into "<No Category>."

Figure 113 Target Group Wizard - General

The screenshot shows the 'Target Group Definition' wizard in the 'General' tab. At the top, there are navigation tabs: 'General', 'Source', 'Source Details', 'Parameters', 'Input Layout', 'Input Preview', and 'Summary'. Below the tabs are buttons for 'Cancel', 'Save & Exit', '<- Back', and 'Next ->'. The main content area is titled 'General' and contains the following fields:

- Name:** A text input field with the placeholder text 'Type in a descriptive name'.
- Category:** A dropdown menu currently showing '<No Category>'. To its right is a link labeled 'New Category' which is circled in red. An arrow points from the text 'Click here to enter add a new category' to this link.
- Description:** A text area containing the text: 'Descriptions should assist regular users in selecting the most appropriate target group for their jobs. Selects NAME, AGE, GENDER from international database.'

Additional annotations on the screenshot include an arrow pointing to the 'Category' dropdown with the text 'Type the name of the new category here' and another arrow pointing to the 'Select Existing Category' link with the text 'Click here to enter add a new category'.

Click **Next ->** to continue.

16.2 Source

On the "Source" screen of a target group where LISTSERV Maestro retrieves the recipients, select the database plugin that matches the database to be accessed. Once a selection has been made, the screen will automatically refresh with input boxes for connection parameters. The Source screen may appear slightly different for each of the different compatible database types.

Next, enter the connection values required by that plugin, such as host name, database name, password, and/or TCP/IP port. These values depend on the database being accessed.

Enter the SQL statement that will be executed to retrieve the recipients in the corresponding edit box. This statement is executed using the connection data specified above. The statement may be a fixed statement or it may contain parameters that are later filled out by a regular user when this target group is used in a recipients definition. See Section 18 [Defining Parameters](#) for more information on how to parameterize the SQL statement and for details about the meaning of the opening and closing tag input fields.

At the bottom of the screen, use the option buttons to define when the SQL statement will be executed:

- **During recipient definition** – The SQL statement will be executed when this target group is used in the recipients wizard to define the recipients of a job, and when the Summary screen of that recipients wizard is entered. This means that if the user chooses this target group in the recipients wizard, then the list of the actual recipients is defined at the moment the user completes the recipients wizard. If the database content

changes between that moment and the actual sending of the job, those changes will not be reflected in the list of recipients of the job.

- **Just before sending** – The SQL statement will be executed when this target group is used in the recipients wizard to define the recipients of a job at the moment before the job is actually sent. This means that if the end user chooses this target group in the recipients wizard, then the list of the actual recipients is defined at the moment the job is actually sent, which may be some time after the recipients wizard is completed. If the database content changes between the completion of the recipients wizard and the actual sending of the job, those changes will be reflected in the list of recipients of the job.



Important: If the database is not available during the sending of the job, the job will fail. Be sure to coordinate sending time and database maintenance time to avoid any conflicts.

Figure 114 Target Group Wizard - Source

Target Group Definition

General Source Parameters Input Layout Input Preview Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Source

Supply the database connection details and an SQL statement.

Database Plugin: IBM DB2 V7.2 Driver Database Plugin

Database Name: webform

DB2 Server User Name: db2admin

Password:

SQL Statement:

```
SELECT recipient_id as id, state, city, email_address as EMAIL,
       r.F_NAME || ' ' || r.L_NAME as NAME,
       r.F_NAME as FIRSTNAME,
       r.INTEREST1 as MODEL_NO,
       m.MODEL_NAME,
```

Parameter placeholders in the SQL statement are enclosed by the following tags:

Opening Tag: {{{ Closing Tag: }}}

The recipients will be retrieved: During recipient definition Just before sending

Decide when the recipients will be retrieved from the database.

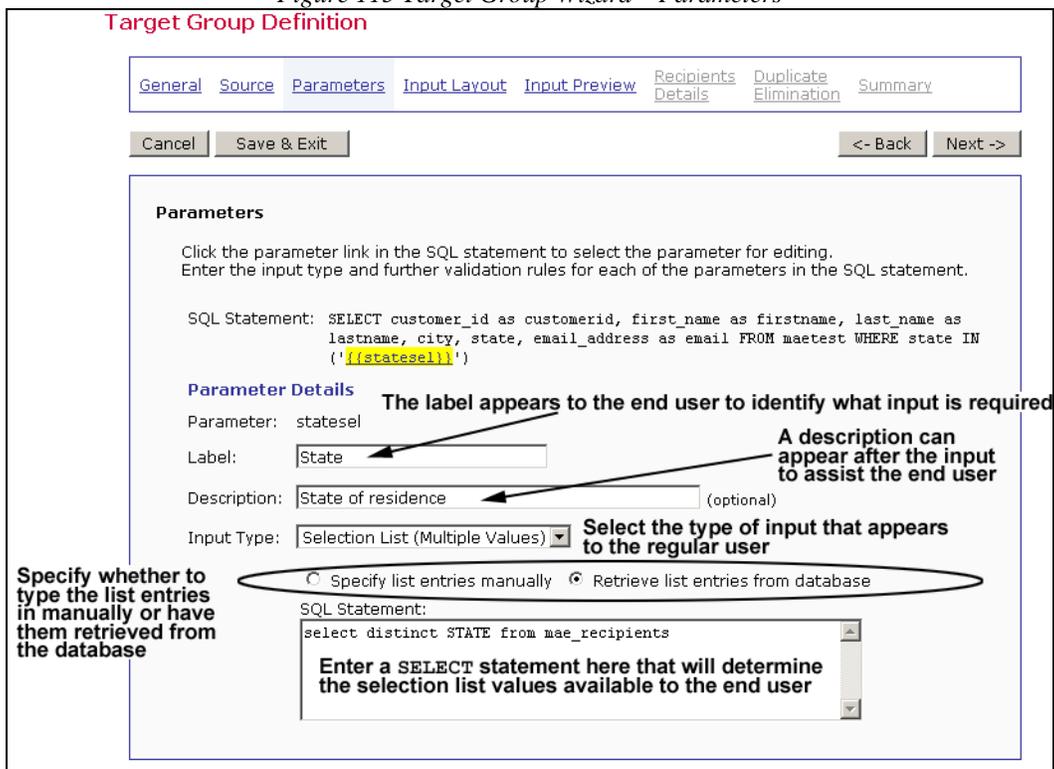
Click **Next ->** to continue.

16.3 Parameters

If parameters are part of the SQL statement on the Source screen, they will need to be further defined on the “Parameters” screen. All parameters appear as clickable links. Parameters highlighted in yellow are undefined, and parameters appearing as normal links have already been defined. Click on any parameter, highlighted or not, to select it. Fill out the parameter’s initial definition, or edit an existing definition in the lower part of the screen. The definition of the parameters made here will affect the choices that the end user will have when using this target

group in the recipients wizard. For more information on creating parameters, and the different parameter types, see Section 18 [Defining Parameters](#).

Figure 115 Target Group Wizard – Parameters



Once a label and an optional description have been entered, select the input type of the parameter. There are four different types of input for parameters, check box, edit field, selection list, and date and/or time.

16.4 Input Layout

The “*Input Layout*” screen allows the data administrator to design how the recipient target group appears to regular users. Heading and additional screen text can be added to describe further the choices regular users have among the different selections available in the target group. If there are multiple parameters, they can be grouped under headings and their order can be arranged. The more description regular users have, the easier it will be for them to decide how to use the target groups to select the recipients they want for their e-mail jobs.

If one or more parameters are of the type “*Restrict values(s) to floating point numbers*” the decimal separator that the database uses needs to be defined. This will be either a dot (period) “.” or a comma “,”. The selection of dot or comma here only defines how the floating point number will be formatted for replacement in the SQL statement. In the recipients wizard, the end user will always use a dot as the decimal separator when entering a floating point number.

Figure 116 Input Layout

Target Group Definition

General Source Parameters **Input Layout** Input Preview Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Parameter Details

Supply additional information about the target group parameters.

Change the order of the parameters using the Up and Down links.

Input Details

Click "up" or "down" to move, click "New Heading" to create a new heading, click "Delete Heading" to remove an existing heading.

Enter a heading for the parameter. Add optional text to provide more information about the parameter. Click "Save Entry" to accept the changes.

Heading: Mail preference

Optional Text: Add any additional descriptive text here.

Save Entry

Demographics
statesel (State)
minage (Age between)
maxage (and)
Mail preference
html (HTML)
text (Text)

Up
Down
New Heading
Delete Heading

Add a new heading or delete an existing one.

Click **Next ->** to continue.

16.5 Input Preview

The next screen in the target group wizard is called "Input Preview." The screen will appear as it would to regular users who are selecting recipients using this target group in the define recipients wizard. Use this screen to verify order, labels, descriptions, parameter types, and values. If the order of the parameters needs to be changed, click the **<- Back** button. If labels or descriptions need to be changed, click the **Parameters** link in the top links bar to re-enter the Parameters screen.

When the Input Preview screen is displayed, any SQL statements that are required to determine the values of single selection or multiple selection lists are executed. By executing the SQL statements, the drop-down lists or multi-line lists are filled in with values that can be selected.

Using the selections lists, checkboxes, input fields, and/or date fields, make selections for each parameter type. Click **Next ->** to continue.

Figure 117 Target Group Wizard – Input Preview

Target Group Definition

General Source Parameters Input Layout **Input Preview** Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Sample Data

This page shows a preview of the parameter input page as it will be displayed during a recipient definition based on this target group. Verify that the layout is satisfactory. If not, or go back to the previous pages to change the settings.

To continue in the wizard, make a valid selection for each of the parameters below. Your input values will be used to determine a set of sample recipients that is required for the next wizard pages.

Demographics

State: VA UT TX PA (Select one or more)

Age between: 15 and: 75

Mail preference

HTML: (Check which type(s) of recipients to include)

Text: (You must select at least one of HTML or text, otherwise no recipients will be selected)

The values entered in the Sample Data screen are used to fill out the actual target group SQL statement the same way as it will later happen in the recipients wizard. The SQL statement will be executed and retrieve up to ten sample recipients that will be displayed on the next screen, “*Recipients Details*.” The “filled out” statement will be displayed on the Summary screen of the wizard as further verification that the statement and the parameters are correct.



If this is the first time the target group wizard is engaged for a new target group definition, be sure and click **Save & Exit** to save all previous work on the target group if it is necessary to close the wizard before the Summary screen is reached.

16.6 Recipients Details

The “*Recipients Details*” screen specifies how the headers from the recipient data will be used. It is necessary to decide whether additional data will be used for mail merging and tracking, define which column contains the e-mail address, and to edit the column headers, if necessary. The Recipients Details screen is split into three sections to accommodate the data administrator.

16.6.1 Usage of Recipients Data

LISTSERV Maestro needs to know if additional recipient data will be used for mail merging and tracking, or whether this information is to be ignored and the job sent as bulk e-mail. If the “*Use additional recipient data for mail merging and tracking*” option button is selected, columns from the text file or database can be used in the e-mail message to create personalized messages. These columns can then also be used to identify recipients for more detailed tracking reports. For more information on using mail merging, see the LISTSERV Maestro User’s Manual, Section 5.6 Merge Fields and Conditional Blocks.

If the “Ignore additional recipient data and send job as bulk e-mail” option button is selected, any additional columns that were uploaded with the file or that appear in the database will be ignored by the system. It will not be possible to use mail merging. Tracking for the message will be limited to “blind” tracking, meaning that the tracking data available from the job will not be associated with identifiable individuals or other demographic information. It is possible to enter an address and optional name for the “TO:” field in the message header (see [Figure 119](#)).

16.6.2 Recipient Identification Columns

In order to process an e-mail job, LISTSERV Maestro needs to know which column represents the recipients’ e-mail addresses. Use the drop-down menus to select the E-mail Column. When additional recipient data is being used for mail merging, it is possible to select the Name Column as well (see [Figure 118](#)). This drop-down menu will not appear when sending bulk e-mail (see [Figure 119](#)).

16.6.3 Header Definition

Headers are specially defined rows in databases. Headers are used by database tables to label the columns of data so that the system and the user can correctly identify the columns. Recipient data files containing a header will be sorted or parsed by LISTSERV Maestro based on that header row, and the table reflected on the screen will have the columns labeled. It is possible to edit the existing headers for an uploaded text file in order to make them easier to use in mail merging. Changing the headers in LISTSERV Maestro will not change the headers in the original text file.

If the recipient data file does not contain a header, it is possible to define a header within LISTSERV Maestro.

Header labels are limited to upper and lower case letters, the numbers 0-9, and the underscore “_”. Any illegal characters in the headers will have to be changed before proceeding. Before continuing to the next screen, specify the “E-mail Column” and the “Name Column” using the drop-down menus. At the top of the screen, under “Usage of Recipients Data,” use the option buttons to select one alternative:

Figure 118 Target Group Wizard - Recipients Details Use Additional Recipients Data

Usage of Recipients Data

Use additional recipient data for mail merging and tracking
 Ignore additional recipient data and send job as bulk e-mail
(No mail merging possible, only "blind" tracking possible)

Recipient Identification Columns

Select the columns that identify the recipients e-mail address and name:
 E-mail Column: **Select the e-mail column and the name column from the drop-down menus.**
 Name Column: (optional)

Header Definition

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	RETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yostel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wanderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remington	remmor	3	1979	y	y	n	n
Quodd@maestro-demo.lsoft.com	Quodd	Quartermaster	four-ways	4	1974	n	n	n	n

Figure 119 Target Group Wizard - Recipient Details Send Job as Bulk Mail

Target Group Definition

General Source Source Details **Recipients Details** Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Recipients Details

Select the columns in the recipient data containing the e-mail address and name.

Usage of Recipients Data

Use additional recipient data for mail merging and tracking
 Ignore additional recipient data and send job as bulk e-mail
(No mail merging possible, only "blind" tracking possible)

Recipient Identification Columns

Select the column that identifies the recipients e-mail address and enter the name and address that will appear in the "To:" header.
 E-mail Column: **Select the column for e-mail addresses.**
 "To:" header information that will be used for all recipients:
 Address: **Enter a "To:" address and optionally, a name.**
 Name: (optional)

Header Definition

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Click **Next ->** to continue.

16.7 Duplicate Elimination

On the Duplicate Elimination screen, define how duplicate recipients that may exist in the database will be handled. Choose between the following options:

- **Do not remove duplicates** – All recipients retrieved by the SQL query will be used for delivery, even if some of them are duplicates.
- **Remove duplicates with the same e-mail addresses** – If the list of recipients retrieved by the SQL query contains entries with the same e-mail address, then only the first of these entries will be used for delivery, the others will be ignored.
- **Use my list of columns to determine duplicates** – If the list of recipients retrieved by the SQL query contains entries with the same values in all of the columns selected in the column list below this option, they will be considered duplicates. Only the first of instance of each will be used for delivery; the others will be ignored. Select the columns that will be considered for this comparison from the list. Use SHIFT and CTRL to select multiple entries.

The recipient sample at the bottom of the screen is displayed to make it easier to understand the contents of each column. This will assist with deciding which columns to be considered for comparison, and which not to be considered.

Figure 120 Target Group Wizard - Duplicate Elimination

Target Group Definition

General Source Source Details Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Duplicate Elimination

To avoid sending double messages to the same recipient, use this page to remove duplicates from your recipient data.

Duplicate Elimination Options

- Do not remove duplicates
- Remove duplicates with the same e-mail address
- Use my list of columns to determine duplicates

EMAIL
FNAME
LNAME
USERNAME

Recipient Sample

EMAIL	FNAME	LNAME	USERNAME	SOFTWARE	DOB	HTML	USERTYPE	PERMISSION	BETATEST
zoe@maestro-demo.lsoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.lsoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.lsoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.lsoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.lsoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.lsoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.lsoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.lsoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.lsoft.com	Ron	Remmington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.lsoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Click **Next ->** to continue.



Removing duplicates from recipient data can be a useful way to ensure that multiple messages are not sent to the same recipient. It is common practice for one person to have more than one e-mail address, for example, a work e-mail address and a personal e-mail address. By creatively selecting one or more criteria to remove duplicates, it is possible to avoid sending multiple messages to the same person with different e-mail addresses. Similarly, several recipients may use the same e-mail address, for example, family members sharing an ISP may also share an e-mail address. In this case, it might be desirable to send multiple messages to the same address shared by multiple recipients, but addressed to each individual using the e-mail account.

16.8 Summary

The "Summary" screen displays all the important details about the target group for verification. The screen is split into categories listing the relevant details for each part of the target group. A target group that has been created by the data administrator is not automatically enabled for use in the recipients wizard. The data administrator must explicitly enable the use of each target group. Target groups need to be enabled individually, giving the target group administrator

control over the use of each target group. This way, groups can be created in advance, and only enabled when needed. Similarly, target groups can be disabled, preventing users from accessing them, without permanently deleting them.

To enable a target group, check the box labeled “*Yes, allow the definition of recipients based on this target group.*” located under the first category, “*General Information.*” Target groups that are enabled meet all the requirements for the definition of recipients, and they are available for use in the recipients wizard.

To disable a target group, uncheck the box labeled “*Yes, allow the definition of recipients based on this target group.*” This will put the target group into a state called “*Complete,*” where all the requirements for the definition of recipients are met, but the target group is not released for use in the recipients wizard.

Figure 121 Target Group Wizard – Summary

Target Group Definition

General Source Parameters Input Layout Input Preview Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the settings specified for this target group definition.

General Information

Name: Recipients in selected states with email preference and age range
 Category: Sample database for Widgets
 Description: Specify one or more states of residence for which you want to select recipients, the email type preference (HTML and/or text), and an age range.
 Fields are: EMAIL, FIRSTNAME, FULLNAME, MODELNO, PET, OWN_OR_RENT, NEWS_SOURCE, AGE, EMAIL_TYPE

This target group definition meets all requirements that are necessary for the definition of recipients.

Yes, allow the definition of recipients based on this target group. **Completed target groups must be enabled so that they can be used in the recipient definition of a mail job.**

SQL Statement and Parameters

SQL Statement:

```
SELECT
    EMAIL_ADDRESS AS EMAIL,
    F_NAME AS FIRSTNAME,
    F_NAME || ' ' || L_NAME AS FULLNAME,
    INTEREST1 AS MODELNO,
    INTEREST2 AS PET,
    INTEREST4 AS OWN_OR_RENT,
    INTEREST5 AS NEWS_SOURCE,
    AGE,
    EMAIL_TYPE
FROM mae_recipients
WHERE STATE IN ('{{statesel}}')
AND (( EMAIL_TYPE='h' AND {{html}}=1) OR ( EMAIL_TYPE='t' AND {{text}}=1))
AND ( AGE BETWEEN {{minage}} AND {{maxage}} )
```

Parameters:

Name	Label
statesel	State
minage	Age between
maxage	and
html	HTML
text	Text

Recipients Statistics

The recipients will be retrieved: During recipient definition

SQL Statement:
(with replaced sample parameter values)

```
SELECT
    EMAIL_ADDRESS AS EMAIL,
    F_NAME AS FIRSTNAME,
    F_NAME || ' ' || L_NAME AS FULLNAME,
    INTEREST1 AS MODELNO,
    INTEREST2 AS PET,
    INTEREST4 AS OWN_OR_RENT,
    INTEREST5 AS NEWS_SOURCE,
    AGE,
    EMAIL_TYPE
FROM mae_recipients
WHERE STATE IN ('VA','PA','FL')
AND (( EMAIL_TYPE='h' AND 1=1) OR ( EMAIL_TYPE='t' AND 0=1))
AND ( AGE BETWEEN 15 AND 75 )
```

E-mail Column: EMAIL (contains valid e-mail addresses)
 Name Column: FULLNAME
 Usage of Recipients Data: Used for mail merging and tracking

Duplicate Elimination

Selected Duplicate Elimination: Use my list of columns to determine duplicates

Recipients Sample

EMAIL	FIRSTNAME	FULLNAME	MODELNO	PET	OWN_OR_RENT	NEWS_SOURCE	AGE	EMAIL_TYPE
Mirjam@maestro-demo.lsoft.com	Mirjam	Mirjam McIntosh	8787	fish	rent	tv	72	h
Lisa@maestro-demo.lsoft.com	Lisa	Lisa Lopez	5454	other	rent	tv	55	h
temp5@cherry.ease.lsoft.com	Mark	Mark Ryder	8787	cat	none	none	18	h
temp8@cherry.ease.lsoft.com	Lupe	Lupe Medina	8787	other	own	newspaper	30	h
Mirjam@maestro-demo.lsoft.com	Mirjam	Mirjam McIntosh	8787	fish	rent	tv	72	h
Lisa@maestro-demo.lsoft.com	Lisa	Lisa Lopez	5454	other	rent	tv	55	h
temp5@cherry.ease.lsoft.com	Mark	Mark Ryder	8787	cat	none	none	18	h
temp8@cherry.ease.lsoft.com	Lupe	Lupe Medina	8787	other	own	newspaper	30	h

Click **Finish** to complete the target group and return to the Recipient Target Groups screen.

Section 17 Target Groups from a Database Accessed by LISTSERV

This target group type is based on the recipients type "*Let LISTSERV Select Recipients from a Database*", as available in the recipients wizard during recipients definition of a job. Multiple screens take the data administrator through the process of defining a recipient target group using LISTSERV to select recipients from a database. LISTSERV Maestro to select recipients from a database.

17.1 General

The "*General*" screen in the wizard defines the name, category, and description of the target group. Both name and description are mandatory. Enter a meaningful name and a good description so the regular users who are selecting target groups in the recipients wizard will have all the information they need to decide which target group to use.

Target groups can be clustered in categories, making it easier for regular users to select a target group. A category is meant to contain target groups that are related to each other. The intent of categories is to minimize the time needed to locate a specific target group. By selecting a category first, users do not need to browse through all the available target groups, but only those in the relevant category.

To add a target group to a category, select the category for the target group from the drop-down menu. To create a new category, click the **New Category** link and define a new category by entering its name into the edit field. Target group categories are optional. If no category is selected or created, target groups are placed into "<No Category>."

Figure 122 Target Group Wizard - General

Target Group Definition

General Source Parameters Input Layout Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Next ->

General

Enter the target group name and the description. You may optionally supply a category. **Type the name of the new category here.**

Name: LISTSERV selects by city Category: LISTSERV Lists [Select Existing Category](#)

Category: <No Category> [New Category](#) **Click here to enter add a new category.**

Description: LISTSERV selects recipients from the customer database who have elected to receive the Newsletter.

A thorough description will help users select the best target groups for their jobs.

Click **Next ->** to continue.

17.2 Source

On the Source screen of a target group where LISTSERV retrieves the recipients from a database, enter the database server if the default database as configured in LISTSERV is not going to be used. For more information about configuring databases for LISTSERV, see Section 4 DBMS and Mail-Merge Support in the 1.8 e LISTSERV Developers Manual.

Enter the SQL statement in the corresponding edit box. The statement may be a fixed statement or it may contain parameters that are later filled out by a regular user when this target group is used in a recipients definition.

If parameters are being used, opening and closing tags are used to denote the parameter. The tags can be changed from their default values of opening “{” and closing “}” curly brackets by entering other characters in the corresponding boxes. The quote character and an escaped quote character used by the database to enclose string literals also needs to be entered in the corresponding boxes. See Section 18 [Defining Parameters](#) for more information on how to parameterize the SQL statement and for details about the meaning of the opening and closing tag input fields.

Figure 123 Target Group Wizard – Source

Target Group Definition

General Source Parameters Input Layout Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Next ->

Source

Enter the name of the database server attached to LISTSERV and an SQL statement.

Database Server: (optional, leave empty to use the default database)

SQL Statement:

```
SELECT
EMAIL_ADDRESS AS EMAIL,
F_NAME AS FIRSTNAME,
F_NAME || ' ' || L_NAME AS FULLNAME,
INTEREST1 AS MODELNO,
```

Parameter placeholders in the SQL statement are enclosed by the following tags:

Opening Tag: { { Closing Tag: } }

Quote character used by the database to enclose string literals:

Quote: ' Escaped Quote: '' (required when using parameters)

Click **Next ->** to continue.

17.3 Parameters

If parameters are part of the SQL statement on the Source screen, they will need to be further defined on this screen. All parameters appear as clickable links. Parameters highlighted in yellow are undefined, and parameters appearing as normal links have already been defined. Click on any parameter, highlighted or not, to select it. Fill out the parameter’s initial definition, or edit an existing definition in the lower part of the screen. The definition of the parameters made here will affect the choices that the end user will have when using this target group in the recipients wizard. For information on creating parameters and the different parameter types available, see Section 18 [Defining Parameters](#).

Input values for parameters to determine the values of single selection or multiple selection lists must be manually entered. This is because LISTSERV Maestro is not connected directly with the database and therefore does not know what values exist in the data tables.

Figure 124 Target Group Wizard – Parameters

Target Group Definition

General Source **Parameters** Input Layout Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Next ->

Parameters

Click the parameter link in the SQL statement to select the parameter for editing.
Enter the necessary details including input type and further validation rules for each of the parameters in the SQL statement.

SQL Statement: `SELECT EMAIL_ADDRESS AS EMAIL, F_NAME AS FIRSTNAME, F_NAME || ' ' || L_NAME AS FULLNAME, INTEREST1 AS MODELNO, INTEREST2 AS PET, INTEREST4 AS OWN_OR_RENT, INTEREST5 AS NEWS_SOURCE, AGE, EMAIL_TYPE FROM mae_recipients WHERE STATE IN ('{{statesel}}') AND ((EMAIL_TYPE='h' AND {{html}}=1) OR (EMAIL_TYPE='t' AND {{text}}=1)) AND (AGE BETWEEN {{minage}} AND {{maxage}})`

Parameter Details

Parameter: statesel **The label appears to the end user to identify what input is required.**

Label: **A description can appear after the input to assist the end user.**

Description: (optional)

Input Type: **Select the type of input that appears to the regular user.**

Text in Selection List	Internal Parameter Value
<input type="text" value="Delaware"/>	<input type="text" value="DE"/>
Arizona	
Arkansas	
California	
Colorado	
Connecticut	
Delaware	

Save Entry

Entries have to be added manually because LISTSERV Maestro has no direct connection to the data.

Use these links to add and delete entries as well as move them up or down,

Up
Down
New
Delete

Once a label and an optional description have been entered, select the input type of the parameter. There are four different types of input for parameters, check box, edit field, selection list, and date and/or time. Click **Next ->** to continue.

17.4 Input Layout

The “*Input Layout*” screen allows the data administrator to design how the recipient target group appears to regular users. Heading and additional screen text can be added to describe further the choices regular users have among the different selections available in the target group. If there are multiple parameters, they can be grouped under headings and their order can be arranged. The more description regular users have, the easier it will be for them to decide how to use the target groups to select the recipients they want for their e-mail jobs.

If one or more parameters are of the type “*Restrict values(s) to floating point numbers*” the decimal separator that the database uses needs to be defined. This will be either a dot (period) “.” or a comma “,”. The selection of dot or comma here only defines how the floating point number will be formatted for replacement in the SQL statement. In the recipients wizard, the end user will always use a dot as the decimal separator when entering a floating point number.

Figure 125 Input Layout - LISTSERV Selects from a Database

Click **Next ->** to continue.

17.5 Input Preview

The next screen in the target group wizard is called “*Input Preview*.” The screen will appear as it would to regular users who are selecting recipients using this target group in the define recipients wizard. Use this screen to verify order, labels, descriptions, parameter types, and values. If the order of the parameters needs to be changed, click the **<- Back** button. If labels or descriptions need to be changed, click the **Parameters** link in the top links bar to re-enter the Parameters screen.

Figure 126 Input Preview for LISTSERV Selects from a Database

Using the selections lists, checkboxes, input fields, and/or date fields, make selections for each parameter type. Click **Next ->** to continue.

17.6 Recipients Details

When LISTSERV selects recipients from a database the screen is split into two sections, “*Recipient Identification Columns*” and “*Additional Merge Columns*.”

Under “*Recipient Identification Columns*” specify which of the recipients columns in the database contains the e-mail addresses that will be used for delivery. Type the column name in the corresponding edit box. Optionally, specify which of the recipient columns in the database contains the names of the recipients by typing the column name in the corresponding edit box. If a column name is entered, the names of the recipients will be included in the “To:” field of each individual message, making the mail more personalized.

If other data in the database is going to be used for mail merging, it is necessary to identify each of the column names. Under “*Additional Merge Columns*” type each column name in the corresponding edit box, one name per row. Mail merging is optional, but if employed, other recipient data can be used in the message making it more personal. For more information on using merging fields, see the LISTSERV Maestro User’s Manual, Section 5.6 Merging Fields and Conditional Blocks.

Figure 127 Recipient Details for LISTSERV Selects Recipients from a Database

Target Group Definition

General Source Parameters Input Layout Input Preview **Recipients Details** Summary

Cancel Save & Exit <- Back Next ->

Recipients Details

Specify the names of the recipient identification and additional merge columns.

Recipient Identification Columns

Select the names of the columns that identify the recipients e-mail address and name:

E-mail Column:

Name Column: (optional)

Additional Merge Columns

Enter the names of the additional columns that will be used for mail merging (one per row).

Merge Columns: (optional)

- lname
- software
- DOB
- HTML

Click **Next ->** to continue.

17.7 Summary

The “*Summary*” screen displays all the important details about the target group for verification. The screen is split into categories listing the relevant details for each part of the target group. A target group that has been created by the data administrator is not automatically enabled for use in the recipients wizard. The data administrator must explicitly enable the use of each target group. Target groups need to be enabled individually, giving the target group administrator control over the use of each target group. This way, groups can be created in advance, and only enabled when needed. Similarly, target groups can be disabled, preventing users from accessing them, without permanently deleting them.

To enable a target group, check the box labeled “Yes, allow the definition of recipients based on this target group.” located under the first category, “General Information.” Target groups that are enabled meet all the requirements for the definition of recipients, and they are available for use in the recipients wizard.

To disable a target group, uncheck the box labeled “Yes, allow the definition of recipients based on this target group.” This will put the target group into a state called “Complete,” where all the requirements for the definition of recipients are met, but the target group is not released for use in the recipients wizard.

LISTSERV Selects from a Database - Summary

Target Group Definition

General Source Parameters Input Layout Input Preview Recipients Details Summary

Cancel Save & Exit <- Back Finish

Summary

This page summarizes the settings specified for this target group definition.

General Information

Name: LISTSERV selects from a database
 Description: LISTSERV selects directly from database.

This target group definition meets all necessary requirements for the definition of recipients.

Yes, allow the definition of recipients based on this target group.

SQL Statement and Parameters

Database Server: <default>
 Quote Character: '
 Escaped Quote: ''
 SQL Statement:

```
SELECT
  EMAIL_ADDRESS AS EMAIL,
  F_NAME AS FIRSTNAME,
  F_NAME || ' ' || L_NAME AS FULLNAME,
  INTEREST1 AS MODELNO,
  INTEREST2 AS PET,
  INTEREST4 AS OWN_OR_RENT,
  INTEREST5 AS NEWS_SOURCE,
  AGE,
  EMAIL_TYPE
FROM mae_recipients
WHERE STATE IN ('{{statesel}}')
AND (( EMAIL_TYPE='h' AND {{html}}=1) OR ( EMAIL_TYPE='t' AND {{text}}=1))
AND ( AGE BETWEEN {{minage}} AND {{maxage}} )
```

Parameters:

Name	Label
statesel	State
minage	Age between
maxage	and
html	HMTL mail
text	Text mail

Recipients Details

E-mail Column: EMAIL
 Name Column: USERNAME
 Mail Merge Columns: FNAME
 LNAME
 SOFTWARE
 DOB
 HTML
 BETATEST

Click **Finish** to complete the target group and return to the Recipient Target Groups screen.

Section 18 Defining Parameters

Parameters are the placeholders within the SQL statement that are replaced with values chosen by a regular user during the recipient definition of the job. By using parameters, the data administrator can use the same basic SQL statement for many jobs, turning over the details to the regular user, who can use them without having to know anything about the actual SQL that lies behind the target group, or even know SQL in general. This saves time and effort for all team members. It also allows group members to share the same target groups, while permitting each target group to create different recipient definitions for individual jobs.

18.1 Fixed and Parameterized SQL Statements

A SQL statement for a target group can be a "fixed" statement, or a parameterized statement. A fixed statement contains SQL code that is fixed, meaning that it will be used in the same form every time it is used with the target group. For example:

```
select * from recipients
```

Or more complex:

```
select email, name, city from recipients where age >= 30 and age <= 39
```

A fixed statement will always yield the same results regardless of the circumstances of how the target group is used (as long as the actual database content does not change). A fixed statement is useful in certain circumstances. The first example given here would simply select all entries from a certain table. If that is the required behavior, then a fixed statement is the correct statement type to use.

The second example selects only those recipients that are in their thirties (age >= 30 and <= 39). This is very limiting. Targeting a different age group would necessitate creating a new target group with a different SQL statement. In fact, with fixed statements, every different age group would require its own target group and SQL statement. Setting up these fixed statements would involve a lot of work for the data administrator, as well as take away flexibility for the end users.

Using a parameterized statement can save time and effort as well as giving end users more flexibility in selecting recipients. A parameterized statement contains placeholders in the SQL code that are replaced by the end user, who uses the target group for the actual recipient definition. These placeholders are not "real" SQL code, but a sort of "meta" code. By using placeholders, parts of the SQL statement that are not yet "known" can be defined at the moment the SQL statement is entered into the system. These placeholders are then replaced with actual values before the statement is executed. (This behavior is very similar to the use of Drop-In Content elements as described in Section 5.1 Drop-In Content in the LISTSERV Maestro 1.2 User's Manual.)

Continuing with the example above, using placeholders makes it possible to create a parameterized SQL statement that selects all recipients of a certain age range. The end user who employs the target group in a recipient definition is left with the decision of what age range to use when creating the recipients definition. This example shows how the actual age range values are replaced with placeholders "{{from}}" and "{{to}}":

```
select email, name, city from recipients where age >= {{from}} and age <= {{to}}
```

18.1.1 Parameter Placeholders

A placeholder is any string of characters that appears between special opening and closing tags. By default, the opening tag is "{" and the closing tag is "}". Everything surrounded by these two tags will be treated as parameter placeholders, and not as part of the actual SQL statement. Different tags can be defined if the default tag strings are used somewhere else in the statement and therefore cannot be recognized as placeholder tags. Enter different tags in the two edit boxes below the SQL statement input field on the Source screen. See Figure 4 for the exact location of the edit boxes.

Parameter placeholders must follow these specific rules to function correctly:

- Any occurrence of a pair of the currently defined opening and closing tags will be interpreted as a placeholder. The opening and closing tags themselves are also considered part of the placeholder. The text between the tags is considered the parameter name.
- Any string of characters can be used between the tags, becoming the parameter name.
- The same parameter name can be used for several placeholders (with certain restrictions, see below). In this case, they are simply considered multiple occurrences of the same parameter, all of which will be replaced with the same value once the placeholders are replaced with the regular user's selection.
- A placeholder can be used in any position in the SQL statement. The most common locations for placeholders, however, are in comparisons in the where-clause of the statement.
- A placeholder that is not enclosed with string literal quotes (as in "age >= {{from}}") is considered an integer parameter because the entire placeholder is replaced with the value (so that it becomes, for example "age >= 30"). The value must be an integer; otherwise, the execution of the statement will result in an error or in unexpected results.
- A placeholder that is enclosed with string literal quotes (as in "city = '{{name}}'") is considered a non-integer parameter (a string or floating-point). Here, the entire placeholder, but not the enclosing quotes, is replaced. The example becomes "city = 'New York'", and the value may be any string.
- Any occurrences of the quote character itself in the value will automatically be escaped. For example, a placeholder is defined as "lastname = '{{name}}'" and a last name of O'Brian occurs within a row (value of "O'Brian"). After replacement, the resulting data would automatically become "lastname = 'O''Brian'" (or whatever escape of the quote character is the correct one for the database in use). Do not define values with quote characters already escaped, since that would lead to a double-escaped character.
- Placeholders in in-clauses require special attention. An in-clause is a SQL construct that allows an OR comparison with a range of values. Instead of writing "value = x or value = y or value = z" it is possible to write "value in (x,y,z)", enumerating the possible values in a comma separated list within parenthesis.
- To parameterize this, use a placeholder instead of this comma separated list, as with "value in ({{arg}})" or in the quoted form "value in ('{{arg}}')". Both forms are very similar. The placeholder will be replaced with a comma separated list representing all choices the user makes. Do not include a whole list of placeholders, but

only a single placeholder. This single placeholder is then be replaced by the list of the choices the user makes.

- If the non-quoted form is chosen, then the choices are also not quoted, so they must be integer values. If the quoted form is chosen, then all choices will be quoted (each one separately) and any quotes appearing in a choice value will automatically be escaped.
- Here are some examples:
- Assume "value in ({{arg}})" and that the user selected the choices "1", "5", "23" and "412". This will result in a replacement like this: "value in (1,5,23,412)". Assume "lastname in ('{{arg}}')" and that the user selected the choices "Miller", "O'Brian" and "Wagner". This will result in a replacement like this: "lastname in ('Miller', 'O'Brian', 'Wagner')".
- Two placeholders that have the same parameter name must also have the same integer/non-integer type. You cannot define an integer parameter and use the same parameter name for a non-integer parameter, or vice versa.
- Two placeholders that have the same parameter name must also have the same in-clause/non-in-clause type. You cannot define a parameter inside of an in-clause and use the same parameter name for a parameter outside of an in-clause, or vice versa.

18.2 Available Parameter Types

There are four basic parameter types, check box, edit field, selection list, and date and/or time. Each parameter type is only available for certain types of select statements. Table # summarizes which parameter types are available for which kinds of statements.

Table 3 Available Parameter Types for Select Statements

Available Parameter Types	Integer values outside any in-clause	Integers values inside an in-clause	Non-integer values (quoted) outside any in-clause	Non-integer values (quoted) inside an in-clause
Check Box	X		X	
Edit field single value	X		X	
Edit field multiple values		X		X
Selection list single value	X		X	
Selection list multiple values		X		X
Date and/or time			X	

18.2.1 Parameter Type Checkbox

This parameter type appears as a checkbox on the end user's screen. The checkbox has two associated values, one for the "checked" state and one for the "unchecked" state. Enter these values accordingly – they need to be different values.

Depending on the input from the user (if the box is checked or not), one or the other value will be used directly to replace the parameter placeholder. If the parameter placeholders were not quoted, then only integers can be entered as the two values. If the parameter placeholders were quoted, then any string can be entered for the values, and all occurrences of the quote character in these will be escaped automatically before the replacement. Remember do not escape quotes when entering the values.

Figure 128 Parameter Type Checkbox – Data Administrator's View

The screenshot shows a web interface for defining a parameter. It includes a section for the SQL statement, a 'Parameter Details' section with fields for Parameter, Label, Description, Input Type, and values for checked/unchecked states. A callout box points to the value fields with the text: 'These values are the values in the database representing the states on and off. Here, on equals "1" and will receive mail, and off equals "0" and will not receive mail.'

Parameters

Enter the necessary details including input type and further validation rules, for each of the parameters in the SQL statement.
Click the parameter link in the SQL statement to select the parameter for editing.

SQL Statement: `select EMAIL_ADDRESS, f_NAME, l-NAME, GENDER, AGE, CITY, EMAIL_TYPE FROM MAE_RECIPIENTS where (EMAIL_TYPE='h' AND {{html}}=1) OR (EMAIL_TYPE='t' AND {{text}}=1)`

Parameter Details

Parameter: html

Label:

Description: (optional)

Input Type:

Value for "checked" checkbox state:

Value for "unchecked" checkbox state:

These values are the values in the database representing the states on and off. Here, on equals "1" and will receive mail, and off equals "0" and will not receive mail.

Figure 129 Parameter Type Checkbox – End User's View

The screenshot shows the 'Define Recipients' screen. It has a navigation bar with tabs: Options, Source, Source Details, Recipients Details, and Summary. Below the navigation bar are 'Cancel', '<- Back', and 'Next ->' buttons. The main content area is titled 'Input Values for Target Group Parameters' and contains instructions to enter values for all parameters of the selected target group. Two parameters are listed: HTML (checked) and Text (unchecked).

Define Recipients

[Options](#) [Source](#) [Source Details](#) [Recipients Details](#) [Summary](#)

Input Values for Target Group Parameters

Enter values for all parameters of the selected target group.

HTML: (Check which type(s) of recipients to include)

Text: (you must select at least one of HTML or text, otherwise no recipients will be selected)

18.2.2 Parameter Type Edit Field

This parameter type appears as a free input field on the end user's screen. The input is validated according to the sub-selection:

- "Restrict value(s) to integer numbers" – Only integer numbers are accepted as input.

- "Restrict value(s) to floating point numbers" – Only numbers (integer or floating point) are accepted.
- "Allow free text input" – Any kind of input (including numbers or text) is accepted.

The input from the end user will be used directly to replace the parameter placeholder. If the parameter placeholder was quoted, then all occurrences of the quote character in the user input will be automatically escaped before the replacement.

There are two versions of the Edit Field parameter type – single value and multiple values. In the single value version, the input field will be a one line input field, and the value entered by the end user will be the value used to replace the placeholder. This type is only available if the matching placeholder is not inside of an in-clause context. In the multiple values version, the input field will be rendered with multiple lines, and the end user may enter several lines of text. Each line will be interpreted as a separate value, and the placeholder will be replaced with a comma separated list of all values (of all lines). Empty lines will be ignored. This type is only available if the matching placeholder is inside of an in-clause context.

Figure 130 Parameter Type Edit Field, Single Value - Data Administrator's View

Parameters

Enter the necessary details (input type and further validation rules) for each of the parameters in the SQL statement.
Click the parameter link in the SQL statement to select the parameter for editing.

SQL Statement: `select email_address, f_name, l_name, age, gender from mae_recipients where interest1='{{modelnum}}'`

Parameter Details

Parameter: modelnum

Label:

Description: (optional)

Input Type:

Validation rule to apply on the input values:

- Restrict value(s) to integer numbers
- Allow free text input
- Restrict value(s) to floating point numbers
- Restrict value(s) to integer numbers

Figure 131 Parameter Type Edit Field, Single Value – End User's View

Define Recipients

[Options](#) [Source](#) [Source Details](#) [Recipients Details](#) [Summary](#)

Input Values for Target Group Parameters

Enter values for all parameters of the selected target group.

Enter the model number here:

18.2.3 Parameter Type Selection List

This parameter type appears as a selection list with multiple entries on the end user's screen. If the parameter is in an in-clause, the list is rendered as a multi-line list field, and the end user

may select multiple entries by holding down the **SHIFT** or **CTRL** key. Otherwise, the list is rendered as a drop-down list and the end user may select only a single entry.

For parameters where LISTSERV Maestro selects from a database, the entries in the selection list can be specified in two ways. They can be specified manually on this wizard screen or a SQL statement can specify them. The SQL statement will then be used to retrieve the values that will appear in the list from the database. Use the option buttons to choose between the two methods. For parameters where LISTSERV selects from a database, all entries must be specified manually on this wizard screen.

18.2.3.1 Manual specification

Each value consists of two parts, the visible text in the selection list, that is the text that the end user actually sees in the list, and the invisible value associated with that entry. This invisible value, associated with the entry selected by the end user, will be used directly to replace the parameter placeholder. If the parameter placeholder was not quoted, then only integers can be used as the internal value of each entry. If the parameter placeholder was quoted, then any string can be entered for the internal values, and all occurrences of the quote character in these will be escaped automatically before the replacement. Do not escape quotes when entering the values.

To add a new entry, click on the **New** link to the right of the list. Enter the visible text into the left edit fields, and the internal value into the right field. Click on **Save Entry**. The new entry will be added to the list.

To modify an existing entry, simply select the entry in the list, then edit its visible text and/or internal value in the two edit fields above and click **Save Entry** to save the changes. The entry will be updated accordingly.

To change the ordering of the entries, select the entry to move and click **Up** or **Down** to move it in the list. To delete an entry select it and click **Delete**.

Figure 132 Parameter Type Selection List, Manual Specification – Data Administrator's View

Parameters

Enter the necessary details (input type and further validation rules) for each of the parameters in the SQL statement.
Click the parameter link in the SQL statement to select the parameter for editing.

SQL Statement: `select F_NAME, L_NAME, EMAIL_ADDRESS, INTEREST1, INTEREST2 from mae_recipients where CITY='{{city}}'`

Parameter Details

Parameter: city

Label:

Description: (optional)

Input Type:

Specify list entries manually Retrieve list entries from database

Text in Selection List: Internal Parameter Value:

Baltimore
Brooklyn
Buffalo
Carson City
Chicago
Dublin

[Up](#)
[Down](#)
[New](#)
[Delete](#)

Figure 133 Parameter Type Selection List – End User's View

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Input Values for Target Group Parameters

Enter values for all parameters of the selected target group.

City of residence: Albany
Baltimore
Brooklyn
Buffalo
Carson City
Chicago
Dublin
El Paso
Fairbanks
Fairfax

18.2.3.2 Database specification

Enter a SQL statement into the edit box. This statement will be executed with the same connection parameters that were specified on the Source screen of the wizard. The result set retrieved will be used to populate the selection list. The values from the first column of the result set will be used as the visible text of the selection list entries. If there is a second column in the result set, its values will be used as the internal values for the entries. If there is no second column, then the values from the first column will be used both for the visible text and the internal values. Any further columns in the result set are ignored.

Make sure that the internal values match the quote context of the parameter. If the parameter placeholder is not quoted, then the internal values must be integer values (that is the values from the second result set column, or the ones from the first column, if there is only one column). If the values are not integers, then the parameter placeholder must be quoted (any necessary escaping of quotes in the values will happen automatically).

This option is very useful if it is not possible or desirable to enter all the selection values by hand. There may be many different selections, and some of the values may not yet be known. For example, think of a target group that has the city where a recipient lives as one of the parameters in order to do mailings limited to the residents of a certain city:

```
select * from recipients where city='{{name}}'
```

If this parameter is assigned the type "Selection List" all possible cities could be entered manually. But, this approach requires a lot of work, and all the possible cities may not yet be known. Another drawback to using this approach is that the list would have to be updated manually each time a recipient from a new city is entered into the database. To avoid all this time and effort, use an SQL statement like:

```
select distinct city from recipients order by city
```

This statement accesses the same table as the target group itself (see the first SQL statement above) using the same database connection settings. It generates exactly one column that contains all cities that are currently in the city column in the table, in alphabetical order. The end user can then simply select one of these cities.

Figure 134 Parameter Type Selection List, Database Specification – Data Administrator's View

Parameters

Enter the necessary details (input type and further validation rules) for each of the parameters in the SQL statement.
Click the parameter link in the SQL statement to select the parameter for editing.

SQL Statement: `select F_NAME, L_NAME, EMAIL_ADDRESS, INTEREST1, INTEREST2 from mae_recipients where CITY IN ('{city}')`

Parameter Details

Parameter: city

Label:

Description: (optional)

Input Type:

Specify list entries manually Retrieve list entries from database

SQL Statement:

The end user's view of this screen is the same as that shown in [Figure 133](#).



Important: The list may only have a maximum of 100 entries, in order to not overburden the user interface and to protect against abuse. If more entries than this is required, it would probably be better to use the "Edit Field" type for this parameter, and let the end user input the value manually, instead of selecting it from a list with too many entries.

18.2.4 Parameter Type Date and/or Time

This parameter type appears as an input box on the end user's screen. Choose sub-selections for "Date Input Format" and/or "Time Input Format". Choose at least one or choose both. The selection determines whether the user will be asked to input a date, a time, or both. It also determines how the input fields will be arranged. Input fields will be rendered as three input fields for the date (day, month, year ordered according to specification), and/or as two or three input fields for the time (hours and minutes with or without seconds, according to your specification).

All end user time input must be in the 24h format from 00:00:00 to 23:59:59. An AM/PM input format is not available. In addition to defining how the date/time input will look for the end user, it is also necessary to define how the input from the user is converted into a string that matches the date/time format used in the database. Do this by entering a format string into the specified edit field.

In that format string, use any desired characters. For example, separation characters like ":" or ",", ". Also, use any of the format placeholders listed to the right of the edit field. Each format placeholder will later be replaced with the corresponding date/time value, in the corresponding format.

The possible format placeholders are:

- **year4** – Will be replaced with a four digit representation of the year value entered by the end user (for example "2002"). Available only if a date input format was selected.
- **year2** – Will be replaced with a two digit representation of the year value entered by the end user (for example "02"). Available only if a date input format was selected.
- **month2** – Will be replaced with a two digit representation of the month value entered by the end user (for example "09" or "12"). Available only if a date input format was selected.
- **month1** – Will be replaced with a one or two digit representation of the month value entered by the end user, with months January to September as one digit and months October to December as two digits (for example "9" or "12"). Available only if a date input format was selected.
- **day2** – Will be replaced with a two digit representation of the day value entered by the end user (for example "01" or "31"). Available only if a date input format was selected.
- **day1** – Will be replaced with a one or two digit representation of the day value entered by the end user, with days 1 to 9 as one digit and days 10 to 31 as two digits (for example "1" or "31"). Available only if a date input format was selected.
- **hour2** – Will be replaced with a two digit representation of the hour value entered by the end user (for example "08" or "23"). Available only if a time input format was selected.
- **hour1** – Will be replaced with a one or two digit representation of the hour value entered by the end user, with hours 0 to 9 as one digit and hours 10 to 23 as two digits (for example "1" or "23"). Available only if a time input format was selected.
- **min2** – Will be replaced with a two digit representation of the minute value entered by the end user (for example "04" or "59"). Available only if a time input format was selected.
- **min1** – Will be replaced with a one or two digit representation of the minute value entered by the end user, with minutes 0 to 9 as one digit and minutes 10 to 59 as two digits (for example "4" or "59"). Available only if a time input format was selected.
- **sec2** – Will be replaced with a two digit representation of the seconds value entered by the end user (for example "06" or "59"). Available only if the time input format with seconds was selected.
- **sec1** – Will be replaced with a one or two digit representation of the seconds value entered by the end user, with seconds 0 to 9 as one digit and seconds 10 to 59 as two digits (for example "6" or "59"). Available only if the time input format with seconds was selected.

While typing the format string into the input field, the sample date/time "*Sep. 1, 2002 08:04:06 AM*" will continuously be converted into that format and the result displayed below the input field. For example, if "*month2/day2/year4 - [hour2:min2:sec2]*" is entered as the format, then the sample will display:

"09/01/2002 - [08:04:06]"

The input from the end user will be applied to the format string entered in the same way as with the sample date, and the resulting string will be used to replace the parameter placeholder. All

occurrences of the quote character in the date/time string will be escaped before the replacement.

Figure 135 Parameter Type Date and/or Time – Data Administrator's View

Parameters

Enter the necessary details (input type and further validation rules) for each of the parameters in the SQL statement.
Click the parameter link in the SQL statement to select the parameter for editing.

SQL Statement: `select email_address, f_name, l_name, gender, age, interest1, opt_in_date from mae_recipients where opt_in_date <='{{date}}'`

Parameter Details

Parameter: date

Label:

Description: (optional)

Input Type:

Specify how the date/time input will look for the user:
Date Input Format: Time Input Format:

Specify how the date/time value is converted into a database-readable format:
Enter the conversion format using any separators and other characters the format requires, using the placeholders shown next to the input field. They will be replaced with the corresponding four, two, or one digit value.

 year4, year2,
month2, month1,
day2, day1

Preview of conversion for "Sep. 1, 2002 08:04:06 AM":
09/01/2002

Figure 136 Parameter Type Date and/or Time – End User's View

Define Recipients

[Options](#) [Source](#) [Source Details](#) [Recipients Details](#) [Summary](#)



Input Values for Target Group Parameters

Enter values for all parameters of the selected target group.

enter the opt-in date:



Important Note: This database format always requires a 24h time format from 00:00:00 to 23:59:59. This input type cannot be used to generate a database time format that includes AM/PM information with hours from 1 to 12. It is also not possible to generate a database date format where the month or day of the week is given in long text, like "Monday, December 2nd, 2003". If such a time format is necessary, use the Edit Field type instead, and let the end user input the date and time manually in the format required by the database (use the parameter's description field to tell end users which format they need to use to be compatible with the database).

Section 19 Using Enabled Target Groups in the Recipients Wizard

Once Recipient target groups have been created and enabled by the data Administrator, they can be used in the recipients wizard to define recipients for an e-mail job. For more information on using the recipients wizard, see Section 4 Defining Recipients of an E-mail Job in the LISTSERV Maestro 1.2 User's Manual.

The recipient wizard is comprised of five separate screens. On the first screen “*Options*”, users can elect to “*Send to a Recipient target group.*” The second screen, called the “*Source*” screen will then contain a listing all of the available target groups. The data administrator may place target groups on this screen within categories for organizational purposes. Use the drop-down menu to select a category (if appropriate). Once the category is selected, the target groups listed in the table will change to list only those in that category.

To select a target group to use for the recipients list, click on the name of the target group. The Source screen will confirm the selection. If the selection is correct, click the **Next ->** button. To change the target group, click the link **Select Different Target Group**, which will re-open the first source screen.

Figure 137 Source Screen for Recipient Target Groups

The screenshot shows the 'Define Recipients' wizard with the 'Source' screen selected. The 'Source' screen displays information about the currently selected recipients target group. It includes a category dropdown menu set to '<No Category>'. Below the dropdown is a list of target groups: 'Mail Type', 'Pet Type', and 'Select by CITY'. Each target group has a description. The 'Pet Type' target group is highlighted. A link 'Back to Previously Selected Target Group' is visible at the bottom of the list. The 'Next ->' button is visible at the top right of the screen. Annotations with arrows point to the dropdown menu, the 'Pet Type' target group name, and the 'Select Different Target Group' link.

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Source

Information about the currently selected recipients target group.

Select a target group category, then select a target group by clicking on the name in the list below.

Category: <No Category>

Mail Type
Description: Recipients preference of mail type - HTML or plain text. Appears as a check box. If checked, HTML mail will be sent. If unchecked, plain text mail will be sent. Uses "maestro_recipients_less" table in Oracle customer database.

Pet Type
Description: Selects recipients pet type. Appears as a single input field. Uses "maestro_recipients-less" table in Oracle customer database.

Select by CITY
Description: Select recipients by city. Appears as a drop-down menu. Uses "maestro_recipients_less" table in Oracle customer database.

[Back to Previously Selected Target Group](#)

Use the drop-down menu to select a category.

Click on the name of the target group to select it and proceed to a confirmation screen.

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Source

Information about the currently selected recipients target group.

Target Group: Pet Type

Description: Selects recipients pet type. Appears as a single input field. Uses "maestro_recipients-less" table in Oracle customer database.

Parameters: Type in the kind of pet you own

[Select Different Target Group](#)

Use this link to change the selected target group.

Click **Next->** to continue to the “*Source Details*” screen.

If there are parameters in the SQL statement, the Source Details screen will display the input values for the target group parameters. This screen will appear the same as the “*Sample Data*” screen does in the recipient target group wizard. Make the desired selections from the checkboxes, drop-down menus, and/or input boxes.

Figure 138 Define Recipients Using a Target Group

The screenshot shows a web-based wizard titled "Define Recipients" with a red header. At the top, there is a navigation bar with tabs: "Options", "Source", "Source Details" (which is highlighted), "Recipients Details", and "Summary". Below the navigation bar are three buttons: "Cancel", "<- Back", and "Next ->". To the right of the navigation bar is a blue icon of a computer monitor with a document and a cursor. The main content area is titled "Input Values for Target Group Parameters" and contains the instruction "Enter values for all parameters of the selected target group." Below this instruction are three input fields: "City of residence:" with a dropdown menu showing "-- Select --", "Gender:" with a dropdown menu showing "-- Select --", and "Age:" with a text input box.

Click **Next->** to continue.

Since all further settings, such as header usage and duplicate elimination, have already been defined during the creation of the target group, the “*Recipients Details*” screen is not necessary and there is no “*Duplicate Elimination*” item on the “*Summary*” screen. The “*Source Details*” screen will go directly to the “*Summary*” screen. From there, click the **Finish** button to save the recipient definition for the job and return to the Workflow screen.

Glossary of Terms

Administration Hub (HUB) – A component of the LISTSERV Maestro program that allows the administrator to create user accounts, and assign and change settings for the entire application.

Boolean Field – A data field based upon

Column – A vertical set of data, as in a table or spreadsheet.

Database Plugin – Is used to connect LISTSERV Maestro to a database and to allow the user to select recipient data from a database table in the recipient wizard. The user selects the matching plugin for the database he/she wants to access then provides the connection data (like host name, port, user name, password, etc.) and LISTSERV Maestro is then able to access that database to select the recipients.

Dataset – LISTSERV Maestro's organization of

E-mail Merge – Placing variables that are extracted from a database into an e-mail message template. This operation permits individual personalization of otherwise bulk e-mail messages.

Filter – A means of sorting through recipients in the warehouse to select them based on certain operators.

Floating point number – Any number that has a decimal place.

Header – A special row of data that defines and labels the columns in a database file.

In-clause – A part of the where-clause of a SQL statement, which allows the specification that a certain field or expression must have exactly one of several allowed values (with the allowed values usually given in form of a comma-separated list), for the where-condition to be true.

Lookup Table – A set of values that is used for the values in a selection menu. Lookup tables are shared across a recipient warehouse so multiple datasets can use them

Maestro User Interface (LUI) – A component of the LISTSERV Maestro program that allows regular users to create e-mail jobs and tracking reports.

Multiple value – A parameter type that allows for one or more values to fill in the select statement.

Parameter – In LISTSERV Maestro, a parameter acts like a placeholder for a part of a SQL statement that will be inserted into the whole statement when the regular user defines it.

Quote character – In a SQL statement: a character (usually the single quote) used to enclose string literals, to set them off from the rest of the SQL statement.

In a text file (CSV-file) containing data: a character or symbol used to surround a separator character that is used in the actual data in a column so that the separator character is not confused with the character that appears in the data. For example, if a comma (,) is used as the separator character in a database file, all the fields of data are separated by a comma. If the comma is also used within a field, a quote character must surround the entire field. If the quote character is used in a field, it must be used twice, or "escaped."

Recipients Warehouse – The repository for a group’s data including lookup tables, datasets, hosted lists, and recipient data.

Select Statement – A SQL statement in form of a query that is issued to a database to retrieve data.

Single value – A parameter type that allows for the selection of only one value to fill in the select statement.

SQL – Abbreviation of Structured Query Language. SQL is a standardized query language for requesting information from a database.

SQL Statement – A statement written in SQL that is issued to a database to retrieve data or to create, insert, update, or delete data in the database.

String literal – A series of characters that are to be interpreted as literal text and not as an expression or name in the surrounding statement. Usually a string literal is set off from the text of the surrounding statement by enclosing it in a special quote character. Therefore, if the text of the string literal is supposed to contain the quote character itself, this contained quote character must be escaped in an appropriate way.

Where-clause – A part of a SQL statement that sets the condition that the data must satisfy for the statement to be executed on it. For example, in the case of a select statement, the condition that the data must fulfill to be included in the returned data.

Appendix A Using Formulas in Hosted Recipient List Target Groups

In LISTSERV Maestro, calculation formulas are available in the condition tree of target groups of the type “Hosted Recipient List”. This appendix describes the syntax and semantics of these calculation formulas.

A formula is a sequence of expressions that are combined with operators into more complex expressions. Expressions can optionally be nested with parenthesis and make use of a few pre-defined functions.

Examples for formulas are:

```
15 + 4
```

```
27 * Max(17, 4, 24/8) / (19 + 22)
```

```
&NAME; + "@lsoft.com"
```

```
(ToNum(&AGE;) - 2004) * 10
```

```
ToDate(CurrentTimeMillis, "MM/dd/yyyy HH:mm")
```

The following sub-sections explain all aspects of formulas in detail.

Expressions

Operands can be of the type “number” or of the type “text”. They can appear in different “shapes”, which are described in the following sub-sections.

For “number” type expressions, the number can be any integer number in the range

```
-9223372036854775808 to 9223372036854775807
```

Floating point numbers are not possible in LISTSERV Maestro formulas.

The text can be any character string for “text” type expressions.

Constant Number Expressions

Restriction: None. Constant number expressions can be used in any formula.

Type: Constant number expressions are, as the name implies, always of the type “number”.

Usage: To include a constant number in a formula, simply type the number using only the digits “09” (do not use “,” as a thousands-separator or “.” as a decimal point). Negative numbers must have a leading minus sign “-”.

Examples:

```
1
```

```
0
```

```
537
```

```
-17
```

```
007
```

Constant Text Literal Expressions

Restriction: None. Constant text literal expressions can be used in any formula.

Type: Constant text literal expressions are, as the name implies, always of the type “text”.

Usage: To include a text literal in a formula, type the characters desired and denote the beginning and the end of the text literal by enclosing the whole string in quotation marks <”>. There must not be any linebreaks in the text string.

Since the text literal must be quoted, it must also follow the rules for quote escaping. See Appendix F [Advanced Use of System Drop-Ins](#) for details.

Examples:

```
"example"  
"this is a text string"  
"This string contains ""quotes"" which are therefore escaped"  
"   this string has three spaces at the beginning and end   "
```

Standard Merge Field Expressions

Restriction: Standard merge field expressions are only allowed if the formula is used in one of the following contexts:

- In the condition tree of a “Hosted Recipient List” target group
- In a “*Calc” system drop-in of a job with the recipients type
 - “Uploaded CSV text file”, or
 - “LISTSERV Maestro selects from a Database”, or
 - “Target Group” (if the target group is based on either of the two above or on a “Hosted Recipient List”).

If the system drop-in is used in a job with a different recipient type, the formula must not contain any merge field expressions (if it does an error message will appear during test delivery).

Type: Standard merge field expressions can either be of type “number” or of type “text”, depending on their context and content (see the “Type Determination” below for details).

Usage: To include a standard merge field in a formula, type the merge field name enclosed in “&” and “;”. Only merge field names that are actually defined in the recipient list can be used.

Examples:

```
&NAME ;  
&STATE ;  
&ACCOUNT_BALANCE ;
```

Type Determination: Whenever a merge field appears in a formula, it will first be replaced with the field value for the current recipient before the result of the formula is calculated for that recipient. To be able to do this calculation, the expression’s type is determined as follows:

- If the formula is used in a “*Calc” system drop-in together with recipients based on such a target group, then the type of each merge field is already defined by the profile field’s type, which was defined during creation of the associated hosted recipient list:
 - Profile fields of type “Number” have the expression type “number”.

-
- Profile fields of type “Text” have the expression type “text”.
 - Profile fields of type “Single Selection” have the expression type “text”.
 - Profile fields of type “Boolean” and “Multiple Selection” are *not allowed* to be used in formulas at all.

This determination of the type is already done during parsing of the formula.

- If the formula is used in a “*Calc” system drop-in with the recipients types “uploaded CSV text file” or “LISTSERV Maestro selects from a database”, then the type of the field is determined by the field’s content as follows:

If the field’s content can be interpreted as a number, the type “number” will be used. If it cannot be interpreted as a number, (or is empty) the type “text” will be used (empty content will become an empty text string).

Consequently, to use the merge field in a location of the formula where a “number” type is required, make sure that the field’s content can be interpreted as a number for *all* recipients. Otherwise, the field will have the type “text” for some recipients, which would cause the calculation of the formula to fail, so the job itself would fail as well.

This determination of the type is done during delivery, when the merge-values of all recipients are known.



Special Note: If the formula used in a “*Calc” system drop-in together with recipients based on such a target group, then only profile fields which are defined in the hosted recipient list as “mandatory” are allowed as “standard merge field” expressions. Fields that are defined as “optional” must use the “optional merge field” expression instead. (See next sub-section.)

Optional Merge Field Expressions

Restriction: Optional merge field expressions are only allowed if the formula is used in one of the following contexts:

- In a “*Calc” system drop-in of a job with the recipients type
 - “Uploaded CSV text file”, or
 - “LISTSERV Maestro selects from a Database”, or
 - “Target Group” (if the target group is based on either of the two above or on a “Hosted Recipient List”).

If the system drop-in is used in a job with a different recipient type, the formula must not contain any merge field expressions (if it does, an error message will display during test delivery).

Type: Optional merge field expressions can be of the type “number” or of the type “text”, depending on their context and content (see the “Type Determination” below for details).

Usage: Optional merge fields are fields that may be undefined (empty) for at least some recipients in the recipient list. Recipients with a blank field would not have the result of the calculation formula displayed in their content.

An optional merge field expression is written in the following way:

```
[&FIELD_NAME; DEFAULT]
```

The whole expression is enclosed in brackets “[” and “]”. Between the brackets first type the name of the merge field being addressed, enclosed with “&” and “;”. Next, type the default that will be used for all recipients where the merge field itself is undefined.

The default that is replaced by “DEFAULT” as shown above must be a [constant number](#) or a [constant text literal](#).

Examples:

```
[&NAME; "no name" ]  
[&NAME; " " ]  
[&STATE; "n/a" ]  
[&ACCOUNT_BALANCE; 0]
```

(Note: the second example defines an empty text as the default for &NAME;.)

Type Determination: Whenever any such merge field appears in a formula, it will first be replaced with the field value for the current recipient, or if that value is undefined or empty, it will be replaced with the given default. Then the result of the formula is calculated for that recipient. To be able to do this calculation, the expression’s type is determined just like for “standard merge field” expressions.

In addition, if the field’s value is empty or undefined, the type will be determined by the type of the given default. Make sure that the type of the default matches the field’s type or is at least convertible into that type (see [Automatic Type Conversion](#)).

Function Expressions

Restriction: Functions can usually be used in any formula. However, there may be individual restrictions that apply only to certain functions. See the function descriptions for details.

Type: The type depends on each function. See the function descriptions for details.

Usage: To include a function in a formula, simply type the function name possibly followed by an argument list in parenthesis. See the function description for details concerning whether arguments are required by a certain function and what they mean. Note that function names are case sensitive and that any parenthesis enclosing the argument list must follow the function name, without any space in between.

Examples:

```
Abs(-20)  
Max(15, &AGE;)  
ToLower("Convert this string to ALL Lowercase")  
Min(-10, -11, &SIZE_A;, &SIZE_B;)
```

Available Functions: The currently available functions are described in [Formula Functions](#).

Operators

Operators always work on two operands, which may be any valid expressions. Some operators require their operand expressions to be of the type “number” while others require them to be of the type “text”.

Operators for “Number” Operands

The following operators require both operand expressions to be of type “number”:

- + Addition operator (sum of both operands)
- Subtraction operator (difference of both operands)
- * Multiplication operator (product of both operands)
- / Integer-Division operator (integer-quotient of both operands)
- % Modulo operator (remainder of integer-division of both operands)

Note: In LISTSERV Maestro, the division is strictly an integer division. Any decimal places in the result are discarded; they are *not* rounded off, but simply ignored.

Operators for “Text” Operands

The following operators require both operand expressions to be of type “text”:

- + Concatenation operator (appends both operands)

The concatenation operator takes the two text operands and simply appends the text string on the right-hand to the end of the text string on the left-hand. The result is two strings concatenated together.

The character “+” is used both to denote the addition operator for “number” operands as well as the concatenation operator for “text” operands. So if a “+” appears anywhere in the formula, LISTSERV Maestro must first determine if in this context the addition or the concatenation operator is meant. It simply does so by looking at the operands. If both operands are of type “number”, then the “+” is interpreted as the addition operator and the result will be of type “number” too.

If at least one of the operands is of type “text”, then the “+” is interpreted as the concatenation operator and the result will be of type “text”. If the other operand is of the type “number”, it is automatically converted to “text” first, see [Automatic Type Conversion](#).

Operator Precedence and Parenthesis

Formulas are processed by LISTSERV Maestro following the usual mathematical conventions:

The “multiplication/division”-type operators (“*”, “/” and “%”) have higher precedence than the “addition/subtraction”-type operators (“+” and “-”).

Operators with higher precedence are processed first, if several operators with the same precedence level are encountered. They are processed from left to right. Parenthesis can be set freely to influence precedence: Inner parenthesis will be processed before outer parenthesis.

Examples:

15 + 3 * 4 Result: 27

8 * (7 - 3) Result: 32

17 * 22 / 2 % 5 Result: 2
 17 * (22 / 2 % 5) Result: 17
 17 * (22 / (2 % 5)) Result: 187

Automatic Type-Conversion

Operators and functions usually require their operands and arguments to be of a certain type. However, under one circumstance it is possible to supply an expression of a different type as an operand or argument, which will then automatically be converted to the required type.

Whenever an operand or argument of the type "text" is required, an expression of the type "text" or of the type "number" can be used. In the latter case, the "number" will first be converted into a "text" before the operator or function is applied. For this conversion, the number-value is simply converted into the corresponding string representation, for example the number 157 becomes the text string "157".

Formula Functions

The following tables describe the functions that are available for use in LISTSERV Maestro formulas.

<p>„Abs“ Abs(arg)</p>	<p>Function – Returns the absolute value of the given "number" argument.</p>	<p>Return-Type – Number</p>
<p>Arguments: arg – Type "Number": The argument whose absolute value is to be determined</p>		
<p>Examples: Abs(-10) , Abs(&VALUE;) , Abs(30 - &ACCOUNT; * 2)</p>		

<p>"CurrentMillis" CurrentMillis</p>	<p>Function – Returns the current time, in milliseconds since "Jan. 1st 1970, 00:00:00 GMT".</p>	<p>Return-Type – Number</p>
<p>Arguments: None.</p>		
<p>Examples: CurrentMillis</p>		

<p>“IndexOf”</p>	<p>Function – Searches for an appearance of the text “searchtext” in the given “text”. Returns the zero-based index of the first appearance of “searchtext”, or “-1” if none was found. Optionally, a zero-based “startindex” can be specified with the effect that the search in “text” will not start at the beginning of “text” but at the character position specified by “startindex”.</p>	<p>Return-Type – Number</p>
<p>Arguments:</p> <p>text – Type “Text”: The text string to search in.</p> <p>searchtext – Type “Text”: The string to search for.</p> <p><i>The third argument is optional:</i></p> <p>startindex – Type “Number”: The character position at which the search shall be started. If not given, the search will always start at the first character (index “0”).</p>		
<p>Examples:</p> <p>IndexOf("a longer text", "lo"), IndexOf("abc def abc def", "abc", 4)</p>		

<p>“Length”</p>	<p>Function – Returns the length of the given text string (the number of characters in the text).</p>	<p>Return-Type – Number</p>
<p>Arguments: text – Type “Text”: The text whose length shall be determined.</p>		
<p>Examples: Length("a longer text", "lo"), Length(&FULL_NAME;)</p>		

<p>“Max”</p> <p>Max(arg1, arg2 [, arg3, ... , argN])</p>	<p>Function – Returns the greatest of all given “number” arguments.</p>	<p>Return-Type – Number</p>
<p>Arguments:</p> <p>arg1 – Type “Number”: The first argument to find the maximum of.</p> <p>arg2 – Type “Number”: The second argument to find the maximum of.</p> <p><i>Further arguments are optional:</i></p> <p>arg3 – Type “Number”: The third argument to find the maximum of.</p> <p>argN – Type “Number”: The Nth argument to find the maximum of.</p>		
<p>Examples: Max(3, -4), Max(17, 22, 4), Max(82, &VALUE; * 7)</p>		

<p>“Min”</p> <p><code>Min(arg1, arg2 [, arg3, ... , argN])</code></p>	<p>Function – Returns the smallest of all given “number” arguments.</p>	<p>Return-Type – Number</p>
<p>Arguments:</p> <p>arg1 – Type “Number”: The first argument to find the minimum of.</p> <p>arg2 – Type “Number”: The second argument to find the minimum of.</p> <p><i>Further arguments are optional:</i></p> <p>arg3 – Type “Number”: The third argument to find the minimum of.</p> <p>argN – Type “Number”: The Nth argument to find the minimum of.</p>		
<p>Examples: <code>Min(13, 2), Min(17, -&VALUE;, 4 * -17)</code></p>		

<p>“Pow”</p> <p><code>Pow(base, exp)</code></p>	<p>Function – Returns the value of the first argument raised to the power of the second argument.</p>	<p>Return-Type – Number</p>
<p>Arguments:</p> <p>base – Type “Number”: The base argument.</p> <p>exp – Type “Number”: The exponent argument.</p>		
<p>Examples: <code>Pow(2, 8), Pow(&BASE;, &EXPONENT;)</code></p>		

<p>“Random”</p> <p>Random[(<i>threshold</i>)]</p>	<p>Function – Returns a pseudo-random number in a range specified by the argument.</p> <p>No argument given: The range is from 0 to the largest possible “number” value.</p> <p>One argument given: The range is from 0 to the value of the given argument minus one (i.e. “0” to “arg-1”).</p>	<p>Return-Type – Number</p>
<p>Arguments:</p> <p><i>The argument is optional:</i></p> <p><i>threshold</i> – Type “Number”: The threshold value for the random number. The random number will range from “0” to “<i>threshold</i> - 1”.</p>		
<p>Examples:</p> <p>Random , Random(6) , Random(&MAX_RANDOM;) , Random(&VALUE; - 17 * &MAX;)</p>		

<p>“SubscribeTimeMillis”</p> <p>SubscribeTimeMillis</p>	<p>Function – Returns the time at the subscriber subscribed to the hosted recipient list referenced by the target group in whose context the formula is used, represented in milliseconds since “Jan. 1st 1970, 00:00:00 GMT”.</p>	<p>Return-Type – Number</p>
<p>Restriction:</p> <p>Can only be used in formulas in the condition tree of a “Hosted Recipient List” target group or in a “*Calc” system drop-in together with recipients based on such a target group. Will not be accepted in formulas for a different recipient type!</p>		
<p>Arguments: None.</p>		
<p>Examples: SubscribeTimeMillis</p>		

<p>“Substring”</p> <pre>Substring(<i>originaltext</i>, <i>startindex</i> [, <i>endindex</i>])</pre>	<p>Function – Returns a text substring that has been extracted from the given original text string according to the other argument(s) specified:</p> <p>The substring begins with the character in “originaltext” at the position specified. If no “endindex” is given, the substring extends to the end of the original string. If “endindex” is given, the substring extends to the character at position “endindex – 1”, <i>i.e.</i> the character at “endindex” is the first character that is <u>not</u> part of the substring.</p> <p>Note: all indices are zero-based, <i>i.e.</i> the index of the last character in the original string is at the position “length of original string minus 1” by “startindex”.</p>	<p>Return-Type – Text</p>
<p>Arguments:</p> <p><i>originaltext</i> – Type “Text”: The original text string from which the substring will be extracted.</p> <p><i>startindex</i> – Type “Number”: The beginning index, inclusive, zero-based.</p> <p>The third argument is optional:</p> <p><i>endindex</i> – Type “Number”: The ending index, exclusive, zero-based.</p>		
<p>Examples:</p> <pre>Substring("original text", 5), Substring("original", 3, 3 + &VALUE;)</pre>		

<p>“ToDate”</p> <pre>ToDate(datevalue , formatpattern [, localename langcode , countrycode])</pre>	<p>Function – Returns a formatted representation of a numerical date/time value. The formatted representation is usually returned as “text”, but may also be returned as a “number”, if applicable. The format that is used to create the representation is specified with the given format argument.</p> <p>Note: For formatting purposes, LISTSERV Maestro uses the U.S. locale and the time zone of the server where the LUI component is running by default. Locale text, like weekday names, names of months, <i>etc.</i>, will be formatted using the U.S. locale. Similarly, times will be formatted using the server’s time zone.</p> <p>To specify a different locale, use the optional parameter “localename” to choose a predefined locale or with the optional parameters “langcode” and “countrycode” to specify your own locale. See Time and Date Patterns for details.</p>	<p>Return-Type – Usually Text. However, may be Number, if the result can be expressed as a number.</p> <p>datevalue – Type Number: The date/time value to format. Must contain the desired date/time represented as milliseconds since “Jan. 1st 1970, 00:00:00 GMT” (for example from the output of the functions “CurrentMillis”, “SubscribeTimeMillis” and “ToMillis”).</p> <p>formatpattern – Type Text: Specifies the format pattern to use to convert the milliseconds value in “datevalue” into the formatted representation.</p>
<p>Arguments:</p> <p>The following arguments are optional:</p> <p>localename – Type “Text”: A name of a predefined locale. If specified, any locale specific text in the formatted date/time representation will be given according to this locale.</p> <p>Or supply both these arguments:</p> <p>langcode – Type “Text”: A lowercase two-letter ISO-639 language code specifying the language for the locale. See for example http://ftp.ics.uci.edu/pub/ietf/http/related/iso639.txt for a list of the ISO-639 language codes.</p> <p>countrycode – Type “Text”: An uppercase two-letter ISO-3166 country code specifying the country for the locale. See for example http://userpage.chemie.fu-berlin.de/diverse/doc/ISO_3166.html for a list of the ISO-3316 country codes.</p> <p>If “langcode” and “countrycode” are specified, they are used to create a locale for the given language and country, and any locale specific text in the formatted date/time representation will be given according to this locale.</p>		
<p>Examples:</p> <pre>ToDate(CurrentMillis, "MMM dd. yyyy") - formats the current date using the default U.S. locale</pre> <pre>ToDate(CurrentMillis, "MMM dd. yyyy", "Germany") - formats the current date using the pre-defined locale for Germany</pre> <pre>ToDate(CurrentMillis, "MMM dd. yyyy", "de", "AT") - formats the current date using a custom locale for language “de” =German and country “AT” =Austria</pre>		

<p>“ToLower”</p> <p><code>ToLower(text)</code></p>	<p>Function – Returns the given text argument with all letters converted to lowercase letters.</p>	<p>Return-Type – Text</p>
<p>Arguments:</p> <p>text – Type “Text”: The text string to convert to lowercase.</p>		
<p>Examples: <code>ToLower("Convert All UPPERCASE to Lowercase")</code></p>		

<p>“ToMillis”</p> <p><code>ToMillis(dateText, formatPattern [, localeName langCode, countryCode])</code></p>	<p>Function – Returns the numerical value representing the date/time as parsed from a text string argument, where the numerical value specifies the date/time in milliseconds since “Jan. 1st 1970, 00:00:00 GMT” (can then be compared to the output of the functions “CurrentMillis” and “SubscribeTimeMillis” or be used as input to “ToDate”). The format used to parse the given date/time text string is specified with the given format argument.</p> <p>Note: For parsing purposes, LISTSERV Maestro will by default assume the U.S. locale and the time zone of the server where the LUI component is running, i.e. if locale specific texts, like weekday names, names of months, etc., are contained in the date/time text string, they must appear with the correct names of the U.S. locale. Similarly, times given in the date/time text string will be interpreted as relative to the server’s time zone.</p> <p>To specify a different locale, use the optional parameter “localeName” to choose a predefined locale or with the optional parameters “langCode” and “countryCode” to specify your own locale. See Time and Date Patterns for details.</p> <p>To specify the time as relative to a different time zone, include a time zone value in the date/time text.</p>	<p>Return-Type – Number</p>
-----------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------

Arguments:

`datetext` – Type “Text”: The date/time text string to parse. Must contain the desired date/time in a textual format which can be parsed by applying the given format pattern.

`formatpattern` – Type “Text”: specifies the format pattern to use to parse the “`datetext`”. See [Date and Time Patterns](#) for details.

The following arguments are optional: Either you supply no further argument at all...

Or you supply only the following argument:

`localename` – Type “Text”: A name of a predefined locale. See section 0 for a list of available locale names. If specified, any locale specific text in “`datetext`” will be expected according to this locale.

Or you supply both the following two arguments:

`langcode` – Type “Text”: A lowercase two-letter ISO-639 language code specifying the language for the locale. See for example <http://ftp.ics.uci.edu/pub/ietf/http/related/iso639.txt> for a list of the ISO-639 language codes.

`countrycode` – Type “Text”: An uppercase two-letter ISO-3166 country code specifying the country for the locale. See for example http://userpage.chemie.fu-berlin.de/diverse/doc/ISO_3166.html for a list of the ISO-3166 country codes.

If “`langcode`” and “`countrycode`” are specified, they are used to create a locale for the given language and country, and any locale specific text in “`datetext`” will be expected according to this locale.

Examples: `ToMillis("February 22. 2004", "MMMM dd. yyyy")`

(parses the given date using the default U.S. locale)

`ToMillis("Februar 22. 2004", "MMMM dd. yyyy", "Germany")`

(parses the given date using the pre-defined locale for Germany)

`ToMillis("februari 22. 2004", "MMMM dd. yyyy", "de", "AT")`

(parses the given date using a custom locale for language “`de`” =Germany and country “`AT`” =Austria)

<p>“ToNum”</p> <p>ToNum(<i>text</i>)</p>	<p>Function – Tries to parse a number from the given text string and returns that number. Generates an error if the provided text string does not contain a valid number (for example letters).</p> <p>Can be used to convert a profile field which is of type “text” but still only contains numbers to the type “number”, which can then be used in contexts that require the type “number” (such as “number” operators and functions requiring a “number” argument).</p>	<p>Return-Type – Number</p>
<p>Arguments: <i>text</i> – Type “Text”: The text string to convert to a number.</p>		
<p>Examples: ToNum("12345"), ToNum(&AGE;), ToNum("123" + "456")</p> <p>Note: The result of the last example will not be the number 579, but will instead be the number 123456, i.e. first the string concatenation operator “+” is applied to the two strings and then the resulting string is converted into a number.</p>		

<p>“ToUpper”</p> <p>ToUpper(<i>text</i>)</p>	<p>Function – Returns the given text argument with all letters converted to uppercase letters.</p>	<p>Return-Type – Text</p>
<p>Arguments:</p> <p><i>text</i> – Type “Text”: The text string to convert to uppercase.</p>		
<p>Examples: ToUpper("convert all lowercase to uppercase")</p>		

Date and Time Patterns

The format of the date and time patterns must be specified for the functions “ToDate” and “ToDateValue” to convert a numerical date/time value (represented in milliseconds since “Jan. 1st 1970, 00:00:00 GMT”) into a formatted output string or vice versa.

The pattern format described here applies to the formatting process, when a numerical date/time value is converted into a formatted text string, and to the parsing process, when a text string is parsed to convert it back into the numerical date/time value. This is a direct representation of the formatting offered by the Java class `SimpleDateFormat`, so the description of the format as given here has been taken more or less directly from the documentation of that Java class.



Important Note: For date/time formatting and parsing, by default the U.S. locale and the current time zone of the server where the Maestro User Interface (LUI) component is running is used. This means that if locale specific values (names of months, weekdays, era-designators, and the like) are required, they will be given as the U.S. locale values by default. Similarly, if a time is given, it will be formatted (or interpreted) as relative to the time zone of the server (although for parsing a specific time zone can be supplied). If the default U.S. locale is not desired, specify a locale in the “ToDate” or “ToMillis” function.

Date and Time Patterns

Date and time formats are specified by pattern strings. Within pattern strings, unquoted letters from ‘A’ to ‘Z’ and from ‘a’ to ‘z’ are interpreted as pattern letters representing the components of a date or time string (see below for details). Text can be quoted using single quotes <’> to avoid interpretation. In a quoted text, the “double” single quote <’’> represents a single quote. All other characters are not interpreted; they are simply copied into the output string during formatting or matched against the input string during parsing.

The following pattern letters are defined (all other characters from ‘A’ to ‘Z’ and from ‘a’ to ‘z’ are reserved). The letters are case-sensitive. The same letter has different meanings in its uppercase or lowercase version. Each pattern letter has a specific “presentation” in the created final string (during formatting) or in the parsed string (during parsing). For example, presentation types may be “Text”, “Number”, “Year” or similar. More details about the presentations and their meanings follow below.

Commonly Used Pattern Letters

Letter	Date or Time Component	Presentation	Examples
y	Year	Year	1996; 96
M	Month in year	Month	July; Jul; 07
d	Day in month	Number	10
E	Weekday	Text	Tuesday; Tue
H	Hour in day (0-23)	Number	0
h	Hour in am/pm (1-12)	Number	12
m	Minute in hour	Number	30
s	Second in minute	Number	55
S	Millisecond	Number	978
a	Am/pm marker	Text	PM

Special Pattern Letters

Letter	Date or Time Component	Presentation	Examples
G	Era designator	Text	AD; BC
D	Day in year	Number	189
w	Calendar week in year	Number	27
W	Calendar week in month	Number	2
F	Weekday ordinal in month	Number	2
k	Hour in day (1-24)	Number	24
K	Hour in am/pm (0-11)	Number	0
z	Time zone	General time zone	Pacific Standard Time; PST; GMT-08:00
Z	Time zone	RFC 822 time zone	-0800

Note: The value of “calendar week in year” and “calendar week in month” depends on the locale that is used. The locale determines the conventions about which weekday is interpreted as the first day of the week (usually “Monday” or “Sunday”) and under which circumstances a week that falls partially into one year (or month) and partially into the next, is interpreted as belonging to the one year (or month) or the other.

Note: The “weekday ordinal in month” indicates the ordinal number of the weekday of the given date/time in the given month. For the first Monday in a month, the ordinal is “1”, as it is for the first Tuesday, Wednesday and so on. For the second Monday in a month, the ordinal is “2”, and so on.

Presentation Description

Pattern letters are usually repeated, as their number determines the exact presentation:

- **Text:** For formatting, if the number of pattern letters is four or more, the full form is used; otherwise, a short or abbreviated form is used if available.

For parsing, both forms are accepted, independent of the number of pattern letters.

- **Number:** For formatting, the number of pattern letters is the minimum number of digits, and shorter numbers are zero-padded to this amount.

For parsing, the number of pattern letters is ignored unless it is needed to separate two adjacent fields.

- **Year:** For formatting, if the number of pattern letters is two, the year is truncated to 2 digits; otherwise it is interpreted as a “Number” (see above).

For parsing, if the number of pattern letters is more than two, the year is interpreted literally, regardless of the number of digits. So using the pattern “MM/dd/YYYY”, the text “01/11/12” parses to Jan. 11, 12 AD.

For parsing with the abbreviated year pattern (“Y” or “YY”), LISTSERV Maestro must interpret the abbreviated year relative to some century. It does this by adjusting dates to be within 80 years before and 20 years after the current time. For example, using the pattern “MM/dd/YY” on Jan. 1, 1997, the text “01/11/12” would be interpreted as Jan. 11, 2012, while the text “05/04/64” would be interpreted as May 4, 1964. During parsing, only strings consisting of exactly two digits will be parsed into the default century. Any other numeric string, such as a one digit string, a three or more digit string, or a two digit string that is not all digits (for example “-1”), is interpreted literally. Therefore, “01/02/3” or “01/02/003” are parsed, using the same pattern, as Jan. 2, 3 AD. Likewise, “01/02/-3” is parsed as Jan. 2, 4 BC.

- **Month:** If the number of pattern letters is one or two, the month is interpreted as “Number”, if it is 3 or more, it is interpreted as “Text”. Therefore, if the month is interpreted as “Number” or “Text”, the applicable “Number”/ “Text” interpretation rules apply (see above). For example: 1 letter will be a “Number” that is not padded, 2 letters will be a “Number” that is padded, 3 letters will be a “Text” using the abbreviated form and 4 or more letters will be a “Text” using the long form.
- **General time zone:** For formatting, the time zone is handled as “Text” if it has a name. If not, it is given as a GMT offset value in the format “GMT[+|-]HH:MM”, where “HH” is the hours between 0 and 23 (one or two digits, may be zero-padded to the left) and “MM” is the minutes between 00 and 59 (always two digits, zero-padded to the left if necessary). For example, “GMT+8:00”, “GMT+08:00”, “GMT-12:45”.

For parsing, see “Time zone parsing” below.

- **RFC 822 time zone:** For formatting, the RFC 822 4-digit time zone format is used: “[+|-]HHMM”, where “HH” is the hours as two digits, between 00 and 23 (zero-padded to

the left if necessary) and “MM” is the minutes as two digits, between 00 and 59 (zero-padded to the left if necessary).

For parsing, see “Time zone parsing” below.

- **Time zone parsing:** For parsing of a time zone, it does not matter if the format pattern specifies a “General time zone” or a “RFC 822 time zone”: In both cases, all three types of time zone specifications are accepted:
 - Time zone given as “Text” (if given with a name recognized by LISTSERV Maestro).
 - Time zone given as GMT offset (see “General time zone”).
 - Time zone given as RFC 882 4-digit notation (see RFC 822 time zone).

Examples

The following examples show how date and time patterns are interpreted in the default U.S. locale with the “U.S. Pacific Time” time zone. The given date and time are “2001-07-04 12:08:56” local time in that time zone.

Date and Time Pattern	Result
"yyyy.MM.dd G 'at' HH:mm:ss z"	2001.07.04 AD at 12:08:56 PDT
"EEE, MMM d, ''yy"	Wed, Jul 4, '01
"h:mm a"	12:08 PM
"hh 'o''clock' a, zzzz"	12 o'clock OM, Pacific Daylight Time
"K:mm a, z"	0:08 PM, PDT
"yyyyy.MMMMM.dd GGG hh:mm aaa"	02001.July.04 AD 12:08 PM
"EEE, d MMM yyyy HH:mm:ss Z"	Wed, 4 Jul 2001, 12:08:56 -0700
"yyMMdHHmmssZ"	010704120856-0700

Appendix B About Comma Separated Files

The term "comma separated format" (or "tab separated format" or "CSV") is often used as a catchall term for all kinds of text-based data formats, where the data is formatted in a line-by-line fashion. Each line contains one data record, and a number of columns per line, where the different columns are separated by comma (or tab, or some other separator character).

LISTSERV Maestro can correctly interpret comma separated text files in various formats as long as the following rules are applied:

- Any character may be used as the separator character, although a comma, tab, or semicolon is conventional.
- The same separator character must be used in all lines for the entire file.
- All lines in the file must have the same number of columns, which means the same number of separator characters.
- Empty columns may be created in order that the same number of separator characters is present in every line of the file.
- Having two separator characters in direct succession, without any characters in between, creates an empty column.
- If a line begins with the separator character, then LISTSERV Maestro assumes the line begins with an empty column.
- If a line ends with the separator character, then LISTSERV Maestro assumes the line ends with an empty column.
- If the character that is used as the separator character also appears as part of the value of one or several of the column fields, then it is necessary to enclose the fields in quotation marks or another "quote character."
- Any character can be used as the quote character (quotation marks, or apostrophe are conventional), except for the separator character.
- The same character must be used for the opening quote and for the closing quote.

If quotes are used in some records in a file, (especially records that appear near the end of the file) it is important to manually define the separator and quote character instead of allowing LISTSERV Maestro to attempt to parse the file automatically. By manually defining the separator and quote characters, LISTSERV Maestro is forced to look at the entire file and parse it according to the values entered for these characters. If LISTSERV Maestro attempts to parse the file automatically when it contains quote characters in some lines, but not all, those records may be parsed incorrectly or may be rejected as invalid.

If there is a need to include the quote character inside of the value of a field, then this character must be escaped. Escape the quote character by using it twice, in direct succession. The double appearance of the quote character will be interpreted as a single appearance that is part of the field value. Follow these basic rules for separator and quote characters:

- If the first character in the field is the quote character, then LISTSERV Maestro assumes the field is quoted and the next not-escaped quote character marks the end of the field. The end of the field must then be followed by a separator character or by the end of a line – trailing white space after the last field of the line is allowed.

-
- If the first character in a field is not the quote character, then LISTSERV Maestro assumes the field is not quoted, and the next appearance of the separator character marks the end of the field.

Here are some examples:

Simple values, separated by comma, not quoted:

```
John,Doe,Denver,USA
Lucy,Summers,London,UK
Karl,Hauser,Frankfurt,DE
```

This defines a dataset with three rows, each row consisting of four fields.

Simple values, separated by comma, not quoted, with empty fields:

```
John,,Denver,USA
,Summers,London,UK
Karl,Hauser,Frankfurt,
```

This defines a dataset with three rows, each row consisting of four fields. In the first row, the second field is empty, in the second row the first field is empty and in the last row, the fourth field is empty.

Values in which some contain a comma, separated by comma, quoted with <">:

```
John,Doe,"Denver, Colorado",USA
Lucy,Summers,London,UK
Karl,Hauser,"Frankfurt, am Main",DE
```

This defines a dataset with three rows, each row consisting of four fields. The third fields in the first and last rows each have a value that contains a comma. Since this comma is inside of the quote characters, it is not interpreted as a separator comma, but instead as part of the value of the field.

Values in which some contain a comma, separated by comma, quoted with <">, with empty fields:

```
John,,"Denver, Colorado",USA
,Summers,London,UK
Karl,Hauser,"Frankfurt, am Main",
```

This defines a dataset with three rows, each row consisting of four fields. The third fields in the first and last rows each have a value that contains a comma. Since this comma is inside of the quote characters, it is not interpreted as a separator comma, but instead as part of the value of the field. Also, in each row there is an empty field.

Values in which some contain a comma and some the quote character, separated by comma, quoted with <">:

```
John ""Hammer"" Cool,Doe,"Denver, Colorado",USA
Lucy,Summers,London,UK
Karl,Hauser ""the man"","Frankfurt, am Main",DE
```

This defines a dataset with three rows, each row consisting of four fields. The third fields in the first and last rows each have a value that contains a comma. Since this comma is inside of the quote characters, it is not interpreted as a separator comma, but instead as part of the value of the field. In addition, the first field in the first row contains the quote character, which has been escaped. Including the quotes, the field in its escaped form looks like this: John ""Hammer"" Cool. The two double appearances of the quote character around the word "Hammer" are not interpreted as quotes that delimit the field, but are instead interpreted as single appearances of the quote character which are part of the field value. Therefore, the un-escaped form of the field

looks like this: John "Hammer" Cool. Similarly, the second field of the last row has the un-escaped form of Hauser "the man".

Appendix C E-mail and International Character Sets

Computers store all information in the form of “bits” or their 8-bit conglomerations “bytes”. Bits are also the entities that are transferred from the sender’s computer to the recipient’s computer whenever an e-mail message is sent. E-mail programs take the message and convert it to bits. The message is sent and the receiving e-mail client program translates these bits back into a readable message for the recipient. This process takes place seamlessly for the sender and the recipient. The sender first creates a text message and the recipient receives a text message – all the converting remains behind the scenes.

In order for characters from an alphabet to be converted into bits for transmission, and then converted back into the message, the bits have to be arranged into sequences representing each character in the alphabet. Matching the bit sequences to alphabetical characters is called “mapping”. Mapping bit sequences to alphabets has resulted in several different so called “character sets” (short: “charsets”) that have been defined and standardized by the international community.

In the English-speaking world, probably the most widely used charset is **ASCII** (sometimes also called US-ASCII), which is a charset that maps **7-bit** sequences to the 26 characters from the Latin alphabet. Because 7 bits have enough room for 128 characters (0-127), there are more than the 26 Latin characters in the ASCII charset: First, each character appears twice (as upper case and lower case), then there are the ten digits, 0-9, various punctuation marks like comma, dot, semi-colon, colon, dash, slash, backslash, exclamation, question mark, and so forth. There are also other characters that can act as control characters, that is, characters that have special meaning to certain protocols, such as “#” and “&”.

Used almost as frequently, at least in the western world, are the charsets from the **ISO 8859** family. These charsets map **8-bit** sequences to letters, digits, and characters from various European languages, Hebrew and Arabic. Since the ISO-8859 charsets use 8 bits, they have twice the range as ASCII – enough room for 256 characters (0-255). For convenience, all ISO-8859 charsets contain the full range of ASCII in their “lower” 128 characters; the bytes 0-127 from any ISO-8859 charset map directly to the corresponding ASCII character making ISO-8859 a superset of ASCII. The differences of each ISO charset are in the “upper” 128 characters, the bytes 128-255.

For example, ISO-8859-1, mapping an alphabet suitable for West-European languages, has the umlauts Ä, Ö and Ü at the positions 196, 214, and 220. In comparison, ISO 8859-7, mapping the Greek alphabet, has the Greek letters Δ, Φ, and á at the same positions.

The following charsets from the ISO-8859 family are currently supported by LISTSERV Maestro:

- ISO-8859-1 Latin 1 (West European)
- ISO-8859-2 Latin 2 (East European)
- ISO-8859-3 Latin 3 (South European)
- ISO-8859-4 Latin 4 (North European)
- ISO-8859-5 Cyrillic
- ISO-8859-6 Arabic
- ISO-8859-7 Greek

-
- ISO-8859-8 Hebrew
 - ISO-8859-9 Latin 5 (Turkish)
 - ISO-8859-15 Latin 9 (West European, update of Latin 1 with some French and Finnish letters that were omitted in Latin 1, plus the Euro currency symbol € instead of the international currency symbol ₤.)
 - UTF-8 International Unicode (encoded in UTF-8 format, Unicode is a very large charset with room for almost all characters of many different languages of the world, even the many Asian characters).

The 8-bit range of 0-255 is not enough to accommodate all letters from even the European languages at once (therefore, there is a need for more than a dozen different members of the ISO-8859 family). Also, 8-bit charsets do not take into account the other major language groups of the world, such as Asian languages.

To address the limitations of 8-bit charsets, recently the **16-bit** charset **Unicode** with a range for 65536 characters has become more and more widespread. This charset contains more or less all letters and characters from the most widely used languages, as well as a set of symbols and other useful characters. LISTSERV Maestro offers Unicode in the form of its UTF-8 variant. UTF-8 is a transfer encoding for the 16-bit Unicode charset, which maps Unicode characters to one, two, or more bytes, in a way that more common characters (like ASCII characters) need fewer bytes than uncommon characters.

Again, for convenience, the first 128 characters of Unicode (0-127) are the same as in the ASCII charset, while the first 256 characters (0-255) are the same as in ISO-8859-1 (West European). A large percentage of all other letters of world languages are assigned values from 256 to 65535 (although, not even the large range of Unicode is enough to accommodate all letters from all languages).

LISTSERV Maestro and International Character Sets

What happens when international characters are used in e-mail messages written and delivered in LISTSERV Maestro?

Internally, LISTSERV Maestro uses pure Unicode, allowing for the mixture of any characters in e-mail, including the subject line and any data merged from uploaded files or selected from a database – as long as there is a way of inputting them. For some languages, this simply requires the installation of a special keyboard and display driver for that language. Other languages, such as Asian languages, may require a special keyboard – this depends on the language and on the computer's operating system.

For sending, LISTSERV Maestro needs to decide on a charset that it can use to encode the message. Specify the charset to use while defining the content (there is a special item for this on the content definition page), or tell LISTSERV Maestro that it should attempt to automatically determine which charset is the optimal one for the text contained in the message.

In the latter case, LISTSERV Maestro scans the written text to determine the optimal charset: If the message uses characters that can be displayed with the ASCII charset (the case with most English language texts), LISTSERV Maestro will choose the ASCII charset. If the message contains characters outside of the ASCII range, but that can still be displayed with one of the supported ISO-8859 charsets, then LISTSERV Maestro will choose the corresponding ISO-

8859 charset. Optionally, (only if LISTSERV Maestro is set to allow Unicode) the message has characters that cannot be displayed with one of the ISO-8859 charsets (for example Asian characters), or there are mixed characters from several ISO-8859 charsets, then LISTSERV Maestro will choose Unicode as the charset.

Once a charset is chosen, LISTSERV Maestro encodes each character as a bit sequence according to that charset. The e-mail that is sent is then augmented by the information of which charset was used to encode it. This information is then used by the receiving mail client to decode the bit sequence into characters that can be displayed to the recipient.

For example, with ASCII charset, (where each 7-bit sequence denotes one character) the sequence "1000001" would mean the character with the decimal value 65, which is the Latin 'A'. With the ISO-8859-1 charset, (where each 8-bit sequence denotes one character) the sequence "11000100" would mean the character with the decimal value 196, which is the umlaut 'Ä'. However, with the ISO-8859-7 charset, (also 8-bit) the same value 196 would mean the Greek letter 'Δ' instead. Consequently, the decoding scheme or charset that makes the message readable to the recipient is very important. LISTSERV Maestro takes care to include this information in the e-mail, so that it is not lost during the transfer.

Appendix D Customizing Subscriber Access Templates

This table lists all the HTML tags and custom styles used by LISTSERV Maestro.

<code><body></code>	The main body of the HTML page. Styles defined for this tag (for example for the font, background and so on) define the default styles for the whole page. The other HTML tags inherit this style and can then overwrite it where necessary.
<code><p></code>	The standard text paragraph. Used for all text that does not fall into a special case.
<code><h1></code>	The level 1 header. Used for the header of each page.
<code><h2></code>	The level 2 header. Used for sub-level headers to separate different parts on the same page.
<code><a></code>	The link tag. Used for all clickable links.
<code><td></code>	The table-cell tag. Used for all table cells.
<code><th></code>	The table-header-cell tag. Used for the header of the table that contains the mailing lists in the current category, when viewed in the member area.
<code><input></code>	The input tag. Used for single line edit fields, checkboxes and buttons.
<code><select></code>	The select tag. Used for single select drop-down lists and multiple select boxes.
<code>small</code>	Custom style class "small". Used to render text smaller than the normal text for comments and list descriptions for example.
<code>emphasis</code>	Custom style class "emphasis". Used to render phrases or individual words in an emphasized style.
<code>error</code>	Custom style class "error". Used to render error messages.
<code>emphasisBackground</code>	Custom style class "emphasisBackground". Used to render table cells or whole tables in an emphasized style by giving them a background which stands out from the normal page background.
<code>disabledEditField</code>	Custom style class "disabledEditField". Used to render edit fields and selection fields in a "grayed" state to make their disabled nature more apparent.

tableframe	Custom style class "tableframe". Used to render a frame around box-like tables that group together certain related input fields or texts. Also used to render the member area pages to appear in a "tabbed" style with two tabs (for "My Lists" and "My Profile"). Surrounds the two tabs at the top.
subscribeStepActiveTitle	Custom style class "subscribeStepActiveTitle". Used to render the title of the currently active subscription step (step 1 or 2) on the page where a subscriber can join the member area or subscribe to a list (without first logging in), to make it stand out from the other (currently inactive) step.
subscribeStepInactiveTitle	Custom style class "subscribeStepInactiveTitle". Corresponding "inactive" style for the "subscribeStepActiveTitle" style (see above). Used to render the title of the currently inactive subscription step.
description	Custom style class "description". Used to render the public description of the membership area or current category (if any).
subscribed	Custom style class "subscribed". Used to render the "Yes" marker in the column "Subscribed" of the table of available mailing lists in the membership area, meant to signify that the currently logged in member has subscribed this list.
notsubscribed	Custom style class "notsubscribed". Used to render the "---" marker in the column "Subscribed" of the table of available mailing lists in the membership area, meant to signify that the currently logged in member has not subscribed this list.
selectedTab	Custom style class "selectedTab". Used to render the label and background of the currently selected tab in the membership area ("My Lists" or "My Profile").
tableThickFrame	Custom style class "tableThickFrame". Used to render the membership area pages to appear in a "tabbed" style with two tabs (for "My Lists" and "My Profile"). Surrounds the main part of the membership area which sits beneath the two tabs.
tableBottomLine	Custom style class "tableBottomLine". Used in the membership area to render a horizontal separator line between the row that displays the current category and its parent categories as navigatable links, (this row only appears if there are categories in the dataset) and the lower part that shows all mailing lists in the current category.
tableRightLine	Custom style class "tableRightLine". Used in the membership area to render a vertical separator line between the left column that displays the sub-categories of the current category, (this column only appears if there are sub-categories) and the part to the right that shows all mailing lists in the current category.

Default Style Sheet

The following table displays the style sheet that is used by the default template:

```
body {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    font-weight: normal;
    font-style: normal;
    font-variant: normal;
    text-transform: none;
    text-decoration: none;
    background-color: #FFFFFF;
    layer-background-color: #FFFFFF;
    color: #000000;
}
p {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    color: #000000;
}
h1 {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 12pt;
    font-weight: bold;
    color: #CC0033;
    margin: 0pt, 0pt, 5pt, 0pt;
}
h2 {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 10pt;
    color: #333399;
    margin: 0pt, 0pt, 5pt, 0pt;
}
a {
    text-decoration: underline;
    color: #333399;
}
```

```
td {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    color: #000000;
}
th {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    font-weight: bold;
    color: #000000;
    background-color: #F1F4FA;
}
input {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    color: #000000;
}
select {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    color: #000000;
}
.small {
    font-size: 8pt;
}
.emphasis {
    font-weight: bold;
}
.error {
    color: #CC0033;
}
.emphasisBackground {
    background-color: #F1F4FA;
}
.disabledEditField {
    background-color: #EEEEEE;
}
```

```
.tableframe {
    border-color: #333399;
    border-style: solid;
    border-width: 1px 1px 1px 1px;
}

.subscribeStepActiveTitle {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    font-weight: bold;
    background-color: #333399;
    color: #FFFFFF;
}

.subscribeStepInactiveTitle {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    background-color: #333399;
    color: #FFFFFF;
}

.description {
}

.subscribed {
    font-weight: bold;
    color: #009900
}

.notsubscribed {
}

.selectedTab {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 9pt;
    font-weight: bold;
    background-color: #333399;
    color: #FFFFFF;
}

.tableThickFrame {
    border-color: #333399;
    border-style: solid;
    border-width: 4px 3px 3px 3px;
}
```

```
.tableBottomLine {
    border-color: #333399;
    border-style: solid;
    border-width: 0px 0px 1px 0px;
}
.tableRightLine {
    border-color: #333399;
    border-style: solid;
    border-width: 0px 1px 0px 0px;
}
```

Appendix E Building Hosted Recipient Queries

LISTSERV Maestro includes its own method of build queries from hosted recipient lists by using target groups. Basic or complex queries can be created to segment (filter) a hosted recipient list based on any available data. Filtering conditions are entirely optional. If no condition is supplied, the target group will always address all current subscribers of the hosted recipient list.

When a hosted recipient list is created in LISTSERV Maestro and at least one subscriber is added, the system automatically creates a target group based on that list. This target group includes all subscribers for the hosted list. It is named after the name of the hosted recipient list on which it is based, and is saved in the category <Hosted Lists Default Target Groups>. In order to filter this list, this target group must first be copied and saved. Once copied, it can be edited by clicking on its name and entering the target group definition wizard, like any other target group. For more information on using the target group wizard, see Section 12 [Introduction to Recipient Target Groups](#).

Make any changes desired on the General and Source screens of the wizard, and continue to the Source Details screen. As an aid for constructing the filtering condition, all profile fields available in the hosted recipient list are displayed in the upper part of the wizard page. Each profile field is listed with its name and data type. Any mandatory fields are rendered in bold. Use this list as a reference in order to decide on which fields to define conditions.

The condition itself is based on Boolean logic, meaning that when the condition is applied to a certain subscriber, the result of the condition will always be either "true" (in which case the subscriber becomes a recipient of the job in question) or "false" (in which case the subscriber will not be a recipient of the job).

The condition is defined visually in form of a "condition tree", which is displayed in the lower part of the wizard page. The condition tree consists of hierarchically ordered nodes of various types. Each of the nodes has, for a given subscriber, a certain Boolean "true" or "false" state, where for nodes that have sub-nodes, the Boolean state of the node itself is derived by combining the Boolean states of all sub-nodes in a certain manner (how they are combined depends on the type of the node itself). The root-node of the whole tree is equivalent to the whole condition, that is the Boolean result of the condition is determined by looking at the Boolean state of the root node (which in turn derives its state by looking at its subnodes and combining them accordingly, and so on).

Nodes in the condition tree can be of one of two main types:

- **Combination Operator Nodes:** Such a node does not have a Boolean state itself. Instead, it derives its Boolean state by combining the states of all its subnodes. Thus its name as "Combination Operator". Such a node is never useful without any subnodes.
- **Condition Nodes:** Condition nodes derive their Boolean state from the condition that is defined for them: They apply the condition to a given subscriber, which results either in "true" or "false" and thus defines the Boolean state of the node. Condition nodes never have subnodes. Condition nodes come in two varieties, normal conditions and job based conditions.

The following sections describe different aspects of editing the condition tree, explain the different nodes types available, and give instructions on how to create one.

Editing the Condition Tree

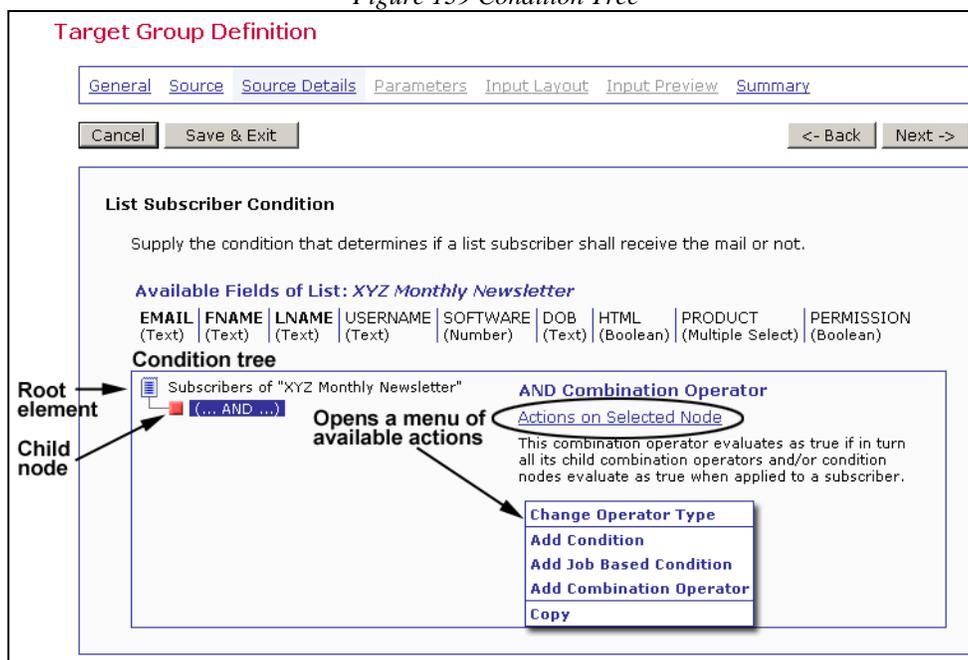
This section describes general concepts about how the condition tree is edited. The area in which is condition tree is edited is separated into a left and a right part. The tree with all its nodes is shown in the left part, while a description of the currently selected node, together with an **Actions on Selected Node** link is displayed in the right part. Below the two parts, a textual representation of the condition is displayed at all times. It mirrors the condition that is currently defined in a textual form, using a pseudo syntax with commonly used elements. With this representation, it is possible to verify that the condition defined by the tree is indeed the intended condition.

The tree itself always consists of elements. The top element is the root, labeled with "Subscribers of XYZ", where "XYZ" is the name of the hosted recipient list the target group is based on. The root always contains one single child node that is always a combination operator node. This "top level" operator cannot be deleted, but its type can be changed (see [Combination Operator Nodes](#) for details).

Initially, the top level operator is empty; it does not contain any sub-nodes. This is equivalent to an empty condition that is "true" for all subscribers of the hosted recipient list.

If a node in the tree has sub-nodes, then the node itself can be either closed (hiding the sub-nodes) or open (displaying the sub-nodes). Closed nodes are displayed with a small  icon, and open nodes are displayed with a small  icon. Click on the icon to open or close a node (double-clicking the node name will not work).

Figure 139 Condition Tree



Clicking on a node to select it will provide a detailed description of the node on the right side of the screen, and the **Actions on Selected Node** menu link will be displayed on the right side. Clicking on the link will open a menu that contains all currently possible actions that can be executed on the selected node. Which actions these are available depends on the node type and the state it is in.

For the root node, only one action is available:

Remove Unnecessary Nodes – This action will "prune" the tree and remove any unnecessary nodes from it in a way that the Boolean logic of the tree is not changed, but that any superfluous nodes are removed. For example, any empty combination operator nodes are removed. Note, that if there currently are no unnecessary nodes, executing this command will not have any effect. See [Combination Operator Nodes](#) for details.

For combination type nodes, the following actions may be available depending on the current state:

- **Change Operator Type** – Opens a popup dialog box that allows for changing the operator type of the node. There are four different types: AND, OR, NOT AND and NOT OR. See [Combination Operator Nodes](#) for details.
- **Add Condition** – Adds a new normal condition type node to the selected combination node as a new child node. See [Normal Condition Nodes](#) for details.
- **Add Job Based Condition** – Adds a new job based condition type node to the selected combination node, as a new child node. See [Job Based Condition Nodes](#) for details.
- **Add Combination Operator** – Adds a new combination operator node to the selected combination node, as a new child node. See [Combination Operator Nodes](#) for details.
- **Cut** – Marks the selected combination operator node for "Cut & Paste". When cut, the node is displayed with a "grayed" name to visualize that it has been designated for Cut & Paste. The node is not actually cut (removed from its current location) until the "Paste" command is selected at a different location. The "grayed" state is only a visual reminder that the node has been marked for "Cut". Note: The "Cut" command is not available for the top level combination node, since this node cannot be deleted.
- **Copy** – Marks the selected combination operator node for "Copy & Paste". The node is not actually copied until the "Paste" command is selected at a different location.
- **Paste** – Completes an ongoing "Copy & Paste" or "Cut & Paste" operation that was previously started with either the "Cut" or the "Copy" command of a different node. Through the initial command, a node had been marked for cut or copy and executing the paste command completes the operation by actually moving the node from its old location to the currently selected combination node (for "Cut") or by creating a copy of the node in the currently selected combination node (for "Copy"). The "Paste" command itself is therefore only available if actually a node has been marked for Cut & Paste or Copy & Paste.
- **Clear Cut/Copy State** – Aborts any ongoing Cut & Paste or Copy & Paste operation that was started with either of the commands "Cut" or "Copy". Any previously marked node will become "unmarked" and the "Paste" command will no longer be available.
- **Delete** – Deletes the selected combination node and all its sub-nodes (after confirmation). This is not recoverable! Note: The "Delete" command is not available for the top level combination node since this node cannot be deleted.

For condition type nodes (both for normal and job based conditions) the following actions may be available, depending on the current state:

- **Edit** – Opens a popup dialog box in which the settings of the condition can be edited.

-
- **Insert Combination Operator** – Creates a new combination operator node and inserts it as the new parent-node of the currently selected condition node. The selected condition node will initially be the only child of the freshly created combination node and the new combination node will be placed in the same parent-node as the condition node was before.
 - **Cut** – Marks the selected condition node for "Cut & Paste". In this state, the node is displayed with a "grayed" name to visualize that it has been designated for Cut & Paste. The node is not actually cut (removed from its current location) until the "Paste" command is selected at a different location. The "grayed" state is only a visual reminder that the node has been marked for "Cut".
 - **Copy** – Marks the selected condition node for "Copy & Paste". The node is not actually copied until the "Paste" command is selected at a different location.
 - **Clear Cut/Copy State** – Aborts any ongoing Cut & Paste or Copy & Paste operation that was started with either of the commands "Cut" or "Copy". Any previously marked node will become "unmarked" and the "Paste" command will no longer be available.
 - **Delete** – Deletes the selected condition node (after confirmation). This is not recoverable!

Combination Operator Nodes

Combination operator nodes derive their Boolean state by examining the Boolean state of all sub-nodes and combining these states using a Boolean operator depending on the node's type. The following operator node types are available:

- Combine conditions with **AND** – Combines the Boolean states of all sub-nodes using the boolean "AND" operator, meaning that the combination is "true" only if all sub-nodes are also "true". If even a single sub-node is "false", the combination is also "false". The AND-combination is represented in the tree with the symbol  and the textual representation "(... AND ...)".
- Combine conditions with **OR** – Combines the Boolean states of all sub-nodes using the boolean "OR" operator, meaning that the combination is "true" if at least one sub-node is "true", no matter if all others are "false". If all sub-nodes are "false", the combination is also "false". The OR-combination is represented in the tree with the symbol  and the textual representation "(... OR ...)".
- Combine conditions with AND, then negate the result – The negated version of the "AND" combination described above. If the normal "AND" results in "true", this negated version results in "false". As a result, the combination is "true" if at least one sub-node is "false", no matter if all others are "true". If all sub-nodes are "true", the combination is then "false". The negated AND-combination is represented in the tree with the symbol  and the textual representation "NOT (... AND ...)".
- Combine conditions with OR – The negated version of the "OR" combination described above. If the normal "OR" results in "true", this negated version results in "false". As a result, the combination is "true" only if all sub-nodes are "false". If even a single sub-node is "true", the combination is then "false". The negated OR-combination is

represented in the tree with the symbol  and the textual representation "NOT (... OR ...)".

The type of a combination operator can be changed for the node at any time using the "Change Operator Type" action menu entry.

When doing a Copy & Paste of a combination node, the node and its whole subtree (including all sub-nodes and their sub-nodes) will be copied. Similarly, when doing a Cut & Paste, the node and its whole subtree will be removed from the original location and added at the paste location.

Note: Certain nestings of operator nodes are superfluous and will therefore be removed ("pruned") if the action menu entry "Remove Unnecessary Nodes" is selected on the root node. These include:

- **Empty combination nodes** – Combination nodes without any sub-nodes are always superfluous and are always removed.
- **Combination nodes with one sub-node** – Combination nodes with only a single sub-node are superfluous only if the combination node is of the non-negated sort (a simple "AND" or "OR" combination). In that case, the combination node is removed and its only sub-node takes the combination node's place directly in the parent node.
- **Combination nodes with several sub-nodes** – Combination nodes with several sub-nodes are superfluous only if the combination node is of the non-negated sort (a simple "AND" or "OR" combination) and if the parent node of the combination node is of the same combination type. In that case, the combination node is removed and all its sub-nodes take the combination node's place directly in the parent node.

Normal Condition Nodes

Normal condition nodes derive their Boolean state by examining a condition that is defined explicitly for the given node. The condition is defined in a dialog box when the node is first created and can later be edited in the same dialog by selecting the "Edit" command from the node's "Actions on Selected Node" menu. The condition node is represented in the tree with the symbol  and a textual representation that displays the condition in short form.

The **Edit Condition** dialog box shows several drop-down lists and possibly edit fields or selection boxes that allow for the definition of the condition for the node. In the dialog box, the selection controls are organized in a hierarchical order from top to bottom, where choices in the upper controls directly influence the available choices in the lower controls. Therefore, define a condition in a top-to-bottom manner, first making selections in the upper controls, then proceeding to the next control, and so on, until the bottom of the dialog box is reached and the whole condition is completed.

Generally speaking, each condition consists of three parts: A **left operand**, an **operator** and a **right operand**. The operator is always a Boolean operator that compares the left and right operands in a certain fashion and the result is a Boolean value of "true" or "false". This operator result is then used as the Boolean state of the condition node.

In the dialog box, these three parts are represented by five controls (usually), situated above each other. The first two controls define the left operand, the third control defines the operator and the last two controls define the right operand.

Which operators are available in the third control, and which kinds of right operands can be defined using the last two controls depends on the selections in the first two controls, that is what left operand is currently selected. The following sub-sections contain descriptions of the possible choices for each of the three parts of a condition.

Left Operand

The following choices are available for the left operand:

- **Field** – The left operand is one of the profile fields available in the hosted recipient list the target group is based on. To define an operand of this type, select "the field" from the first drop-down list. The second control then becomes a drop-down list too, where you now select the field to use.
- **Number** – The left operand is a constant number. To define an operand of this type, select "the number" from the first drop-down list. The second control then becomes an edit field, where you now enter the number value to use.
- **Text** – The left operand is a constant text string. To define an operand of this type, select "the text" from the first drop-down list. The second control then becomes an edit field, where you now enter the text string to use.
- **Boolean** – The left operand is a constant Boolean value of "true" or "false". To define an operand of this type, select "the Boolean value" from the first drop-down list. The second control then becomes a drop-down list too, where you now select the Boolean value to use.
- **Formula** – The left operand is a formula. When the condition is evaluated, the formula is evaluated first and its result is used as the left operand of the condition. To define an operand of this type, select "the value of the formula" from the first drop-down list. The second control then becomes a multi-line edit field, where you now enter the formula to use. [See below](#) for details about formulas.

Operator

The available operators are shown in the third control of the dialog box, which is always a drop-down list. Which operators are available depends on the type of the left operand. For example, there are different operators for numbers than for text strings.

- **Number Operators** – Available either if the left operand is of the type "Number" or of the type "Field" where the field in turn has the datatype "Number". The number operators are:
 - = (Equal) The condition is true if the two numbers are equal.
 - <> (Not equal) The condition is true if the two numbers are not equal.
 - < (Less than) The condition is true if the left number is less than the right number.
 - <= (Less than or equal) The condition is true if the left number is less than or equal to the right number.
 - > (Greater than) The condition is true if the left number is greater than the right number.
 - >= (Greater than or equal) The condition is true if the left number is greater than or equal to the right number.

-
- **Text Operators** – Available either if the left operand is of the type "Text" or of the type "Field" where the field in turn has the datatype "Text". The text operators are:
 - = (Equal) The condition is true if the two texts are equal.
 - <> (Not equal) The condition is true if the two texts are not equal.
 - < (Less than) The condition is true if the left text is less than the right text (lexicographic comparison).
 - <= (Less than or equal) The condition is true if the left text is less than or equal to the right text (lexicographic comparison).
 - > (Greater than) The condition is true if the left text is greater than the right text (lexicographic comparison).
 - >= (Greater than or equal) The condition is true if the left text is greater than or equal to the right text (lexicographic comparison).
 - **begins with** The condition is true if the left text begins with the text string given as the right operand text.
 - **ends with** The condition is true if the left text ends with the text string given as the right operand text.
 - **contains** The condition is true if the left text somewhere contains the text string given as the right operand text.
 - **Boolean Operators** – Available either if the left operand is of the type "Boolean" or of the type "Field" where the field in turn has the datatype "Boolean". The Boolean operators are:
 - = (Equal) The condition is true if the two operands have the same Boolean value.
 - <> (Not equal) The condition is true if the two operands have different Boolean values.
 - **Element Operators** – Available if the left operand is of the type "Field" where the field in turn has the datatype "Single Select". The element operators are:
 - = (Equal) The condition is true if the value selected in the field defined as the left operand is equal to the right operand.
 - <> (Not equal) The condition is true if the value selected in the field defined as the left operand is not equal to the right operand.
 - **in** The condition is true if the value selected in the field defined as the left operand appears in the elements of the set defined as the right operand.
 - **not in** The condition is true if the value selected in the field defined as the left operand does not appear in the elements of the set defined as the right operand.
 - **Set Operators** – Available if the left operand is of the type "Field" where the field in turn has the datatype "Multiple Select". The set operators are:
 - **is the same set as [equals "="]** The condition is true if the value-set selected in the field defined as the left operand is equal to the set defined by the right operand.

-
- **contains only values of [subset "<="]** The condition is true if the value-set selected in the field defined as the left operand contains only values of the set defined by the right operand. Alternatively, if the left operand set is a subset of the right operand set.
 - **contains all values of [superset ">="]** The condition is true if the value-set selected in the field defined as the left operand contains all values of the set defined by the right operand. Alternatively, if the left operand set is a superset of the right operand set.
 - **contains some values of [superset "&"]** The condition is true if the value-set selected in the field defined as the left operand contains some values of the set defined by the right operand. Alternatively, if the intersection of the left operand set and the right operand set is not empty.
 - **NOT (is the same set as) [not equals "="]** The condition is true if the value-set selected in the field defined as the left operand is not equal to the set defined by the right operand.
 - **NOT (contains only values of) [not subset "<="]** The condition is true if the value-set selected in the field defined as the left operand contains some values which do not appear in the set defined by the right operand. Alternatively, if the left operand set is not a subset of the right operand set.
 - **NOT (contains all values of) [not superset ">="]** The condition is true if the value-set selected in the field defined as the left operand does not contain all values of the set defined by the right operand. Alternatively, if the left operand set is not a superset of the right operand set.
 - **NOT (contains some values of) [not superset "&"]** The condition is true if the value-set selected in the field defined as the left operand does not contain any of the values of the set defined by the right operand. Alternatively, if the intersection of the left operand set and the right operand set is empty.

The "subset" and "superset" operators described above (and their negated counterparts) do not adhere strictly to the mathematical definition of a subset or superset. In mathematics, the empty set is always a subset of any other set and consequently any non-empty set is always a superset of the empty set. In regard to the empty set, the above operators behave differently. For these operators, the empty set is never a subset of any other set and similarly, no set can be a superset of the empty set.

- **Formula Operators** – Formulas as the operands are a special case when it comes to the operator: Normally, the left operand defines the datatype and thus the available operators. For formulas however, the datatype is not known until the formula is actually calculated. And with the datatype not known, the available operators cannot be adjusted accordingly. Therefore, if the left operand is a formula, the available operators are the same as for "Text" (see "Text Operators" above) and the actual datatype will be determined at run time, after the following rules:
 - If either the left or right operand is of type "Text", then the operator will also be a text operator and the other operand is converted to text if necessary.
 - If both operands are of type "Number" and the selected operator is one which is available for numbers (such as one of the normal comparison operators =, <>, <, <=, >, >=), then two operands are compared as numbers.

-
- If both operands are of type "Number" but the selected operator is not available for numbers (it "begins with", "ends with" or "contains"), then both operands are converted to text so that the operator can be applied.

Right Operand

For the right operand, the available choices also depend on which left operand has been selected. The following choices may be available:

- **Field** – Available if applicable. The right operand is one of the profile fields available in the hosted recipient list the target group is based on. To define an operand of this type, select "the field" from the drop-down list at fourth position. The last control then becomes a drop-down list as well, so that the field to use can be selected. This second list will automatically only contain fields of a type that are compatible to the left operand and the operator. The type "Field" may not be available as the right operand if there is no field that matches the datatype defined by the left operand, or if the left operand is also a field but is the only field of that datatype (comparisons with the same field used both for the left and right operand are not allowed).
- **Number** – Only available if the left operand is of type "Field" and the corresponding field is of type "Number". The right operand is a constant number. To define an operand of this type, select "the number" from the drop-down list at fourth position. The last control then becomes an edit field, where you now enter the number value to use.
- **Text** – Only available if the left operand is of type "Field" and the corresponding field is of type "Text". The right operand is a constant text string. To define an operand of this type, select "the text" from the drop-down list at fourth position. The last control then becomes an edit field, where you now enter the text string to use.
- **Boolean** – Only available if the left operand is of type "Field" and the corresponding field is of type "Boolean". The right operand is a constant Boolean value of "true" or "false". To define an operand of this type, select "the Boolean value" from the drop-down list at fourth position. The last control then becomes a drop-down list as well, so the Boolean value to use can be selected.
- **Formula** – Only available if the left operand is of type "Number", "Text", "Formula" or "Field" (where then in turn the corresponding field must be of type "Number" or "Text"). The right operand is a formula. When the condition is evaluated, the formula is evaluated first and its result is used as the right operand of the condition. To define an operand of this type, select "the value of the formula" from the drop-down list at fourth position. The last control then becomes a multi-line edit field, where the formula can be entered. [See below](#) for details about formulas.
- **Parameter** – Only available if the left operand is of type "Field" (any kind of field). The right operand is a parameter whose content is not already defined during the condition definition, but which will be supplied later by the end-user, when the target group the condition belongs to is used in the recipient wizard. [See below](#) for details about parameters.
- **Check for "empty"** – Only available if the left operand is of type "Field" and the corresponding field is an optional field. The right operand is the "empty" value, i.e. the condition compares the given left operand field against the empty value, using the given operator. Since only optional fields can actually be empty, this type is not available if the left operand field is a mandatory or Boolean field. To define an operand of this type,

select "empty" or "the empty set" (whichever is available) from the drop-down list at fourth position. The last control then becomes invisible, because there is no more information required about the right operand.

- **Check for certain lookup table entry** – Only available if the left operand is of type "Field" and the corresponding field is of type "Single Select". The right operand is a fixedly selected entry from the lookup table that the left operand field is associated with. To define an operand of this type, select "the list entry" from the drop-down list at fourth position. The last control then becomes a drop-down list too, filled out with all values from the lookup table that is associated with the left operand field. Select one of the values to use from the drop-down list.
- **Check for certain lookup table entry set** – Only available if the left operand is of type "Field" and the corresponding field is of type "Multiple Select". The right operand is a fixedly selected entry set from the lookup table that the left operand field is associated with. To define an operand of this type, select "the set of entries selected below" from the drop-down list at fourth position. The last control then becomes a multiple selection list box, filled out with all values from the lookup table that is associated with the left operand field. Select one or several of the values to use from the drop-down list (hold down CTRL or SHIFT to select multiple entries or to deselect already selected entries).

Formulas in Conditions

Formulas can be used in conditions to calculate the left and/or right operand value at "run time" – the moment the condition is actually applied to a given subscriber to determine if the subscriber will become one of the recipients of a job or not.

Such a formula is typed directly into the multi-line edit field provided by the condition definition dialog box. Line breaks in the formula code have no effect on the result of the formula but can be freely used to enhance readability.

The syntax follows general mathematical formula rules using operators such as "+" and "-", parenthesis nesting and so on. There are also a number of predefined "functions" that can be used in formulas.

Examples of formulas:

```
15 + 4
27 * Max(17, 4, 24/8) / (19 + 22)
&NAME; + "@lsoft.com"
(ToNum(&AGE;) - 2004) * 10
ToDate(CurrentTimeMillis, "MM/dd/yyyy HH:mm")
```

[See here](#) for a detailed description of formulas and functions.

Note: Formulas may also contain parameter placeholders, which allows for the definition of conditions with formulas, where one or several values in the formula are not known at the time the formula and condition are written, but are instead supplied later by the end user who uses this target group in the recipients wizard. ([See here](#) for details about how to include parameters in formulas and read the following sub-section about condition parameters in general).

Parameters in Conditions

Parameters can be used in conditions as the right operand in situations where the value of the operand is not yet known at the time the condition is defined (or will not be fixed by the condition definition), but will be supplied later by the end user when the target group is used in the recipients wizard. Using this method can create conditions that are parameterized to allow for greater flexibility for the end user.

To define a right operand of this type, select the entry "the TYPE_VALUE supplied for the parameter" from the drop-down list at fourth position, where "TYPE_VALUE" will be filled out according to the type of the left operand field selected, which will therefore also already define the type of the parameter. The entry in the drop-down list will be one of the following:

- The text supplied for the parameter
- The numeric value supplied for the parameter
- The Boolean value supplied for the parameter
- The list entry supplied for the parameter
- The set supplied for the parameter

After this selection is made, the last control becomes an edit field, where the name of the parameter to define is entered. Enter only the name, without any enclosing tags (this is different than when using a parameter in a formula or SQL statement or LISTSERV condition, where the parameter needs to be enclosed in tags to set it off from the rest of the formula/statement/condition).

Note, that if you specify the same parameter name in different condition nodes, it will be interpreted as one parameter that appears several times in the condition tree; all appearances will have the same content value and must also all appear in the same type context ("Number" or "Text" and so on.). This means that if in one condition node the selection is "the text supplied for the parameter" and as the parameter name "mytext", is specified, then if same parameter name is specified again in a different condition node, the selection must also be "the text supplied for the parameter", but not for example "the numeric value supplied for the parameter". Similarly, a parameter with the same name is used in a formula somewhere else in the condition tree, then all these appearances too will reference the same parameter; all of them will be replaced with the same final content during usage in the recipients wizard and must therefore have the same type.

Example: Assume that the hosted recipient list has a field called "AGE" and you want to define a target group that selects all subscribers that are of a certain age or older. If, for example, you want to test for the age of 21, you could specify this as a condition node as follows:

```
the field AGE >= the number 21
```

However, what if for the next mailing you want to use a different age, say "18" or "40"? You could of course create a new target group for that purpose, with a new condition. But this will soon become tedious, so instead, you should use a parameter for the age and thus leave it to the end user to supply the actual age to check for. The condition node would then look like this:

the field AGE >= the numeric value of the parameter age_param

Where "age_param" is the name that you have given this parameter. The resulting target group could then be used to select recipients of any age or older, just by supplying the desired threshold age in an edit field, as a value for the parameter "age_param".

Job Based Condition Nodes

Job based condition nodes derive their Boolean state by examining the delivery of an earlier mail job, the so called "source job", and optionally also the tracking events collected for that job (if any). The condition node is represented in the tree with the symbol  and a textual representation that displays the condition in short form.

The source job it is that will be examined will be specified by the end user who uses the target group in the recipients wizard. Here in the condition definition, it is enough to know that whatever source job will be selected, it will be a job that was in turn delivered to the same hosted recipient list as the one that this target group is based on (or more precisely, the source job used a target group which was based on the same hosted recipient list as this target group).

The **Edit Job Based Condition** dialog box allows you to define how the source job will be examined. The following options are available:

- **All current subscribers which were recipients of the original source job** – If selected, the condition node evaluates to "true" for all subscribers currently on the hosted recipient list that have also been recipients of the source job that will be selected in the recipients wizard. For any subscribers that were not recipients of the source job, (because they did not fulfill the source job's condition or because they only subscribed to the list after the source job was delivered) the condition evaluates to "false". If this choice is selected, you may optionally specify to examine the tracking events of the source job to filter further the recipients.
- **All current subscribers which were NOT recipients of the original source job** – The negated version of the above condition. If selected, the condition node evaluates to "true" for all subscribers currently on the hosted recipient list that were not recipients of the source job that will be selected in the recipients wizard, (because they did not fulfill the source job's condition, or they only subscribed to the list after the source job was delivered). For any subscribers that were recipients of the source job, the condition evaluates to "false".

Examining Tracking Events of the Source Job

If you select the first of the two choices above, to filter for all subscribers that were recipients of the source job, then you may optionally choose to examine the tracking events that were collected for the source job, to filter further the recipients. (Note: If you use this option of examining the tracking events, additional issues need to be considered). To enable the option, check the "With the following tracked behavior" checkbox and select one of the available behavior types from the drop-down list:

- **At least on open-up event** – The condition will be "true" only for subscribers who did generate at least one open-up event for the source-job.

-
- At least one click event for any selected URL – The condition will be "true" only for subscribers who did generate at least one click event for any of the selected URLs (see below on how to select the URLs to look at).
 - At least one click event for each selected URL – The condition will be "true" only for subscribers who did generate at least one click event for each of the selected URLs (see below on how to select the URLs to look at).
 - NOT (At least one open-up event) – The negated version of the first behavior type as described above. The condition will be "true" only for subscribers who did not generate any open-up events for the source job.
 - NOT (At least one click event for any selected URL) – The negated version of the second behavior type as described above. The condition will be "true" only for subscribers who did not generate any click events for any of the selected URLs (see below on how to select the URLs to look at).
 - NOT (At least one click event for each selected URL) – The negated version of the third behavior type as described above. The condition will be "true" only for subscribers who did not generate any click events for at least one of the selected URLs (see below on how to select the URLs to look at).

If from the above behavior types one of the four that deal with click events is selected, you also need to specify which URLs to look at. This is done with the option button located below the drop-down list, which only becomes enabled if such a behavior type is chosen. In this case, you have the following choices:

- Fixed list of all tracked links of the "source job" – If selected, then the click events of all tracked links in the selected source job will be examined to determine the condition state. With this choice, the end user who employs this target group in the recipients wizard will not have the choice to define which links to examine, as it will always be all links of the source job which are examined.
- User defined list stored in parameter – If selected, then only the click events of a certain list of links in the source job will be examined to determine the condition state. Which links will appear in this list is not defined here, at the time the condition is specified, but is instead defined by the end-user who employs this target group in the recipients wizard by filling out a parameter. The parameter's name needs to be specified here, together with the selected option button. Later in the recipients wizard, the selection of links will be made in a multiple selection box, and the resulting list of links to examine will be stored in the parameter with the name specified here. The condition will then look at the list in this parameter to determine its Boolean state.
Note, that if you specify the same parameter name in different job based condition nodes, it will be interpreted as one parameter that appears several times in the condition tree; all appearances will be filled out with the same list of selected links (depending on the end-user's choices). A parameter with the same name in a normal condition node or a condition formula may not be used.

Additional Issues with Job Based Conditions and Tracking Events

If the option of examining the tracking events of the source job is selected, additional issues must be considered.

With this option enabled, the choice for the "source job" becomes more limited. Normally for job based conditions, a possible source job is one that has been delivered to the same hosted

recipient list as the one the target group is based on. When using the "examine tracking events" option, the choice for the source job is narrowed to all the above jobs which also had personal tracking enabled at the time of delivery. Because only the information collected with personal tracking is sufficient for the job based condition node to determine if the condition will be "true" or "false".

With this option enabled, a decision must be made for "which" events to actually take into consideration. Will all events collected for the source job be used, or only some? To answer this question, the following happens whenever you define a job based condition which shall also examine tracking events:

If the condition tree contains at least one such job based condition node, additional input controls are displayed on the wizard page, right below the condition tree. These controls give you the option of defining a time period into which events of the source job must fall to actually be considered by the job based condition nodes in the tree. (The settings made here apply equally to all job based condition nodes in the tree that examine tracking events.)

To define this event period, you need to specify a "From" threshold where the period begins and a "To" threshold where the period ends.

For the **From** threshold, you have the following choices:

- The delivery time of the original source job – This means that the event period begins with the delivery time of the source job; the earliest events generated for the source job will be considered by the condition.
- <To be defined during recipient definition> – This means that the beginning of the event period (the "From" threshold) is not already fixed here in the target group definition but will instead be supplied by the end user who employs this target group in the recipients wizard. The end user will then have the choice to set the "From" threshold to the same "delivery time of the original source job" as explained above (to catch even the earliest events) or to set it to a specific date and time (to start event examination at this specific time).

For the **To** threshold, you have the following choices:

- The delivery time of the follow-up job – The "follow-up job" is the job that this target group will be employed for in the recipients wizard. This choice means that the event period ends with the delivery time of the follow-up job; even the latest events generated for the source job will be considered by the condition.
- <To be defined during recipient definition> – This means that the end of the event period (the "To" threshold) is not already fixed here in the target group definition but will instead be supplied by the end user who employs this target group in the recipients wizard. The end user will then have the choice to set the "To" threshold to the same "delivery time of the follow-up job" as explained above, (to catch even the latest events) or to set it to a specific date and time (to end event examination at this specific time).

Appendix F E-mail and International Character Sets

Computers store all information in the form of “bits” or their 8-bit conglomerations “bytes”. Bits are also the entities that are transferred from the sender’s computer to the recipient’s computer whenever an e-mail message is sent. E-mail programs take the message and convert it to bits. The message is sent and the receiving e-mail client program translates these bits back into a readable message for the recipient. This process takes place seamlessly for the sender and the recipient. The sender first creates a text message and the recipient receives a text message – all the converting remains behind the scenes.

In order for characters from an alphabet to be converted into bits for transmission, and then converted back into the message, the bits have to be arranged into sequences representing each character in the alphabet. Matching the bit sequences to alphabetical characters is called “mapping”. Mapping bit sequences to alphabets has resulted in several different so called “character sets” (short: “charsets”) that have been defined and standardized by the international community.

In the English-speaking world, probably the most widely used charset is **ASCII** (sometimes also called US-ASCII), which is a charset that maps **7-bit** sequences to the 26 characters from the Latin alphabet. Because 7 bits have enough room for 128 characters (0-127), there are more than the 26 Latin characters in the ASCII charset: First, each character appears twice (as upper case and lower case), then there are the ten digits, 0-9, various punctuation marks like comma, dot, semi-colon, colon, dash, slash, backslash, exclamation, question mark, and so forth. There are also other characters that can act as control characters, that is, characters that have special meaning to certain protocols, such as “#” and “&”.

Used almost as frequently, at least in the western world, are the charsets from the **ISO 8859** family. These charsets map **8-bit** sequences to letters, digits, and characters from various European languages, Hebrew and Arabic. Since the ISO-8859 charsets use 8 bits, they have twice the range as ASCII – enough room for 256 characters (0-255). For convenience, all ISO-8859 charsets contain the full range of ASCII in their “lower” 128 characters; the bytes 0-127 from any ISO-8859 charset map directly to the corresponding ASCII character making ISO-8859 a superset of ASCII. The differences of each ISO charset are in the “upper” 128 characters, the bytes 128-255.

For example, ISO-8859-1, mapping an alphabet suitable for West-European languages, has the umlauts Ä, Ö and Ü at the positions 196, 214, and 220. In comparison, ISO 8859-7, mapping the Greek alphabet, has the Greek letters Δ, Φ, and á at the same positions.

The following charsets from the ISO-8859 family are currently supported by LISTSERV[®] Maestro:

- ISO-8859-1 Latin 1 (West European)
- ISO-8859-2 Latin 2 (East European)
- ISO-8859-3 Latin 3 (South European)
- ISO-8859-4 Latin 4 (North European)
- ISO-8859-5 Cyrillic
- ISO-8859-6 Arabic

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- ISO-8859-7 Greek
 - ISO-8859-8 Hebrew
 - ISO-8859-9 Latin 5 (Turkish)
 - ISO-8859-15 Latin 9 (West European, update of Latin 1 with some French and Finnish letters that were omitted in Latin 1, plus the Euro currency symbol € instead of the international currency symbol ₤.)
 - UTF-8 International Unicode (encoded in UTF-8 format, Unicode is a very large charset with room for almost all characters of many different languages of the world, even the many Asian characters).

The 8-bit range of 0-255 is not enough to accommodate all letters from even the European languages at once (therefore, there is a need for more than a dozen different members of the ISO-8859 family). Also, 8-bit charsets do not take into account the other major language groups of the world, such as Asian languages.

To address the limitations of 8-bit charsets, recently the **16-bit** charset **Unicode** with a range for 65536 characters has become more and more widespread. This charset contains more or less all letters and characters from the most widely used languages, as well as a set of symbols and other useful characters. LISTSERV Maestro offers Unicode in the form of its UTF-8 variant. UTF-8 is a transfer encoding for the 16-bit Unicode charset, which maps Unicode characters to one, two, or more bytes, in a way that more common characters (like ASCII characters) need fewer bytes than uncommon characters.

Again, for convenience, the first 128 characters of Unicode (0-127) are exactly the same as in the ASCII charset, while the first 256 characters (0-255) are the same as in ISO-8859-1 (West European). A large percentage of all other letters of world languages are assigned values from 256 to 65535 (although, not even the large range of Unicode is enough to accommodate all letters from all languages).

LISTSERV Maestro and International Character Sets

What happens when international characters are used in e-mail messages written and delivered in LISTSERV Maestro?

Internally, LISTSERV Maestro uses pure Unicode, allowing for the mixture of any characters in e-mail, including the subject line and any data merged from uploaded files or selected from a database – as long as there is a way of inputting them. For some languages, this simply requires the installation of a special keyboard and display driver for that language. Other languages, such as Asian languages, may require a special keyboard – this depends on the language and on the computer's operating system.

For sending, LISTSERV Maestro needs to decide on a charset that it can use to encode the message. Specify the charset to use while defining the content (there is a special item for this on the content definition page), or tell LISTSERV Maestro that it should attempt to automatically determine which charset is the optimal one for the text contained in the message.

In the latter case, LISTSERV Maestro scans the written text to determine the optimal charset: If the message uses characters that can be displayed with the ASCII charset (the case with most English language texts), LISTSERV Maestro will choose the ASCII charset. If the message contains characters outside of the ASCII range, but that can still be displayed with one of the

supported ISO-8859 charsets, then LISTSERV Maestro will choose the corresponding ISO-8859 charset. And, optionally (only if LISTSERV Maestro is set to allow Unicode), the message has characters that cannot be displayed with one of the ISO-8859 charsets (for example Asian characters), or there are mixed characters from several ISO-8859 charsets, then LISTSERV Maestro will choose Unicode as the charset.

Once a charset is chosen, LISTSERV Maestro encodes each character as a bit sequence according to that charset. The e-mail that is sent is then augmented by the information of which charset was used to encode it. This information is then used by the receiving mail client to decode the bit sequence into characters that can be displayed to the recipient.

For example, with ASCII charset (where each 7-bit sequence denotes one character), the sequence "1000001" would mean the character with the decimal value 65, which is the Latin 'A'. With the ISO-8859-1 charset (where each 8-bit sequence denotes one character), the sequence "11000100" would mean the character with the decimal value 196, which is the umlaut 'Ä'. But with the ISO-8859-7 charset (also 8-bit), the same value 196 would mean the Greek letter 'Δ' instead. Consequently, the decoding scheme or charset that makes the message readable to the recipient is very important. LISTSERV Maestro takes care to include this information in the e-mail, so that it is not lost during the transfer.

Merging Fields with International Character Sets

The issue of international character sets in combination with merging fields needs to be considered very carefully to make sure that the results of the merging appear to the recipient as intended. The main problem when merging fields containing text using international charsets is to decide which charset to use. Potentially, the characters in the body of the message require a certain charset, while some of the merge values may require a different charset. For example, a message may have English text as the body of the message but a recipient list with recipients from all over the world, with names that contain letters from various languages. It is likely that these international names would be encoded using a different charset than the text of the message. It is important to consider what happens when merging these names into the English body text.

The effect that the chosen charset has on the merge values depends on the kind of recipients definition selected for a particular job. If recipients are uploaded as a text file, *based on the reaction of a previous job* or are selected from a database by the Maestro User Interface, then all recipients and their merge values are already known to the Maestro User Interface before the job is submitted to LISTSERV for delivery. LISTSERV Maestro can therefore encode each merge value with the same charset that is used for the e-mail text. Consequently, if the values are later merged into the text, their charset will match that of the text. However, if a merge value contains a character that cannot be displayed in the charset chosen for the text, then this character will be replaced with a question mark "?" during the encoding, and this question mark will appear in the mail that reaches the recipient to which the merge value belongs.

In the example described above where the message body was in plain text and the recipient list was composed of recipient names from all over the world, a problem could occur because LISTSERV Maestro chooses the charset based on the message text, not on the recipient values. If the mail text itself is plain English, then LISTSERV Maestro will determine ASCII as the correct encoding for the message and the recipient data. If then the names of the international recipients are encoded as ASCII, all non-ASCII international characters will be replaced with question marks. To avoid this problem, use the same charset for the message body as was used for the merge data: If the recipients information was uploaded as a text file,

then simply use the same charset for sending as was used during the initial upload. And if the recipients information was selected from a database, use the same charset as was used by the database (ask the database administrator for this information if it is unclear).

In summary, recipients that are uploaded as a text file, or are selected from a database by the Maestro User Interface, merge value characters that have no representation in the charset that was chosen for the mail text will be displayed as "?". To avoid this problem, make sure the message body is encoded with the same charset as the recipient list.

If recipients are defined by sending to an existing LISTSERV list or by letting LISTSERV select from a database, then the Maestro User Interface will not see the actual recipients or their merge values, and cannot do any special charset encoding on them. Instead, LISTSERV will simply merge the bytes from the recipients source (from the LISTSERV list or from the database LISTSERV connects to) into the mail text. Consequently, make sure that the merge values in the original recipients source (LISTSERV list or LISTSERV DBMS) already have the correct charset for the mail they are merged into.

For example, in e-mail sent with ISO-8859-1 (West-European), all appearances of the byte 196 in the merge values will be interpreted as the umlaut 'Ä'. Even if the merge value is actually a Greek word where the byte 196 should have been interpreted as a 'Δ'.

While mixing characters from different ISO-8859 charsets will simply display the wrong character to the recipient, mixing ASCII and ISO-8859 or ISO-8859 and Unicode may even result in characters that cannot be displayed at all. Most importantly, if the mail text uses the Unicode encoding UTF-8, then it is necessary to make sure that the merge value texts in the recipients source are also UTF-8 encoded (the byte sequence that stands for each merge value must be a valid UTF-8 encoded sequence representing a string of characters from the Unicode charset).

Then again, it is usually not possible to define a charset for the mail and then in some way make sure that the merge values in the list or in the LISTSERV database match this charset, since those merge values have usually been stored long before the mail was created. Therefore, the best way to proceed is to check which encoding was used when the data was stored in the list or LISTSERV database (again, you might need to ask your administrator for that information) and then use the same charset for the mail.

In summary for the recipient types of an existing LISTSERV list or LISTSERV selecting from a database, the merge value characters that have no representation in the charset that was chosen for the mail text will be displayed as a different character – whichever character from the actual charset that has the same byte value (like 'Ä' from ISO-8859-1 and 'Δ' from ISO-8859-7), or may not be displayed at all, if there is no corresponding byte value in the charset.

International Character Set Recipient Names in the Mail-TO-Header

The previous section outlined the problems of mixing a mail text in one language with merge values from a different language. As an example, an English text mail was described, with an international recipient list where the recipient names contain characters from many languages, with the languages possibly differing between recipients from different countries. The recipient's name as a merge value is probably one of the most common uses for merging fields – to be able to merge the recipient's name into the text of the message, to personalize the mail. If this is done, the problems described earlier need to be considered.

However, the recipient's name is also often used in the "To:"-header field of the mail, so that the mail appears to the recipient with the recipient's own name visible in the "To:" field (which is usually displayed by the e-mail client in some fashion), personalizing the e-mail one step further.

When using recipients uploaded as text files or selected from the database by the Maestro User Interface, then the use of the name in the "To:"-header field does *not* fall under the constraints regarding charsets and text-merging. The name in the "To:"-header field will *always* be encoded with the charset that is *optimal* for exactly this name. Users may safely write an e-mail message in English and send it to international recipients. Each recipient will see his or her name with the correct characters in the "To:"-header, so that a German recipient will correctly see umlauts, a Russian will see Cyrillic and a Greek will see Greek letters (under the condition of course, that the original recipient list was in Unicode format and contained the names of the recipients with their respective international characters).

Just remember that with such a mixed-language list of recipients merge values you should not also merge the name into the text body itself, unless the text is encoded as Unicode (UTF-8) as well, due to of the problems described earlier.

When using recipients that are defined by sending to an existing LISTSERV list or by letting LISTSERV select from a database, then again the bytes from the name-merge value will be merged into the "To:"-header correctly by LISTSERV, without the Maestro User Interface having a chance to encode them. And because it is very improbable that the names (the byte sequences representing them) already contain the special MIME-header encoding necessary for non-ASCII "To:"-header fields, make sure that only ASCII characters are allowed in recipient names when creating the list or database data for these recipient types.

LISTSERV Maestro and Bi-Directional Character Sets

Of the ISO-8859 charset family, there are two charsets which contain letters from languages that have a standard reading direction of right-to-left. These are the charsets ISO-8859-6 (Arabic) and ISO-8859-8 (Hebrew), both of which are supported by LISTSERV Maestro.

Actually, LISTSERV Maestro will not use the charsets with the names ISO-8859-6 and ISO-8859-8, but will instead use the special bi-directional versions ***ISO-8859-6-i*** and ***ISO-8859-8-i***. These charsets contain the same characters as their non-i-suffix counterparts, but the "-i" suffix tells the receiving mail client that the text should be displayed with right-to-left reading direction. Without the "-i" suffix in the charset name, many e-mail clients would probably display the correct characters, but in the (for that language) incorrect left-to-right reading direction.

Even with the "-i" suffix, the recipient might require a special mail client version (or even a special mail client) that is prepared to display text with right-to-left reading direction properly and is also able to properly display bi-directional text (text that mixes characters with left-to-right and characters with right-to-left reading direction, in the case of a Hebrew text that contains English names, for example). Some clients may only display the characters with the right direction, but still left-align each line of text, instead of the correct right-alignment. Occurrences such as this are subject to the mail client itself, and out of the scope of LISTSERV Maestro.

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