

L-Soft Sweden AB



Data Administrator's Manual

LISTSERV[®] Maestro, version 2.1



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Preface – 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 email to:

MANUALS@LSOFT.COM

The following documentation conventions have been used in this manual:

- Options, icons, and text boxes on the screen will be bold (i.e. the **Recipient Warehouse** icon).
- Clickable buttons will be bold and within brackets (i.e. the **[OK]** button).
- Clickable links will be bold and underlined (i.e. the **Edit** link).
- Directory names, commands, and examples of editing program files will appear in `Courier New` font.
- Emphasized words or phrases will be underlined.
- Some screen captures have been cropped for emphasis or descriptive purposes.



This symbol denotes an important note or warning.



This symbol denotes optional advice to save time.

What's New in LISTSERV® Maestro 2.1

LISTSERV Maestro is a highly intuitive email marketing solution that provides organizations with an advanced tool to create, send, and track opt-in personalized email messages.

LISTSERV Maestro 2.1 builds on the powerful new abilities introduced in 2.0 to collect, manage, save, and reuse data from mailing list subscribers. The Data Warehouse has become even more flexible with the addition of an interface for customizing each page in the Subscriber Web Interface. The ability to easily modify populated datasets and dataset team collaboration has made maintaining datasets less difficult and more user-friendly.

LISTSERV Maestro 2.1 continues its progress towards full integration with LISTSERV by introducing a few new features for Hosted LISTSERV Lists (HLL) and Hosted Recipient Lists (HRL). For those using Hosted LISTSERV Lists, the ability to manage subscriber options (i.e. nomail and digest) from the LISTSERV Maestro subscriber pages has been added. For those using Hosted Recipient Lists, features that were once only available for HLLs are now available for HRLs. These features are: subscriber activity change logs, automatic bounce processing, and the ability for a subscriber to set their subscription to an HRL to “nomail”.

LISTSERV Maestro 2.1 has also made improvements to the interface for the LUI administrative account, making it easier to maintain sites with many users.



Note: The following sections assume some familiarity with the features available in LISTSERV Maestro 2.1. It is intended as an overview of the new features for LISTSERV Maestro 2.1. For a more in-depth description about the new features in LISTSERV Maestro 2.1, refer to the User's Manual, the Administrator's Manual, and the Data Administrator's Manual.

Subscriber Interface Enhancements

Introduced in LISTSERV Maestro 2.0, the Subscriber Interface allowed subscribers to join LISTSERV Maestro Hosted Lists and update their own information. Now, with version 2.1, LISTSERV Maestro improves the Subscriber Interface by adding a powerful and flexible Customization wizard, by providing the data administrator with new subscription management options, and by offering a powerful tool for translating the LUI, HUB, and Subscriber Interface.

The Subscriber Interface Customization Wizard

The Customization wizard for the Subscriber Interface makes it possible for the data administrator to customize every page and email that a subscriber will see. This will make it easier for you to focus on your subscriber's “touch points” and convey your organization's message. This same customization can be applied to all of the pages related to a single dataset or you can customize each individual page. For example, text for some lists can be in English, and text for others can be in French, or the entire look and feel of the signup page for an individual list can be different from all other lists in the dataset.

Context-sensitive instructions guide you through the Customization wizard, describing each template, listing the placeholders used in each template, and showing you how each template relates to the others.

The Customization wizard maintains two versions of every template – a draft version and a production version. You are also able to test the draft version of the template, using varying conditions, before releasing it into production.

For a summary on customizing the Subscriber Interface, see Section 11.1 [Customizing the Subscriber Access Web Pages](#).

For step-by-step instructions on customizing the Subscriber Interface, see the Interface Customization Manual for LISTSERV Maestro 2.1. (This manual is new in version 2.1.)

New Subscriber Options

There are two new options for subscribers:

- Hosted LISTSERV List (HLL) subscribers can now control their “nomail” and digest settings using the Subscriber Interface.
- Hosted Recipient List (HRL) subscribers can now suspend mailings on lists that they subscribe to. This is similar to the “nomail” setting in Hosted LISTSERV Lists.

For more information on using these new options, see the Section 10.2.1 [Subscribing from the Membership Area](#).

New Resource Translation Tool

The Resource Translation Tool (RTT) is a separate application that makes it easy to make global changes in English or to translate all of the Subscriber, LUI, and HUB pages into another language. The languages that are available for the LUI and HUB interfaces are English, French, German, Spanish, and Swedish. There are 27 languages available in the Subscriber Interface. The default language for the Subscriber Interface can be set for the whole site or by group.

Before you can start using the Translation Tool, the following basic requirements must be met:

- You need to have access to a server with an installation of LISTSERV Maestro.
- You need to have an installation of the L-Soft Resource Translation Tool.
- You need to have a Translation Tool that matches the LISTSERV Maestro version that you have installed.
- You need a good understanding of editing HTML code (and the meaning of the various HTML tags and how to escape reserved HTML characters).

The Translation Tool contains several components – one for the LISTSERV Maestro Administration Hub, one for the LISTSERV User Interface Main Application, and one for the LISTSERV User Interface Subscriber Pages.

The Translation Tool can also be used to import translations from previous versions of LISTSERV Maestro.

For more information on the Translation Tool, see the Interface Customization Manual for LISTSERV Maestro 2.1.

Recipient Data Management Enhancements

Introduced in LISTSERV Maestro 2.0, hosted datasets and lists gave you the ability to manage your subscribers' data within LISTSERV Maestro. Now, with version 2.1, several new and powerful data management features have been implemented. These new features include: automatic bounce processing, flexible dataset administration, and shared subscriber management and reporting.

Automatic Bounce Processing

Automatic bounce processing has always been available for Hosted LISTSERV Lists (HLLs). Now, with version 2.1, LISTSERV Maestro has added the ability for you to define bounce processing settings for Hosted Recipient Lists (HRLs) in all of your datasets. For more information on defining automatic bounce processing, see Section 4 [The Recipient Warehouse](#).

Flexible Dataset Administration

In LISTSERV Maestro 2.1, numerous enhancements have been made to make dataset administration easier to perform. These enhancements include:

- The ability to make modifications to a “live” dataset, such as adding, changing, or removing data fields. Once you have existing datasets in the Recipient 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. For more information, see Section 4.1.2 [Editing Existing Datasets](#).
- The ability to designate “optional” fields as “hidden” or “read-only” so that subscribers cannot change them. It is then up to the data administrator or designated team member(s) to populate these fields. To designate an optional field as hidden or read-only, simply go to the Profile Fields screen of the Recipient Dataset Definition wizard. For more information, see any of the Profile Fields sections in this manual. They can be found in Section 6 [Creating Hosted Recipient Lists](#) and Section 7 [Creating Hosted LISTSERV Lists](#).
- The Upload wizard can now import data from files that are missing mandatory data fields. This is done by simply defining default values to the fields with missing data. For more information on defining default values, see Section 9.3.1.6 [Mapping Details](#). For more information on the Upload Wizard, see Section 9.3.1 [The Upload Wizard](#).
- LISTSERV Maestro can now keep subscriber activity change logs to assist with recovery in the event of a “crash”. This log keeps track of the following activities – subscribing, unsubscribing, joining, un-registering, and address changes of all subscribers and members of hosted lists and datasets. By default, the subscriber change log is deactivated. For more information, see the Administrator’s Manual for LISTSERV Maestro 2.1.
- The name fields for Hosted LISTSERV Lists (HLLs) can now be marked as “optional”, and the Firstname<space>Lastname restriction has been removed. To designate a name field as optional, simply go to the Profile Fields screen of the Recipient Dataset Definition wizard. For more information, see any one of the three sections on Profile Fields in Section 7 [Creating Hosted LISTSERV Lists](#).
- The default language for use on the Subscriber Pages can now be set at the dataset level. To set the language, simply go to the General screen of the Recipient Dataset Definition wizard. For more information, see Section 4.1.1.1 [General Settings](#).
- The number of entries for any single lookup table has been increased from 200 to 1000 items. For more information about lookup tables, see Section 4.1.3 [Creating a Lookup Table](#).

Shared Subscriber Management and Reporting

Team Collaboration is now available for all datasets, allowing the data administrator to designate certain rights to other team members. These rights include the ability to add, remove, or modify subscribers, plus the ability to browse through subscriber data for purposes of downloading data for reports, etc. For more information on how to designate these rights to specific team members, see Section 9.4 [Team Collaboration](#).

In addition, data administrators can now define default Team Collaboration settings for all new datasets. For more information, see the User's Manual for LISTSERV Maestro 2.1.

Tracking Enhancements

Several enhancements have been made to improve your ability to track the behavior of the recipients of your email jobs.

Tracking Restrictions

The administrator can now control what tracking types each user or group is able to define while tracking a LISTSERV Maestro email job. For more information on setting up tracking restrictions, see the Administrator's Manual for LISTSERV Maestro 2.1.

Tracking Links in Drop-Ins

If drop-ins are enabled in the content of a message and if the content contains at least one user-defined drop-in (not a system drop-in), then you now have the ability to track the links within this drop-in content. For more information on tracking link within drop-in content, see the User's Manual for LISTSERV Maestro 2.1.

Administration Enhancements

Several enhancements have been made to improve the administrator's ability to manage and control accounts. These enhancements are described in the following sections.

LUI Admin Account

The LUI interface for the special "admin" account has been improved, making it easier for the administrator to deal with staffing changes. These enhancements include:

- The ability to display jobs or reports owned by a particular owner or group.
- The ability to list all jobs or reports that have been "orphaned" when that particular account owner was deleted.
- The ability to change the owner of more than one job or report at a time.
- The ability to delete more than one job or report at a time.
- The ability to archive more than one job at a time.
- The ability to import more than one job at a time.

For more information on these enhancements to the LUI "admin" account, see the Administrator's Manual for LISTSERV Maestro 2.1.

Refreshing the Subscriber Page Translations

Translations for the Subscriber Pages are maintained externally with the L-Soft Resource Translation Tool and are made available to LISTSERV Maestro as JAR files. New versions of these files are automatically loaded by the system during startup. However, in certain situations, the administrator may want to refresh or get new versions of the translation files without restarting. This is now possible with the simple click of a button. For more information, see the Administrator's Manual for LISTSERV Maestro 2.1.

Creating a Test-Bed Backup

In certain situations (i.e. testing an upgrade, beta testing, or training), it may be useful to make a copy of all the data in a given LISTSERV Maestro installation and transfer it into a second (test-bed) installation without affecting the production installation. For more information, see the Administrator's Manual for LISTSERV Maestro 2.1.

DomainKeys Signing

LISTSERV Maestro now allows you to use DomainKeys signatures to authenticate that the message (sent for a specific email job) does indeed originate from the domain in the "From:" address. Major ISPs already check every incoming mail to see if it is signed with a valid DomainKeys signature. Once DomainKeys has become an accepted standard for message origin verification, the current policy of only informing the recipient about the DomainKeys verification result in an additional header entry may change, and an ISP may opt to not even deliver the message to the recipient or to mark it as coming from an unsure origin. Therefore, in order to achieve good deliverability, signing messages with a valid DomainKeys signature will become more important in the future.

Support for DomainKeys signatures in LISTSERV Maestro works on three levels:

- LISTSERV as the mail distribution engine must be configured to support DomainKeys signatures for certain address domains, which requires creating a valid private/public RSA key pair and additional configuration of LISTSERV parameters. See the LISTSERV documentation for further details about setting up DomainKeys at a LISTSERV host.
- The LISTSERV Maestro Administration Hub allows you to enable or disable DomainKeys signatures on the application default level and the group/single user level.
- The LISTSERV Maestro User Interface contains settings for defining the sender of a certain email job.

For information on the default DomainKeys signature settings, see the Administrator's Manual for LISTSERV Maestro 2.1.

For information on using DomainKeys signatures while defining the sender information of an email job, see the User's Manual for LISTSERV Maestro 2.1.

System Support Enhancements

The following database and operating system enhancements have been added to LISTSERV Maestro 2.1:

- Asian languages are now supported by LISTSERV Maestro. This includes all Korean, Chinese, and Japanese characters (charsets).
- It is now possible to define a MS SQL Server database using its instance name.
- IBM DB2 version 8.2 is now a supported DBMS for a system database or a recipient data source. A new database plugin has been added to access IBM DB2 V8.2 with a "thin" driver, which does not require the installation of the native DB2 database client on the LUI server.
- Oracle 10g is now a supported DBMS for a system database or a recipient data source.
- The LISTSERV Maestro server is now supported on Mac OS X 10.4 and other compatible versions.

- The Mozilla Firefox browser on Mac OS X is now supported as a LISTSERV Maestro client for accessing the LUI and HUB interfaces.
- The Safari browser (version 2.0, build 412 and later) on Mac OS X is now supported as a LISTSERV Maestro client for accessing the LUI and HUB interfaces.
- MS SQL Server 2005 is now supported with the free open-source jTDS driver. The jTDS driver support is also available with MS SQL Server 2000.
- New or customized web pages (independent of LISTSERV Maestro) can now be served by the Tomcat Server.

For more information on any of these enhancements, see the Administrator's Manual for LISTSERV Maestro 2.1.

Section 1 Introduction to LISTSERV Maestro 2.1

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 email 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 when a recipient opens an email 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 email messages. It is also used to access, view, and download the collected tracking data, and to manage the Recipients Warehouse.
- **The Maestro Tracker** – Receives and compiles tracking data from delivered email messages.

In addition to LISTSERV Maestro's three components, LISTSERV Maestro also relies on the existence of an installation of **LISTSERV® 14.4** (or later).

LISTSERV Maestro 2.1 is installed by default with an internal system database using MySQL® 4.1.7. LISTSERV Maestro can use a separate, external database to store its internal data. LISTSERV Maestro can also use separate databases to provide recipient lists from database tables. Supported DBMS programs for storing the system database are:

- Oracle® 8i, 9i, 10g, and compatible versions
- DB2® V7.2, V8.2, and compatible versions
- MySQL® 4.x and compatible version, as well as 3.23.42 and later 3.23x builds
- SQL® Server 7.0 and 2000

In addition, any ODBC-compatible database can be used as a source of recipients.

LISTSERV and LISTSERV Maestro also require access to one or more SMTP servers to perform the actual delivery of email jobs for LISTSERV Maestro and LISTSERV. Any standards-compliant SMTP server will work.

The three LISTSERV Maestro components, LISTSERV, the SMTP server(s), and the optional database(s) may be installed on any combination of hosts, from one single host shared by all components to six or more dedicated hosts, one for each component (it is possible to have multiple LISTSERV servers and multiple SMTP servers). 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, Mozilla® 1.0.0 or later, other browsers based on a compatible Mozilla version (e.g., Firefox 1.0 or later, Netscape® 7.0 or later).
- Client with Linux – Mozilla® 1.0.0 or later, other browsers based on a compatible Mozilla version (e.g., Firefox 1.0 or later, Netscape® 7.0 or later).
- Client with Mac OS X – Mozilla Firefox or the Mac native Safari browser (version 2.0, build 412 or later).

To access the Maestro User Interface or the Administration Hub, we strongly recommend that only Windows, Linux, or Mac OS X is 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. Similarly, the different components of LISTSERV Maestro may run on different operating systems, if they are installed on separate servers. For example, the Maestro User Interface and Administration Hub components may be installed on a Windows server, while the Maestro Tracker is installed on a Linux server.



Important: Recipients of email being tracked by LISTSERV Maestro may use whatever browser they wish to access the URLs contained in the messages sent by LISTSERV Maestro. Tracking occurs no matter which browser is used by email recipients.

1.2 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 email "job". A "job" refers to all of the elements that make up the creation, scheduling, delivery, and tracking of customized email messages. Throughout LISTSERV Maestro documentation, "job" and

“email job” are used interchangeably and represent the same thing – the summary of the multiple functions that make up the definition and distribution of customized email messages.

Figure 1 LISTSERV Maestro Home Page



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

- **Start New Job** – Starts/begins the definition of a new email 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 list 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 email jobs that have been delivered. From here it is possible to generate “quick reports” on a selected delivered job.
- **Tracking Reports** – Engages the Reporting wizard to produce graphs and reports from the tracking data collected from delivered messages.
- **Recipient Warehouse** – Contains the recipient target groups and data tables used to store data. Both are defined by the Data Administrator.
- **User Settings** – Stores information about sender profiles and 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 Data Administration in LISTSERV Maestro

The data administrator account can simplify and streamline the use of recipient data and databases for email jobs to the point where users do not need to know anything about how and where data is stored in order to define recipients for a mailing. This can be done in several ways. LISTSERV Maestro can be set up 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 users to employ when sending email jobs.

LISTSERV Maestro can also use an existing external database to select recipients for email 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, end 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; these reusable queries are called **recipients target groups**. End users 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 end users employ to select the data (in a series of check boxes, drop-down menus, 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 end users 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 email 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.

2.1 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 email jobs. All data administrators need is a LISTSERV Maestro user account with the **administer target**

group and hosted recipient data option selected. The LISTSERV Maestro administrator can create this type of account. For more information, see the Administrator's Manual for LISTSERV Maestro 2.1.

2.1.1 External Database Requirements

Data administrators who set up connections with an external database and send queries through LISTSERV Maestro or through LISTSERV in order 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 the Administrator's Manual for LISTSERV Maestro 2.1.

- In the case of LISTSERV accessing the database:
 - Database server name, if not the default.
 - Name of the **Email** 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.

2.1.2 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 and designs mailing lists used to send email messages to recipients.

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 always 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 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) the data administrator needs to think about the answers to these questions:

- 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? If optional, should the subscriber be able to enter and change it? If not, should it be shown to the subscriber as a read-only or hidden field?
- 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 name field, and there cannot be any selection menus in the base dataset or in the list data for the LISTSERV list.

Section 3 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 email 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 powerful features of LISTSERV with 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 each column of data. It also involves setting limitations and input validation rules for the collected data.

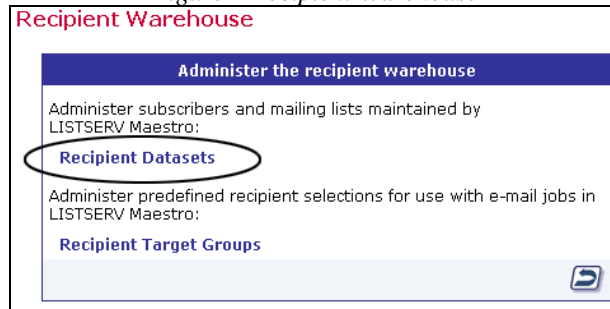
As the data administrator is designing the fields for recipient data, LISTSERV Maestro is also creating a form that can be made available on the Web so that recipients can sign up to receive mail and control their list subscriptions. Scripting is done automatically by the system so that information collected 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 and do not wish to use hosted recipient data, 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 can be used to retrieve data from other sources when defining recipients for a mail job.

Section 4 The Recipient Warehouse

The Recipient Warehouse is LISTSERV Maestro's name for the 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, menu selections, dates and so on. The data administrator designs the datasets within a recipient warehouse, defining 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 pertain just 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, entering the requested data, and then joining any available mailing lists. Data collected from the web form is automatically placed in the matching dataset, where it becomes available for use when sending email 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 three basic functions that are accessed by clicking either the Recipient Datasets tab, the Lookup Tables tab, or the Bounce Processing Settings tab.

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 Datasets

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

Recipient Datasets | Lookup Tables | Bounce Processing Settings

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	L-Soft International	0 (0 yet unconfirmed)
The Taylor Group	The Taylor Group Dataset	2 (0 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 Datasets

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

Recipient Datasets | Lookup Tables | Bounce Processing Settings

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 below to create a new lookup table.

Lookup Table	References	Actions
Widget Company Widget Company Lookup Table	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 4.1.3 [Creating a Lookup Table](#).

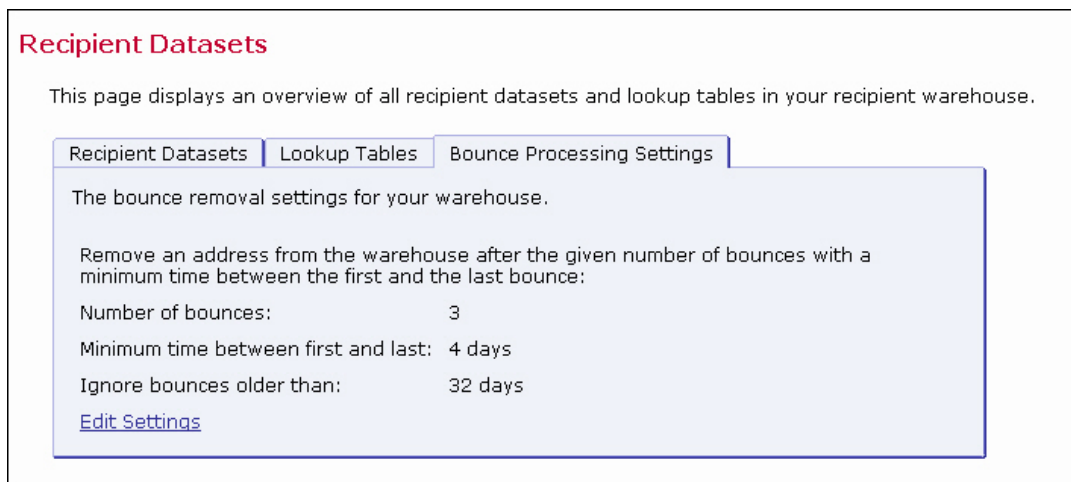


Tip: If your dataset is going to use selection menus, to save time, create the lookup tables first and then create the dataset.

The Bounce Processing Settings tab displays the bounce removal settings for all of the datasets in your Recipient Warehouse. These settings include:

- The number of bounces with a minimum time between the first and last bounce that it would take before an email address is removed from the Recipient Warehouse.
- The age a bounced email message has to be before it no longer counts against the number of bounces.

Figure 5 Bounce Processing Settings Tab



To change these settings, click the **Edit Settings** link. The Edit Bounce Processing Settings screen opens. Make your changes and then click **[OK]** to save. Click **[Cancel]** to ignore your changes and to return to the Bounce Processing Setting tab.

4.1.1 Creating a New Dataset

The Recipient Dataset Definition wizard guides you through all the steps of designing a dataset with its accompanying web form. From the Recipient Dataset screen, click the Recipient Datasets tab, if necessary. Click on the **[Create New Dataset]** button to start 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 – General, Profile Fields, Profile Fields Details, and Summary.

4.1.1.1 General Settings

The General screen 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 (email address)** – The list administrator email address is the address that confirmation email messages come from. Confirmation email is sent to all subscribers who join a member area and/or subscribe to a mailing list in the dataset. Confirmation email is also sent to members to when they change their passwords. It is important that this address be an authentic email address that can receive mail from subscribers.
- **Internal Description** – This description information is used internally on the Recipient Datasets tab for identification purposes.
- **Access Pages Language** – Select the language to use on the subscriber access pages of the dataset (and lists within the dataset). The drop-down list contains the languages that are currently available on your system. Choose **English (Default)** to use the system default language text. If available, choose **English (Customized)** to use your own customized English text. Other languages may also be available (depending on the foreign language translations you've created using the Resource Translation Tool; for more information on the Translation Tool, see the Interface Customization Manual for LISTSERV Maestro 2.1).
- **Data Encoding** – Select the type of encoding for the data entered in the dataset from the drop-down menu. This encoding will also be inherited by all mailing lists in the dataset, meaning that it also determines the encoding used to store the profile values of all list subscribers in all lists of the dataset.
- **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 6 The Recipient Dataset Definition Wizard – General Screen

Recipient Dataset Definition

General Profile Fields Profile Field Details Summary

Cancel Save & Exit <- Back Next ->

General

Fill in the general information about the dataset. The list administrator e-mail address must be an authentic address that subscribers can mail to.

Name: XYZ Company

List Administrator: (E-mail address) webmaster@xyz.com

Internal Description: XYZ Customer Center

Access Pages Language: English (Default)

Data Encoding: West European, ISO-1

Public Description: (Optional) Join our XYZ Company Customer Care Center to stay informed on all of the new products showcasing this season. Sign up to beta test our new software or join our discussion lists to talk about your favorite product.

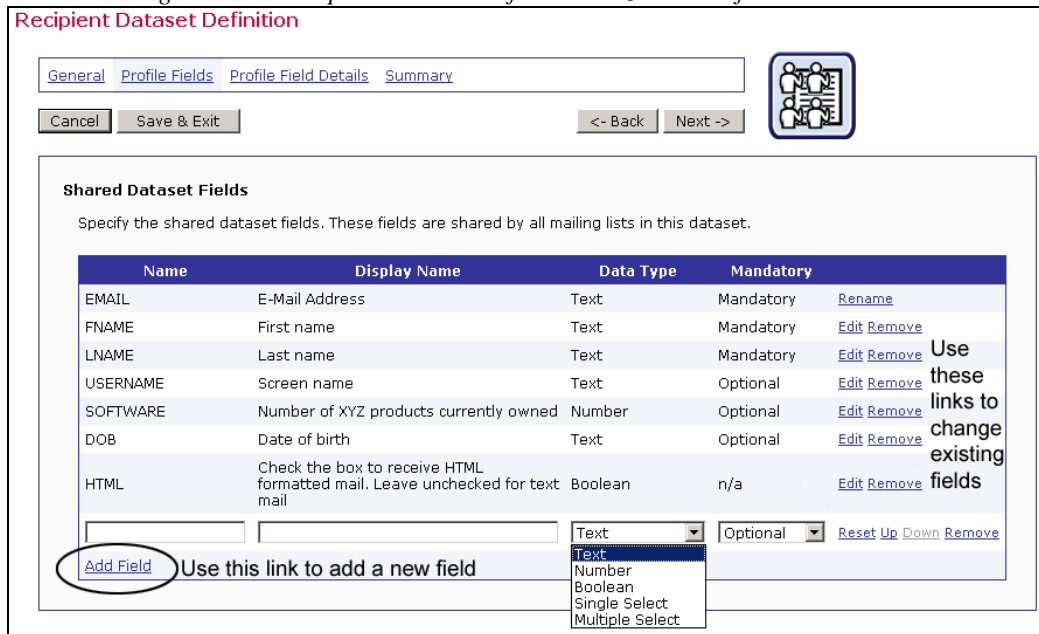
4.1.1.2 Profile Fields

The Profile Fields screen displays a list of shared dataset 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 email 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 all of the lists in the dataset. To add a new field, click the **Add Field** link. 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.

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 label that identifies the field on the web form. The display name will be seen by anyone accessing the public web pages to the membership area. It is also used in the data entry forms used in the Recipient Warehouse for entering and changing subscriber data. All alphanumeric characters are permitted, as well as spaces and special characters allowed by the encoding scheme selected in the General Settings for the dataset.
- **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 – true or false.
 - **Single Select** (lookup table) – A single selection field consists of a drop-down menu from which one item may be chosen. It may optionally be represented as a set of radio buttons.
 - **Multiple Select** (lookup table) – A multiple selection field consists of a drop-down menu where one or more items may be chosen. It may also be represented as a set of checkboxes.
- **Input Type** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Optional fields can be designated as hidden or read-only if the subscribers are not allowed to enter or change the data in those fields. Boolean fields cannot be optional due to the nature of the data type. Boolean fields may be visible or hidden.

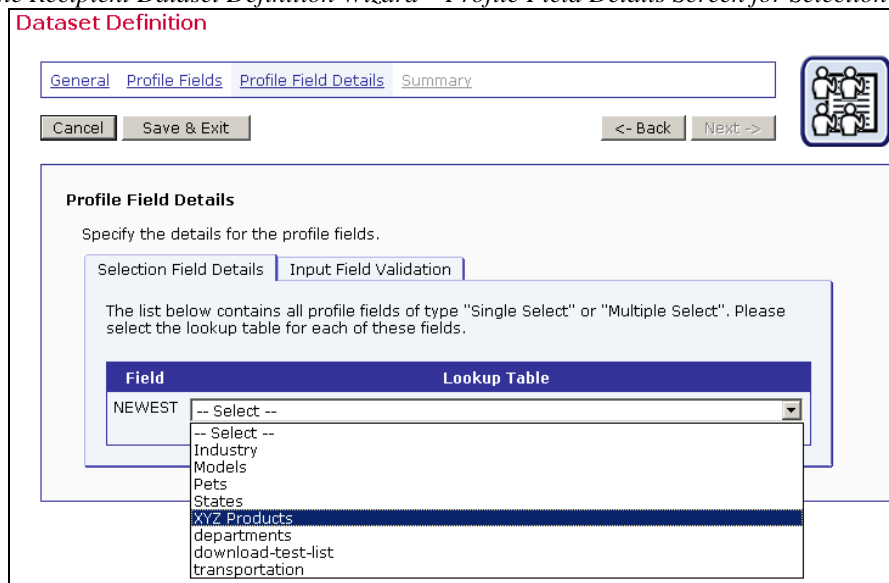
Figure 7 The Recipient Dataset Definition Wizard – Profile Fields Screen



4.1.1.3 Profile Field Details

The Profile Field Details screen appears differently depending on the data types in the dataset. Datasets containing selection fields need the relevant Lookup Table assigned to the field.

Figure 8 The Recipient Dataset Definition Wizard – Profile Field Details Screen for Selection Field Details



The **Text** and **Number** field types can have set validation criteria specified so that when the fields are filled in by members, only certain types of input will be accepted. For example, in the **DOB** column, (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 9 The Recipient Dataset Definition Wizard – Profile Field Details Screen for 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

4.1.1.4 Summary

The Summary screen is the final step in the Recipient Dataset wizard. This screen summarizes the settings of the dataset. If necessary, click the [**<- Back**] button to makes changes to the dataset settings.

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 the 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 membership area is not open for access to anyone.

Figure 10 The Recipient Dataset Definition Wizard – Summary Screen

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)

The membership area can be temporarily closed for maintenance such as updating the membership list or other tasks by checking **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. The Recipient Dataset Details screen opens.

For more information on membership areas, see Section 10 [Allowing Members to Join a Dataset](#). For information on customizing the membership area, see Section 11 [Giving Subscribers Access to URLs](#).

4.1.2 Editing Existing Datasets

Once you have 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 Definition wizard so its settings can be changed.

Figure 11 Editing an Existing Dataset from the Recipient Dataset Details Screen

Recipient Dataset Details

Widget Company

Dataset Info

Settings Overview | Membership Area Layout

Name: **Widget Company**

Description: Widget Company Dataset

Members: **0**
[Open to everyone]

Access Pages Language: English (Default)

Data Encoding: West European, ISO-1

Shared Fields:

EMAIL	FNAME	LNAME	DOB
(Text)	(Text)	(Text)	(Number)

(Fields formatted in bold are mandatory fields which the member must fill out.)

- Edit Dataset Settings
- Create Hosted Recipient List
- Create Category
- Add Single Member
- Modify Members by Upload
- Team Collaboration
- Subscriber Access URLs
- Delete Dataset

If there are no members, mailing lists, or layout customizations in the dataset, all of the dataset settings may be changed without any repercussions.

If there are members or mailing lists in the dataset, the following settings can be changed without significant impact on the dataset: the name of the dataset, the list administrator email address, the public description, field display names, the access level of the membership area, and the closed for maintenance check box.

If there are members or mailing lists in the dataset, it is possible to add new fields, remove existing fields, reorder fields, or rename fields. However, as this requires a change in the structure of the underlying database tables, the dataset may be unavailable for a significant time while the entire dataset is rebuilt with the new structure. In order to prevent unanticipated disruptions to the dataset, these types of changes are disabled by default. In order to make such changes, it is necessary to first click on the **Enable advanced changes** link on the Profile Fields screen of the Recipient Dataset wizard.

Figure 12 Enable Advanced Changes on Profile Fields Screen of the Recipient Dataset Definition Wizard

Recipient Dataset Definition

General | Profile Fields | Profile Field Details | Summary

Cancel Save & Exit <- Back Next ->

Shared Dataset Fields

Changes to the profile fields are currently restricted to changing the display name only, because there are already members and/or mailing lists in this dataset.

[Enable advanced changes](#) (add, remove, reorder or rename of profile fields).

Specify the shared dataset fields. These fields are shared among all mailing lists in this dataset. Click on the display name of a field to edit the name.

Name	Display Name	Data Type	Input Type
EMAIL	E-Mail Address	Text	Mandatory
FNAME	First Name	Text	Optional
LNAME	Last Name	Text	Optional
DOB	Date of Birth	Text	Mandatory

If there are Membership Area Layout customizations of templates that include data fields, then adding, removing, reordering, or renaming fields will break these customized templates and the customizations must be reapplied.

4.1.3 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. The Lookup Table screen opens. Enter a name for the lookup table, select the encoding for the data in the table, and then type in a description of the contents of the table. Click **[OK]** to continue.

Each lookup table requires an entry that becomes the default value for “no choice”, meaning the value assigned to a field when 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.

To change the default value for “no choice”, click the **Edit** link. The Edit Lookup Table Entry screen opens. The default, <none>, is used if a subscriber does not select a choice from the lookup table. To use a value other than the default, enter a new value in the **Entry Text** field. This value may be up to 100 characters. The **Entry Text** field can not be empty.

Figure 13 Enter Lookup Table Entries

The screenshot shows a web interface titled "Edit Lookup Table Entries" in red. Below the title is a blue header "Entries of Lookup Table 'L-Soft International'". The main content area contains the following text: "Use this page to edit the entries of a lookup table.", "You are editing the entries of the value list L-Soft International, which is not used currently by any recipient datasets and/or mailing lists.", and "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." Below this text is a table with one row. The table has a blue header "Value" and a light blue body. The body contains the text "<none>" and a blue "Edit" link to its right. Below the table is the text "Default value for 'no choice'". At the bottom of the form are three buttons: "Add New Entry", "Upload Entries", and "OK".

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 1000 items. To add single entries, click the **[Add New Entry]** button. Type one item in the text box, and then click **[OK]**. Click the **[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 then click **[OK]**.

Figure 14 Edit Lookup Table Entries

Edit Lookup Table Entries

Entries of Lookup Table "L-Soft International"

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

You are editing the entries of the value list **L-Soft International**, 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	
<none>	Edit
Default value for "no choice"	
Full-Time Employee	Edit Delete Move Up Move Down
Part-Time Employee	Edit Delete Move Up Move Down
Temp Employee	Edit Delete Move Up Move Down
Delete All	

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 – **Edit**, **Delete**, **Move Up**, **Move Down** – to change the item in the table.

Click **[OK]** to accept the entries in the lookup table and return to the Lookup Tables tab.

4.1.4 Editing Existing Lookup Tables

Once you have an existing lookup table in a warehouse, then its settings can be edited. To edit the settings for a specific table, click on the **Actions** link to open a menu of actions that can be performed. You can edit the name or description, edit the values, download values, or delete the table. This menu may vary depending on the settings previously defined for the lookup table, and whether or not the table is being used by any recipient datasets and/or mailing lists. A lookup table cannot be deleted if it is being used by a recipient dataset or mailing list.

Figure 15 Editing an Existing Lookup Table from the Lookup Table Tab

Recipient Datasets

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

Recipient Datasets | **Lookup Tables** | Bounce Processing Settings

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 below to create a new lookup table.

Lookup Table	References	
Widget Company Widget Company Lookup Table	not used by any recipient datasets and/or mailing lists	Edit Name/Description Edit Values Delete Table

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 lists 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 configurable per list
Lists are controlled completely by LISTSERV Maestro.	List data is available and may be changed by LISTSERV.
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 email client as well as the LISTSERV Maestro interface. (Tracking is limited to LISTSERV Maestro mailings.)
Powerful filters are available using a special target group definition wizard to segment recipients. The Target Group Definition wizard makes it possible to define the subset without worrying about SQL syntax.	Can segment standard list mailings using topics. Can segment special list mailings based on mail delivery settings, such as whether digest mode is selected or whether the subscription is set to "suspended" status. Special mailings can also specify an SQL query for selecting a subset of recipients.

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 screen. The Recipient Dataset Details screen opens.

Figure 16 Recipient Dataset Details

The screenshot shows the 'Recipient Dataset Details' interface for a dataset named 'Widget Company'. The interface is split into two main frames. The left frame, titled 'Widget Company', contains a 'Dataset Info' section with two tabs: 'Settings Overview' (selected) and 'Membership Area Layout'. The 'Settings Overview' tab displays the following information:

- Name: **Widget Company**
- Description: Widget Company Dataset
- Members: 0 [Open to everyone]
- Access Pages Language: English (Default)
- Data Encoding: West European, ISO-1

Below this information is a 'Shared Fields' section with a table:

EMAIL	FNAME	LNAME	DOB
(Text)	(Text)	(Text)	(Number)

A note below the table states: '(Fields formatted in bold are mandatory fields which the member must fill out.)'

The right frame contains an 'Actions' menu with the following options:

- Edit Dataset Settings
- Create Hosted Recipient List
- Create Category
- Add Single Member
- Modify Members by Upload
- Team Collaboration
- Subscriber Access URLs
- Delete Dataset

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** option to open the Hosted Recipient List Definition wizard.



Important Note: Once lists have been added to a dataset, some options for editing the dataset will be curtailed. Make sure the dataset is structured as desired before adding lists to it.

6.1 Hosted Recipient Mailing List Wizard

Similar to creating a dataset, creating a hosted recipient list is accomplished by using a wizard that guides you through the steps of designing the list and the accompanying web subscription form. The Hosted Recipient List Definition wizard is comprised of four main screens – General, Profile Fields, Profile Field Details, and Summary.

6.1.1 General Settings

The General screen 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. LISTSERV Maestro 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.

- **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 17 The Hosted Recipient List Wizard – General Screen

Hosted Recipient List Definition

General Profile Fields Profile Fields Details Summary

Cancel Save & Exit <- Back Next ->

General

Specify the name and the description of the hosted recipient list.

Name: XYZ Monthly Newsletter

Internal Description: monthly customer newsletter

Public Description: (Optional)
Join our monthly XYZ Company Newsletter and receive special online sales announcements, product reviews, money saving coupons and much more!
Although optional, including a good public description, especially when there are multiple lists available, can help subscribers find and manage their own settings easily.

Once you've finished entering information, click **[Next ->]** to continue.

6.1.2 Profile Fields

The Profile Fields screen contains a list of the fields in the dataset. New fields can be added to the list. Any added list fields will not be shared with 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 label that identifies the 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 – true or false.
- **Single Select** (lookup table) – A single selection field consists of a drop-down menu where one item from it may be chosen. It may also be represented as a set of option buttons.
- **Multiple Select** (lookup table) – A multiple selection field consists of a drop-down menu where one or more items may be chosen. It may also be represented as a set of checkboxes.
- **Input Type** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Optional fields can be designated as hidden or read-only if the subscribers are not allowed to enter or change the data in those fields. Boolean fields cannot be optional due to the nature of the data type – the selection equates to either true or false. Boolean fields may be visible or hidden.

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 18 The Hosted Recipient List Wizard - Profile Fields Screen

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.

Once you've finished entering information, click **[Next ->]** to continue.

6.1.3 Profile Field Details

The Profile Field Details screen has multiple tabs that allow you to 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 Selection Field Details tab to access the list of available lookup tables. See Section 4.1.3 [Creating a Lookup Table](#) for more information.

Figure 19 The Hosted Recipient List Wizard - Profile Fields Details Screen for 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

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

Figure 20 The Hosted Recipient List Wizard - Profile Fields Details Screen for 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

To personalize list mailings, use the Subscriber Name Definition tab to define the profile field that will be used as the name 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 only the subscriber's email 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 after 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 21 The Hosted Recipient List Wizard - Profile Fields Details Screen for 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

Once you've finished entering information, click **[Next ->]** to continue.

6.1.4 Summary

The Summary screen displays all of the settings for the list. You can set the access level for the list by selecting one of the options in the **Public List Access** drop-down menu. 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-subscriber. 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 22 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 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, 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.

Figure 23 Create Hosted LISTSERV List

The screenshot shows the 'Recipient Dataset Details' interface for a dataset named 'Widget Company'. The interface is split into two main sections: 'Dataset Info' and a list of actions.

Dataset Info:

- Name:** Widget Company
- Description:** Widget Company Dataset
- Members:** 0 [Open to everyone]
- Access Pages Language:** English (Default)
- Data Encoding:** West European, ISO-1

Shared Fields:

EMAIL	FNAME	LNAME	DOB
(Text)	(Text)	(Text)	(Number)

(Fields formatted in bold are mandatory fields which the member must fill out.)

Actions:

- Edit Dataset Settings
- Create Hosted Recipient List
- Create Hosted LISTSERV List**
- Create Category
- Add Single Member
- Modify Members by Upload
- Team Collaboration
- Subscriber Access URLs
- Delete Dataset

When LISTSERV Maestro creates a LISTSERV list, it is assembling a “list header” that is made up of “keywords.” These keywords 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 keywords are defined and written to the list header, the LISTSERV list can collect subscriptions.

LISTSERV Maestro provides a wizard that can create three different types of LISTSERV list, providing unique ways for subscribers to manage their settings and communicate. The three types of LISTSERV lists 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 to the rest

of the list subscribers. Messages originating from LISTSERV Maestro are not subject to moderation.



Note: Once the list is created in the Hosted Recipient List wizard, it can be edited outside of LISTSERV Maestro using LISTSERV. This is an advanced skill for those administrators familiar with LISTSERV, but it must be exercised with caution as it has the potential to break the functioning of the list if certain keywords are modified in a way that is incompatible with LISTSERV Maestro. In particular, you must never change the `DBMS=` or `Topics=` keywords outside of Maestro or change the Maestro list ID, and certain keywords have restrictions that must be observed, especially `Subscription=`, `Owner=`, `Validate=`, and `Misc-Options=`. If any changes to the list header are made outside of LISTSERV Maestro, the wizard cannot be used again on the same list without losing all of the changes.

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 guides you through all of the steps for designing the list and the accompanying web subscription form. The Hosted LISTSERV List Definition wizard is comprised of eight main screens – General, Profile Fields, Profile Field Details, List Type, List Options, Posting Restrictions, LISTSERV List Topic, and Summary. 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 Settings for LISTSERV Announcement List

The General screen defines the general information pertaining to the list.

- **Name** – 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 and if they create a target group from a classic LISTSERV list (see Section 14 [Classic LISTSERV List Target Groups](#) for details). LISTSERV Maestro users will see the list name if they are allowed to define recipients for a job 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 24 The Hosted LISTSERV List Wizard – General Screen

Once you're finished specifying the name and description of the list, click [**Next ->**] to continue.

7.1.2 Profile Fields for LISTSERV Announcement Lists

The Profile Fields screen lists all of 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 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 special characters allowed by the encoding scheme of the dataset.
- **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 – true or false.
- **Mandatory** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Optional fields can be designated as hidden or read-only if the subscribers are not allowed to enter or change the data in those fields. Boolean fields cannot be optional due to the nature of the data type – the selection equates to either true or false. Boolean fields may be visible or hidden.

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

Figure 25 The Hosted LISTSERV List Wizard - Profile Fields Screen

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

Once you're finished adding fields to the list, click **[Next ->]** to continue.

7.1.3 Profile Field Details for LISTSERV Announcement List

The Profile Field Details screen lets you specify which LISTSERV fields are used to assemble the "Full Name" of the list subscriber. Hosted LISTSERV lists require a **Name Field** to be defined. If a single name field exists for each subscriber, move that field from the **Profile Fields** box to the **Name Fields** box. If two (or more) fields are to be used to make up a full name, 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. The fields are not required to be mandatory; although, the existence of at least one name field is required, but it does not have to be filled in by every subscriber.

Figure 26 The LISTSERV List Wizard - Profile Fields Details Screen

LISTSERV List Definition

General Profile Profile Field 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

Once you're finished specifying which fields are used, click **[Next ->]** to continue.

7.1.4 List Type for LISTSERV Announcement List

The List Type screen lets you select the type of list you want to create. Use the option buttons to select **Announcement List**.

Figure 27 The LISTSERV List Wizard - List Type Screen

LISTSERV List Definition

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

Cancel Save & Exit <- Back Next ->

List Type

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.

Announcement List **Select the type of list from the options provided.**

Unmoderated Discussion List

Moderated Discussion List

An Announcement 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.

Once you've selected the type of list you want to create, click **[Next ->]** to continue.

7.1.5 List Options for LISTSERV Announcement Lists

The List Options screen is divided into several tabs: General Options, Reply Behavior, Bounce Handling, and List Archive. The List Archive tab 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 email 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 be valid Internet email addresses.

Figure 28 The LISTSERV List Wizard - Set the List Administrator

The screenshot shows the 'LISTSERV List Definition' wizard. The 'List Options' tab is selected, and the 'List Administrator E-Mail Addresses' section is highlighted. The 'Edit' link is circled in red, and an arrow points to the 'List Administrator E-Mail Addresses' pop-up dialog box. The dialog box contains a text field with the email address 'lsmith@XYZCompany.com' and 'OK' and 'Cancel' buttons.

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

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

- **DIGEST Mode** – Check **Allow subscribers to enable DIGEST mode** to give subscribers the opportunity to receive a digest of the list's postings. A digest bundles all postings sent over the course of the day into one email. If a list receives many postings each day, then enabling a digest lets the subscribers choose to cut down on the number of emails they get while still receiving all the postings.
- **Mail Merging** – Mail merging uses recipient data to insert subscriber specific content into the message. Subscribers will each receive a customized copy of the message with their own email address and name on the **TO:** line. Other data fields can be merged into the message as well to further personalize the email.

The Reply Behavior tab determines where any replies from subscribers are sent. There are three options available:

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

Figure 29 The List Wizard for LISTSERV List - Reply Behavior Tab

The Bounce Handling tab determines what happens to the subscriber addresses when messages sent to them bounce (are rejected by the email server and returned to the sender as undeliverable). LISTSERV lists can handle bounces by removing the subscriber addresses of bounced messages automatically or by collecting bounces for manual action. Unlike Hosted Recipient Lists, automatic removal of bounced addresses on Hosted LISTSERV Lists will remove the address from the list only, not from the dataset. Manually processed bounces are sent to the list administrator's mailbox. Select one of 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 of days they can occur over in the second box. This setting is more flexible than the first setting. For example, if the reason for the bounce is temporary, such as a full mailbox, then new messages can still be sent. Subscribers will not be removed from the list unless the messages continue to bounce over the given time period, or bounce the number of times specified. Care must be taken to choose realistic numbers, in accordance with the list traffic. For example, if list messages are only sent once a month, then setting this to 2 bounces over 5 days will result in no addresses ever being removed. The only chance such a list would have of collecting 2 bounces would be over a period of (slightly over) one month – a valid bounce setting for a list with one posting per month would be 2 bounces within 35 days.
- **Collect bounces for manual processing** – Bounce addresses will be sent to the list administrator 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, regardless of the number of bounces.

Figure 30 The LISTSERV List Wizard – Bounce Handling Tab

The List Archives tab 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.

Figure 31 The LISTSERV List Wizard – Archives Tab

- **Disabled/Enabled** – Click the corresponding 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 will not be collected unless specifically enabled here.
- **Create new archive files** – Set the time frame for the creation of new archive files. 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, whether or not they are subscribed, open only to subscribers, or open only to administrators.

Once you're finished defining the archive behavior, 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 messages sent to the LISTSERV list when they are submitted as **standard list postings**. A standard list posting is a normal email message sent to the list. 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

postings can be sent (without tracking) to the list address using a normal email client, or they can be sent using LISTSERV Maestro (with or without tracking) by selecting **Send to an Existing LISTSERV List**, while defining the recipients of a mailing, and by specifying **Send job as standard list message** (or by using a target group based on these selections).

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 postings even if they contain attachments** – the message will be sent with attachments intact.
 - **Accept postings but remove attachments** – the message itself will be delivered to the list, but attachments will be stripped off.
 - **Reject postings if they contain attachments** – any message submitted to the list with attachments will be automatically rejected.

Figure 32 The LISTSERV List Wizard – Attachments Handling Tab

- **Size / Message Limits** – Sets a size limit for each message posted to the list. The size can be limited by the number of lines, the number of kilobytes (KB), or the number of megabytes (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 sender per day. Fields left blank will have no limitations imposed.

Figure 33 The LISTSERV List Wizard – Size/Message Limits Tab

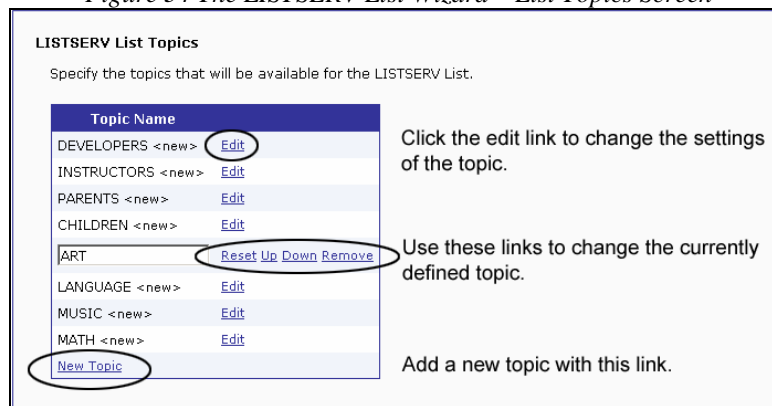
7.1.7 Topics for LISTSERV Announcement Lists

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 topics. Lists can have up to 23 topics defined. 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, the topic name can be changed and the following actions are available: **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).

Figure 34 The LISTSERV List Wizard – List Topics Screen



When you change the topics settings of a list that already has subscribers, all of the 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.



Tip: Changing topics on 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 the [Summary](#) page), adjust the topics, and then re-open the list.

When adding new topics to a list that already has subscribers, an additional option, **Existing subscribers will have the new topics selected automatically**, will appear. Select this option to add the new topics automatically to all the existing subscriptions. If this option is not selected, then the 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 if the dataset and list subscriber pages are enabled. This 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 option selected (for those topics to be added to all subscriptions) and once with the option not selected (for those topics that will not be added to all subscriptions).

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 on the top bar to revisit any page in the wizard to make changes.

Before the list can be used, its access level needs to be set. The list can be set to be accessible to anyone with access to the dataset 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 allows existing subscribers to manage their own settings, but new subscribers must be added by the Data Administrator or designated LISTSERV Maestro team members. Lists with no public access do not appear in the membership area to anyone.

Figure 35 The LISTSERV List Wizard – Summary Screen

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

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 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.

Unmoderated discussion lists can provide a dynamic platform for disseminating information, sharing opinions, collaborative learning, and much more. However, unmoderated discussion lists have the potential to 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 may need 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 General screen defines the general information pertaining to the list.

- **Name** – The name of the mailing list. Subscribers will see this name on the web form when they subscribe. Data administrators will see this name in the dataset tree if they create a target group from a classic LISTSERV list (see Section 14 [Classic LISTSERV List Target Groups](#)). Users will see the list name if they are allowed to define recipients for a job by sending to an existing LISTSERV list.
- **Internal Description** – The internal description is only 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 36 The LISTSERV List Wizard - General Screen

Once you are finished specifying the name and description of the list, click [**Next ->**] to continue.

7.2.2 Profile Fields for Unmoderated Discussion Lists

The Profile Fields screen lists all of 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 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 special characters allowed by the encoding scheme of the dataset.
- **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 – true or false.
- **Input Type** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Optional fields can be designated as hidden or read-only if the subscribers are not allowed to enter or change the data in those fields. Boolean fields cannot be optional due to the nature of the data type. Boolean fields can be visible or hidden.

After list fields are created, they can be edited, removed, moved up, or moved down by using the corresponding links. Dataset fields cannot be moved or edited from this screen.

Figure 37 The LISTSERV List Wizard - Profile Fields Screen

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? Cf] Boolean [Optional] Reset Up Down Remove

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

Once you're finished adding fields to the list, click **[Next ->]** to continue.

7.2.3 Profile Field Details for Unmoderated Discussion Lists

The Profile Field Details screen lets you specify which LISTSERV fields are used to assemble the "Full Name" of the list subscriber. Hosted LISTSERV lists require a **Name Field** to be defined. If a single name field exists for each subscriber, move that field from the **Profile Fields** box to the **Name Fields** box. If two (or more) fields are to be used to make up a full name, 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. The fields are not required to be mandatory; although, the existence of at least one name field is required, but it does not have to be filled in by every subscriber.

Figure 38 The LISTSERV List Wizard - Profile Field Details Screen

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>

"Full Name" Fields:

FNAME <Mandatory>
LNAME <Mandatory>

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)
PERMISSION	Can we quote you in our newsletter? Check box for yes.	Boolean	n/a

Once you've finished specifying which fields are to be used for the name, click **[Next ->]** to continue.

7.2.4 List Type for Unmoderated Discussion Lists

The List Type screen lets you select the type of list you want to create. Select the **Unmoderated Discussion List** option. 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 39 The LISTSERV List Wizard - List Type Screen

Once you're finished selecting the type of list you want to create, click **[Next ->]** to continue.

7.2.5 List Options for Unmoderated Discussion Lists

The List Options screen is divided into several tabs: 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 email 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 be valid Internet email addresses.

Figure 40 The 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** – Select the **Allow subscribers to enable DIGEST mode** option to give subscribers the opportunity to receive a digest of the list's postings. A digest bundles all postings sent over the course of the day into one email. If a list receives many postings each day, enabling a digest lets the subscribers choose to cut down on the number of emails they get while still receiving all the postings.
- **Mail Merging** – Select the **Use mail merging** option to allow the system to insert subscriber specific content into the message based on the data associated with each subscriber. Subscribers will each receive a customized copy of the message with their own email address and name on the TO: line. Other data fields can be merged into the message as well to further personalize the email.
- **Acknowledgements** – Select the **Send acknowledgement message to posting subscriber** option to have email 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 Reply Behavior tab determines where any replies from subscribers are sent. There are three options available:

- **Sender** – Replies are directed to the sender of the email message. The sender address is the address based on the "From:" field of the posting.
- **List** – Replies are directed 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, then they might post private or off topic messages back to the list by mistake.
- **Both Sender & List** – Replies are directed to both the original sender and the list.
- **Separate address** – Replies are directed to the address entered in this text box.

Figure 41 The List Wizard for LISTSERV List - Reply Behavior Tab

The Bounce Handling tab determines what happens to the subscriber addresses when messages sent to them bounce (are rejected from the email server and returned to the sender undeliverable). LISTSERV lists can handle bounces by removing the bouncing addresses 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 of days they can occur over in the second box. This setting is more flexible than the first setting. For example, if the reason for the bounce is temporary, such as a full mailbox, then new messages can still be sent. Subscribers will not be removed from the list unless the messages continue to bounce over the given time period, or bounce the number of times specified. Care must be taken to choose realistic numbers, in accordance with the expected list traffic
- **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, regardless of the number of bounces.

Figure 42 The LISTSERV List Wizard - Bounce Handling Tab

The List Archive tab 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.

Figure 43 The LISTSERV List Wizard – List Archive Tab

- **Disabled/Enabled** – Click the appropriate 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 are not collected unless specifically enabled 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.

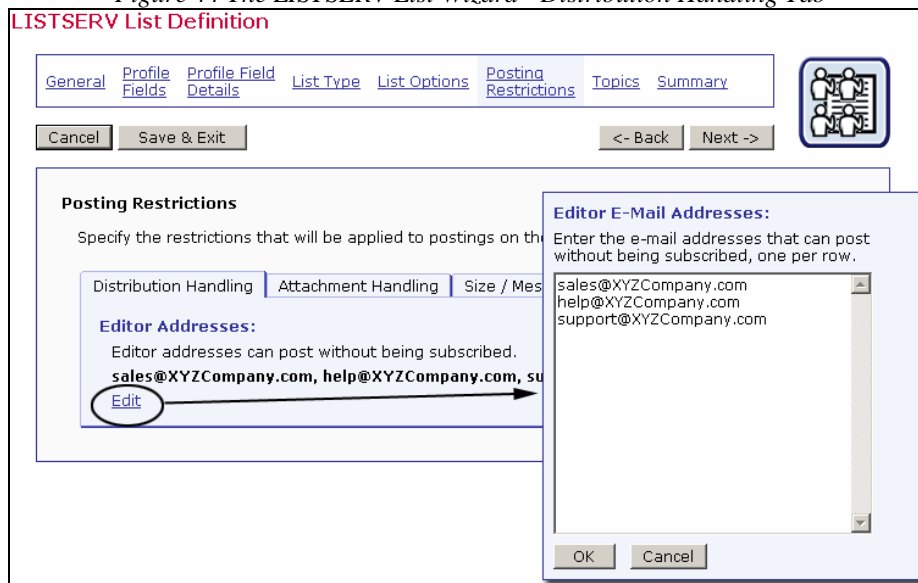
Once finished specifying any additional options, click **[Next ->]** to continue.

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 email addresses that have permission to post to the list without being subscribed to it. Additional addresses are optional. Addresses defined as the administrator addresses (on the General Settings screen) are allowed to post without being subscribed. Editor addresses are also not subject to the individual posting limits on the Size/Message Limits tab.

Figure 44 The LISTSERV List Wizard - Distribution Handling Tab



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

Figure 45 The LISTSERV List Wizard – Attachment Handling Tab

- **Size / Message Limits** – Sets a size limit for each message posted to the list. The size can be limited by the number of lines, the number of kilobytes (KB), or the number of megabytes (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 day for each user. Fields left blank will have no limitations imposed.

Figure 46 The LISTSERV List Wizard – Size/Message Limits Tab

Once you're finished specifying any restrictions, click **[Next ->]** to continue.



Note: These restrictions affect messages sent to the LISTSERV list when they are submitted as **standard list postings**. A standard list posting is a normal email message sent to the list. Standard list messages can be received in a digest form, and can be viewed in the list archives if archives have been enabled for the list. Standard list postings can be sent (without tracking) to the list address using a normal email client, or they can be sent using LISTSERV Maestro (with or without tracking) by selecting **Send to an Existing LISTSERV List**, while defining the recipients of a mailing, and by specifying **Send job as standard list message** (or by using a target group based on these selections).

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 by defining topics. Lists can have up to 23 topics defined. 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, or 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, the topic name can be changed and the following actions are available: **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 topic settings of a populated list change, then all current subscribers' topic selections will 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.



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

When adding new topics to a list that already has subscribers, an additional option, **Existing subscribers will have the new topics selected automatically**, will appear. Select this option to automatically add the new topics to all the existing subscriptions. If this option is not selected, then the 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 if the dataset and list subscriber pages are enabled. This 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 option selected (for those topics to be added to all subscriptions) and once with the option not selected (for those topics that will not be added to all subscriptions).

Figure 47 The LISTSERV List Wizard – List Topics Screen

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.

Once you're finished selecting your topics for the list, click **[Next ->]** to continue.

7.2.8 Summary for Unmoderated 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.

Before the list can be used, its access level needs to be set. The list can be set to be accessible to anyone with access to the dataset 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 allows existing subscribers to manage their own settings, but new subscribers must be added by the Data Administrator or designated LISTSERV Maestro team members. Lists with no public access do not appear in the membership area to anyone.

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

7.3 Creating LISTSERV Moderated Discussion Lists

Similar to the unmoderated discussion list, a moderated list allows for the exchange of postings between subscribers, but a moderator receives all incoming messages. The 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.

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. If no moderator addresses are defined, then the first listed editor becomes the sole editor. The list administrator address is always allowed to send mail to the list without moderation, and if no moderator or editor addresses are added, then the first 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 General screen defines the general information pertaining to the list.

- **Name** – 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 and if they create a target group from a classic LISTSERV list (see Section 14 [Classic LISTSERV List Target Groups](#) for details). LISTSERV Maestro 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 only 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, then having accurate descriptions will help them accomplish those tasks.

Figure 48 The LISTSERV List Wizard – General Screen

LISTSERV List Definition

General Profile Profile Field 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: **-XYZ**

Internal Description:

Public Description: (Optional)

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.

Once you've finished specifying the name and description of the list, click **[Next ->]** to continue.

7.3.2 Profile Fields for Moderated Discussion Lists

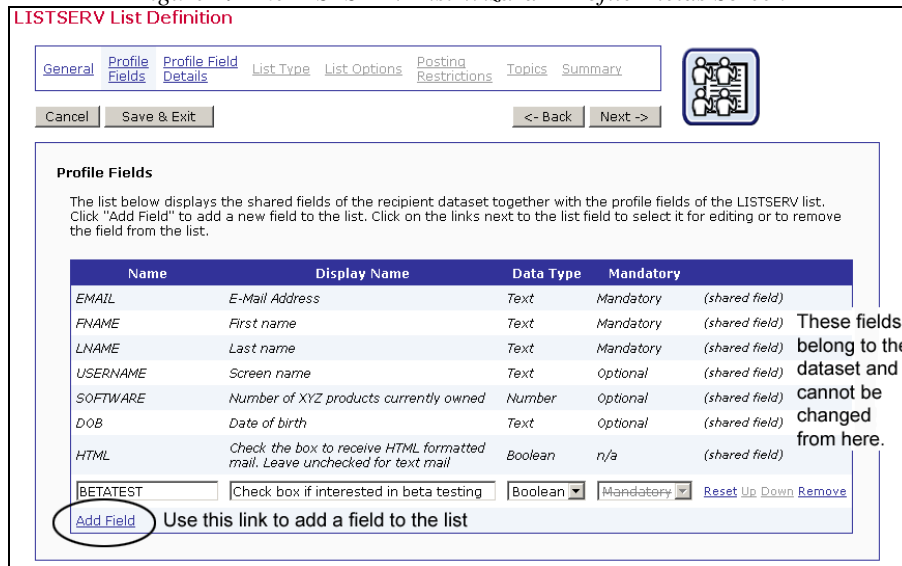
The Profile Fields screen lists all of the fields in the dataset. Other fields can be added to the list. Any added list fields will not be shared with the other lists in the dataset. To add a new field, click the **Add Field** link.

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 label that identifies the 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 special characters allowed by the dataset encoding scheme.
- **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 – true or false.
- **Input Type** – Decide whether the data is mandatory for subscribers to enter into the web form or optional. Optional fields can be designated as hidden or read-only if the subscribers are not allowed to enter or change the data in those fields. Boolean fields cannot be optional due to the nature of the data type. Boolean fields can be visible or hidden.

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 belonging to the dataset cannot be moved or edited from this screen.

Figure 49 The LISTSERV List Wizard - Profile Fields Screen

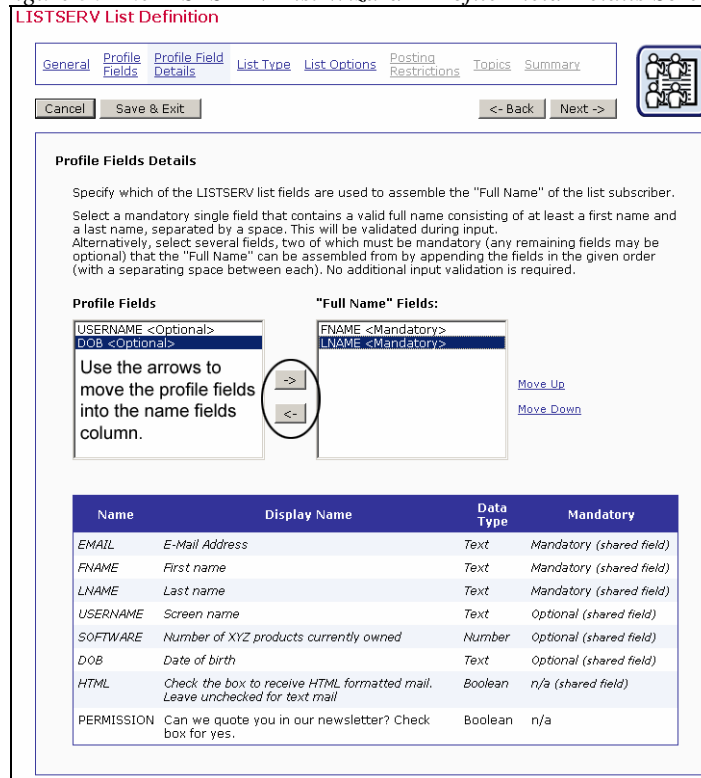


Once you're finished adding fields to the list, click **[Next ->]** to continue.

7.3.3 Profile Field Details for Moderated Discussion Lists

The Profile Field Details screen lets you specify which LISTSERV fields are used to assemble the "Full Name" of the list subscriber.

Figure 50 The LISTSERV List Wizard - Profile Field Details Screen



Hosted LISTSERV lists require a **Name Field** to be defined. If a single name field exists for each subscriber, move that field from the **Profile Fields** box to the **Name Fields** box. If two (or more) fields are to be used to make up a full name, 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. The fields are not required to be mandatory; although, the existence of at least one name field is required, but it does not have to be filled in by every subscriber.

Once you're finished specifying the fields to use for the name, click **[Next ->]** to continue.

7.3.4 List Type for Moderated Discussion Lists

The List Type screen lets you select the type of list you want to create. Select the **Moderated Discussion List** option. 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 to the list members.

Figure 51 The LISTSERV List Wizard - List Type Screen

LISTSERV List Definition

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

Cancel Save & Exit <- Back Next ->

List Type

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.

Announcement List

Unmoderated Discussion List

Moderated Discussion List Select the type of list from the options provided.

Once you've selected the type of list you want to create, click **[Next ->]** to continue.

7.3.5 List Options for Moderated Discussion Lists

The List Options screen is divided into several tabs: 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 email 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 be valid Internet email addresses.

Figure 52 The LISTSERV List Wizard - Set the List Administrator

LISTSERV List Definition

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

Cancel Save & Exit <- Back Next ->

List Options

Specify additional options of the LISTSERV list.

General Options Reply Behavior Bounce Handling

List Administrator E-Mail Addresses:

sjames@XYZCompany.com, bcho@XYZCompany.com

Edit

General List Options:

Allow subscribers to enable DIGEST mode

Use mail merging

Send acknowledgement message to posting subscriber

(A change to this option affects only subscribers who join the list after the setting change.)

List Administrator E-Mail Addresses:

Please enter the list administrator (owner) e-mail addresses in the field below, one per row.

sjames@XYZCompany.com
bcho@XYZCompany.com
slopez@XYZCompany.com

OK Cancel

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

There are three **General List Options** for announcement lists. They are:

- **DIGEST Mode** – Select the **Allow subscribers to enable DIGEST mode** option to give subscribers the opportunity to receive a digest of the list's postings. A digest bundles all postings sent over the course of the day into one email. If a list receives many postings each day, enabling a digest lets the subscribers choose to cut down on the number of emails they get while still receiving all the postings.
- **Mail Merging** – Select the **Use mail merging** option to allow the system to insert subscriber specific content into the message based on the data associated with each subscriber. Subscribers will each receive a customized copy of the message with their own email address and name on the **TO:** line. Other data fields can be merged into the message as well to further personalize the email.
- **Acknowledgements** – Select the **Send acknowledgement message to posting subscriber** option to have email 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, then their settings will not be affected. Only those subscribers who join the list after the setting change will have the new setting.

The Reply Behavior tab determines where any replies from subscribers are sent. There are three options available:

- **Sender** – Replies are directed to the sender of the email message. The sender address is the address based on the "From:" field of the posting.
- **List** – Replies are directed 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, then they can post private or off topic messages back to the list by mistake.

- **Both Sender & List** – Replies are directed to both the original sender and the list..
- **Separate address** – Replies are directed to the address that is entered here.

Figure 53 The List Wizard for LISTSERV List - Reply Behavior Tab

The Bounce Handling tab determines what happens to the subscriber addresses when messages sent to them bounce (are rejected from the email server and returned to the sender undeliverable). LISTSERV lists can handle bounces by removing the bouncing addresses 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 of days they can occur over in the second box. This setting is more flexible than the first setting. For example, if the reason for the bounce is temporary, such as a full mailbox, then new messages can still be sent. Subscribers will not be removed from the list unless the messages continue to bounce over the given time period, or bounce the number of times specified. Care must be taken to choose realistic numbers, in accordance to the expected list traffic.
- **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, regardless of the number of bounces.

Figure 54 The LISTSERV List Wizard - Bounce Handling Tab

The List Archive tab 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 appropriate 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 are not collected unless specifically enabled 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 55 The LISTSERV List Wizard – List Archive Tab

Once you're finished setting any additional options for the list, 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 the 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 email addresses have permission to post to the list without 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 without being subscribed.

Figure 56 The LISTSERV List Wizard - Distribution Handling Tab

LISTSERV List Definition

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

Cancel Save & Exit <- Back Next ->

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

Distribution Handling Attachment Handling Size / Message Limits

Moderator Addresses:
Postings from subscribers will be sent to the moderator addresses for moderation.
jjones@dev.XYZCompany.com, ddukane@dev.XYZCompany.com
[Edit](#)

Editor Addresses:
Editor addresses can post without going through moderation.
support@XYZCompany.com
[Edit](#)

Moderator E-Mail Addresses:
Enter the moderator e-mail addresses, one per row.
jjones@dev.XYZCompany.com
ddukane@dev.XYZCompany.com
OK Cancel

Editor E-Mail Addresses:
Enter the e-mail addresses that can post without going through moderation, one per row.
support@XYZCompany.com
OK Cancel

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

Figure 57 The LISTSERV List Wizard – Attachment Handling Tab

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

- **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 day for each user. Moderator, Editor, and Administrator addresses are exempt from the per poster user posting limits. Fields left blank will have no limitations imposed.

Figure 58 The LISTSERV List Wizard – Size/Message Limits Tab

Once you're finished specifying any restrictions, click **[Next ->]** to continue.



Note: These restrictions affect messages sent to the LISTSERV list when they are submitted as **standard list postings**. A standard list posting is a normal email message sent to the list. Standard list messages can be received in a digest form, and can be viewed in the list archives if archives have been enabled for the list. Standard list postings can be sent (without tracking) to the list address using a normal email client, or they can be sent using LISTSERV Maestro (with or without tracking) by selecting **Send to an Existing LISTSERV List**, while defining the recipients of a mailing, and by specifying **Send job as standard list message** (or by using a target group based on these selections).

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, or 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, the topic name can be changed and the following actions are available: **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 topic settings of a populated list change, all current subscribers' topic selections will 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.



Tip: Changing topics on a list where subscribers are currently very active needs to be carefully considered so a 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 option, **Existing subscribers will have the new topics selected automatically**, will appear. Select this option to automatically add the new topics to all existing subscriptions. If this option is not selected, then the 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 if the dataset and list subscriber pages are enabled. This 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 option selected (for those topics to be added to all subscriptions) and once with the option not selected (for those topics that will not be added to all subscriptions).

Figure 59 The LISTSERV List Wizard – List Topics Screen

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	

Once you're finished specifying the topics available for the list, 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.

Before the list can be used, its access level needs to be set. The list can be set to be accessible to anyone with access to the dataset 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 allows existing subscribers to manage their own settings, but new subscribers must be added by the Data Administrator or designated LISTSERV Maestro team members. Lists with no public access do not appear in the membership area to anyone.

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

Figure 60 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

Section 8 Organizing Datasets

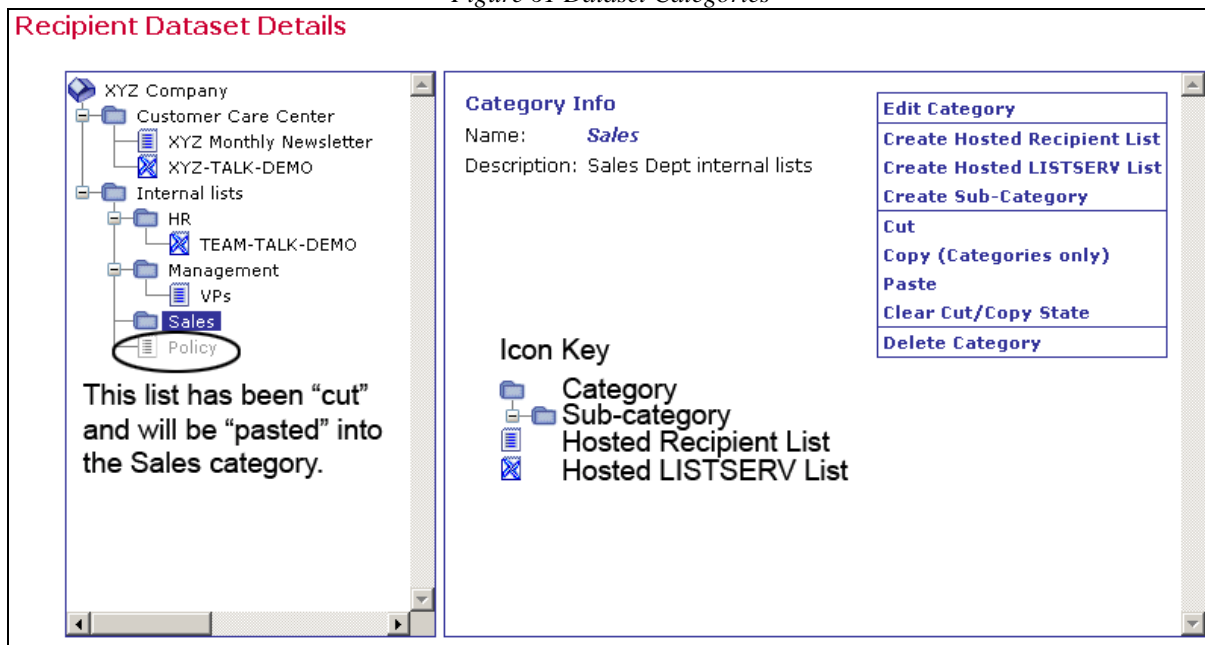
Datasets that have few lists usually have no special need to organize them in any particular way. Lists are displayed in alphabetical order by list name, regardless of the type of list, hosted recipient list, or hosted LISTSERV list. Subscribers will be able to see all the lists available to them on 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 select **Create Category**. 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 internally.

To move an existing list into a category, select the list in the left frame. Click the **Action** link, and then select **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. Select **Paste** to move the list into the category. To cancel the cut state and leave the list where it is, select **Clear Cut/Copy State**.

Figure 61 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 or designated team members. 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 [Allowing Members to Join a Dataset](#).

Once members belong to a dataset, their data 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, download all members, and modify multiple members by uploading a file. 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 or subscribers on a list in the dataset, select the dataset or list from the Recipient Datasets screen. The Recipient Dataset Details screen opens. Click the **Actions** link in the right corner to open the actions menu.

Figure 62 Managing Members of a Dataset

The screenshot shows the 'Recipient Dataset Details' page for 'Widget Company'. The page is divided into several sections:

- Dataset Info:** Contains tabs for 'Settings Overview' and 'Membership Area Layout'. It displays:
 - Name: *Widget Company*
 - Description: Widget Company Dataset
 - Members: 2 [No public access]
 - Access Pages Language: English (Default)
 - Data Encoding: West European, ISO-1
- Shared Fields:** A table with columns: EMAIL (Text), FNAME (Text), LNAME (Text), and DOB (Text). A note below states: '(Fields formatted in bold are mandatory fields which the member must fill out.)'
- Actions Menu:** A vertical list of links on the right side:
 - Edit Dataset Settings
 - Create Hosted Recipient List
 - Create Category
 - Browse/Edit Confirmed Members** (highlighted in red)
 - Add Single Member
 - Modify Members by Upload
 - Download all Members
 - Team Collaboration
 - Subscriber Access URLs
 - Delete all Members
 - Delete Dataset

9.1 Managing Dataset Members and List Subscribers

Dataset members' and list subscribers' data can be reviewed, changed, or deleted by clicking the **Actions** link, and then **Browse / Edit Confirmed Members**. 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 email 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 email 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 lists with more than ten pages will use << to denote the set of 10 pages before the open page, and >> to denote the set of 10 pages after of the current page links.

Members and subscribers are sorted alphabetically by email 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 commas. LISTSERV lists that have topics have all the selected topics displayed.

Figure 63 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.

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

Profile field names
Optional fields can be blank

Figure 64 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.

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	4	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	1	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

Profile field names
Optional fields can be blank
Selected LISTSERV topics

9.1.1 Editing a Member Profile

Each email address is a link that opens the profile page for that member. Click on the email address of the member to be edited. Enter the new data in the profile fields, and 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.

Figure 65 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

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.

Figure 66 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

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 precedes 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 icon again. After filtering, the full set of matching 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 67 Edit List Subscriber


Manage Members of Recipient Dataset

This page displays the members of the selected dataset.

[selected by filter: 6 of 37 members]  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"/>	<input type="text" value=">g"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="<2"/>	<input type="text"/>	<input type="text" value="True"/>
Mirjam@maestro-demo.1soft.com	Mirjam	McIntosh	apple-pie	1	1969	T
Odette@maestro-demo.1soft.com	Odette	Owi	leap-frog	1	1976	T
Seth@maestro-demo.1soft.com	Seth	Simpson	Homer	1	1982	T
temp3@cherry.ease.1soft.com	Kerry	Sanders	quarterback	1	1985	T
Ursula@maestro-demo.1soft.com	Ursula	Underhill	hobbit-girl	1	1991	T
yvette@maestro-demo.1soft.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).

Text Box Content	Filtering Result
>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".
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. 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 **Actions** link, and then select **Add Single Member**.
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, click the **Actions** link, and then select **Browse / Edit Confirmed Members**.

To add a single subscriber to a list:

1. Select the list.
2. Click the **Actions** link, and then select **Add Single Subscriber**.
3. Enter the email address of the new subscriber in the edit box.
4. Click **[OK]**.
5. 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 email 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.
6. Optionally, fill in any other list fields.
7. 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, click the **Actions** link, and then select **Browse / Edit Confirmed Members**. To add or change information on the list level, click the **Actions** link, and then select **Browse / Edit Confirmed Subscribers**.

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 the Upload 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, click the **Actions** link, and then select **Modify Members by Upload**.

To modify subscribers of a list, select the list, click the **Actions** link, and then select **Modify Members by Upload**.

9.3.1.1 Type

The first screen of the Upload wizard is Type. The existing data can be modified five different ways. Available types for datasets are:

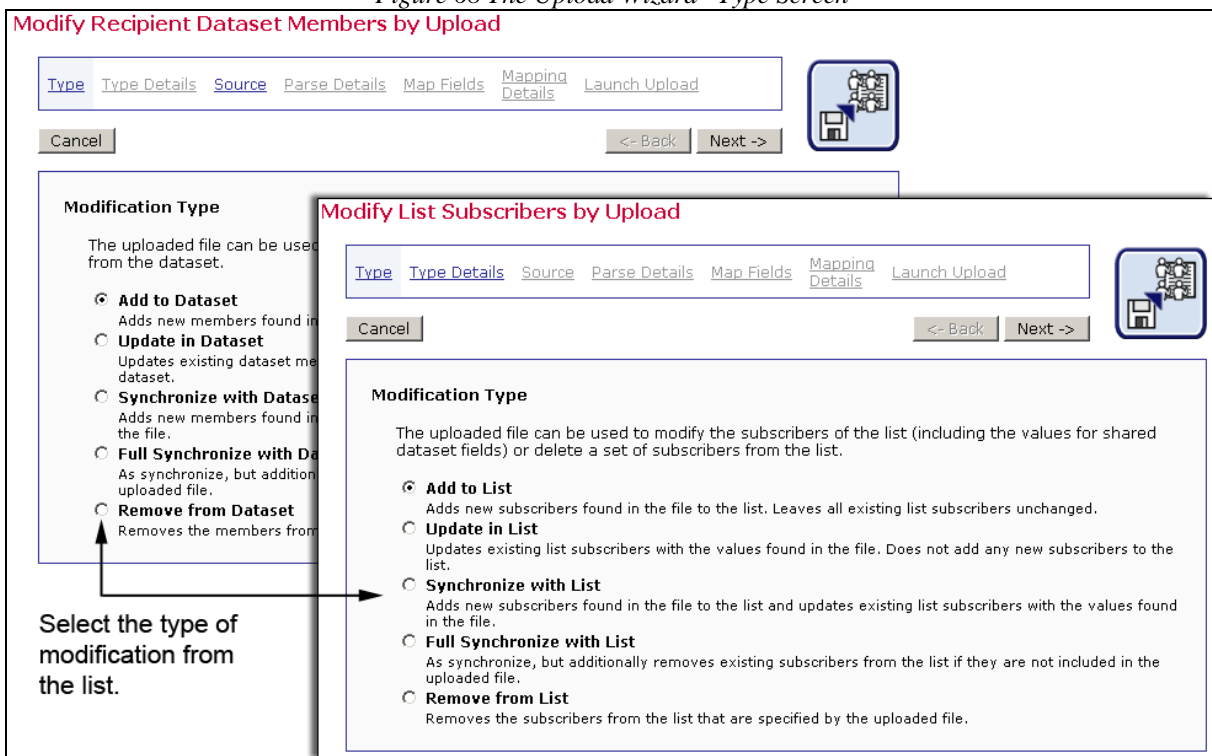
- **Add to Dataset** – Adds new members to the dataset. All existing members are left unchanged. If records for existing members or subscribers are present in the file, then these will be ignored.
- **Update in Dataset** – Updates the existing members with the values found in the file. Does not add any 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 data 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 and from any lists they are subscribed to.

- **Remove from dataset** – Removes members listed in the file from the dataset and from any lists they are subscribed to. Only the email addresses of those members to be deleted are required to be in the uploaded file; all other columns in the file 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. Only the email addresses of those members to be deleted are required to be in the uploaded file; all other columns in the file are ignored.

Figure 68 The Upload Wizard –Type Screen



Once you've selected the modification type, click **[Next ->]** to continue.

9.3.1.2 Type Details

The Type Details screen 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:

Table 3 Modifying Datasets Details

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>
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	<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</p>

Modification Type	Type Details Available
alternatives)	<p>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>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>
Remove from List	No Details Available.

Once you've selected the type details, click **[Next ->]** to continue.

9.3.1.3 Source

The Source screen 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: Email and International Character Sets](#).

Browse 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 69 The Upload Wizard - Source for Datasets Screen

Figure 70 The Upload Wizard - Source for Lists Screen

Once the files has been uploaded, click **[Next ->]** to continue.

9.3.1.4 Parse Details

The Parse Details screen lets you determine whether or not the data was uploaded and parsed correctly. 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

email 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 71 The Upload Wizard - Parse Details for Dataset Screen

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 and each column of data is 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 **Specify details manually** link to configure the parsing manually. 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, then 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 72 The 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.**

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 and each column of data is separated correctly and labeled with a header row.

Headers are specially defined rows used 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 **No, the file does not contain a header row** option 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 **Yes, the first row in the file contains headers** option and the headers within the file will be used. Click the **[Next ->]** button to continue if the parsing is accurate and each column of data is separated correctly and labeled with a header row.

9.3.1.5 Map Fields

The Map Fields screen lets you map the columns of your uploaded file to the fields in the dataset. For example, if the header names for the columns of data do not match the names of the fields in the dataset or list, then they can be “mapped” to the correct fields. 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; these may be mapped to a column from the file, or a default value may be assigned in a later step. Fields that are mapped to more than one column have a **red null** icon; these must be fixed before proceeding.

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. If the file contains columns that do not map to any field, select **<ignore>** for these columns.

Figure 73 The Upload Wizard - Map Fields Screen

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	<ignore>	Zimmerman	zimmy	3	1961	n	n	y	n
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	Vname	Toby	Tuttle	slow-poky	3	1992	y	n	y
Seth@maestro-demo.lsoft.com		Seth	Simpson	Homer	1	1982	y	y	y
Ron@maestro-demo.lsoft.com		Ron	Remmington	remmer	3	1979	y	n	n
Quod@maestro-demo.lsoft.com		Quod	Quartermaster	four-ways	4	1974	n	n	n

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

Once all the fields are correctly mapped, click the **[Next ->]** button.

9.3.1.6 Mapping Details

The Mapping Details screen is used for further defining fields so LISTSERV Maestro can correctly interpret the uploaded values. This screen is also used to provide default values, when necessary.

The following fields may be available for definition:

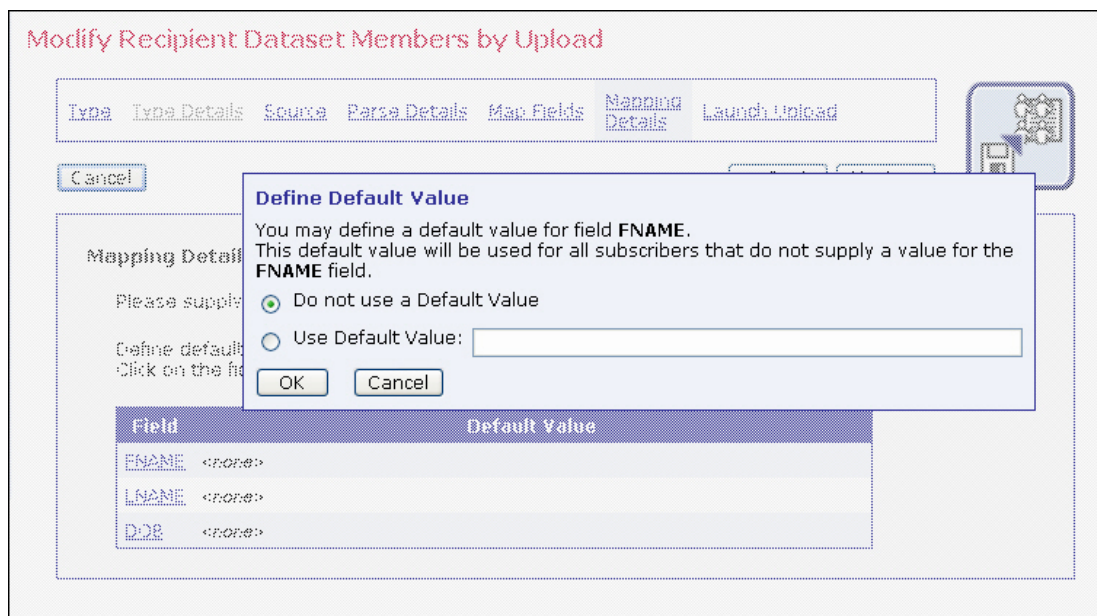
- **Default Values** – If values are missing in the uploaded data, then define the default values to be used for each field.
- **Boolean Value Mapping** – If Boolean fields are among those mapped on the Map Fields screen, then the Boolean value for these fields needs to be defined.
- **Multiple Value Parsing** – If Multiple Selection fields are among those mapped on the Map Fields screen, then the data in the uploaded file needs to be defined as to how it will be parsed to correctly extract multiple values from it.

The Mapping Details screen differs depending on the type(s) of fields mapped on the Map Fields screen. If only one of the above fields need further definition, then the Mapping Details screen displays only that value. If there is more than one field that needs defined, then the screen will display a tab for each type of field. For example, if both Boolean fields and multiple selection fields need further definition, then the Mapping Details screen will appear with two tabs, one representing each type of field, allowing you to define each value. When each tab is completed, a green checkmark will appear on that tab. The **[Next->]** button will not be available until all required mapping details are completed.

Default Values

Default values are applied when field values from the uploaded data are missing. This tab displays a list of all the fields with the currently defined defaults. Click on a field to edit its default value. The Define Default Value screen opens.

Figure 74 The Upload Wizard - Mapping Details for Default Values



Default values are used in two cases:

- If the field is not mapped to a file column at all, then the provided default will be used for all uploaded rows to provide the field with a value.
- If the field is mapped to a file column, then the provided default will only be used for those uploaded rows where the value of the mapped column is empty. In this case, the field will not be assigned the empty value from the column, but the default defined here.

For fields that are **optional** (including the **hidden** and **read-only** types, which are variations of the **optional** type), then it is not necessary to define a default. If, for such a field, no default is defined, then the empty default is assumed. Therefore, for fields of this type, you can define a default (to get the defaulting behavior as described above), but it is not mandatory.

For fields that are **mandatory** (including the **visible** type, which is a variation of the **mandatory** type), then, in some situations, a default is required, and in some, it is not:

- Mandatory fields that are not mapped to a file column: For fields of this type, it is required to define a default; otherwise, the field would be empty for every uploaded row, and since a mandatory field is not allowed to be empty, then that would mean every uploaded row would be rejected as invalid.
- Mandatory fields that are mapped to a file column: For fields of this type it is not required to define a default; however, in many cases it may be advisable. If no default is defined, then any uploaded row where the value of the mapped file column is empty will be rejected as invalid (because the mandatory field may not be assigned an empty value). Therefore, if you want to avoid rows being rejected, define a default for use whenever the mapped column is empty.

Boolean Fields

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 in the dataset.

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 **True** field.
- True is every value not equal to the value in the **False** field.

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 **False** field.
- False is every value not equal to the value in the **True** field.

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. No rows will be skipped due to an invalid value in that field.
- A value representing “false” is specified and “true” is every value that is not equal to the false value. This combination will assign the false value to all those rows that have the specified value, and true to all other rows. No rows will be skipped due to an invalid value in that field.

In the second step of Boolean field mapping, select which field to apply the values to by clicking the name of the field. If all of the Boolean fields use the same definition, click the **apply to all fields** link.

Figure 75 The Upload Wizard - Mapping Details for Boolean Fields Screen

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

False is every entry that is

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: undefined
False: n	False: undefined
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.

Multiple Select Values

If there are multiple selection fields, LISTSERV Maestro needs to know how multiple entries are separated. If the separator character is used in one or more of the 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](#)).

Figure 76 The Upload Wizard - Mapping Details for Multiple Selection Lists Screen

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 how the system will separate multi-value entries in the file to yield correct values for multiple selection fields in the list.

How to Parse Multiple Select Field Values Select the separator character from the drop-down menu

If the value for a multiple select field contains more than one entry, then the entries must be separated. The following settings apply:

Multiple values are separated by the comma (,) Enter a quote character if necessary

If one of the entries happens to contain the separator character defined above, then this entry must be surrounded with quotes.

No, the file does not contain such entries. No surrounding additional quote character is necessary.

Yes, there are multi-value entries that contain the separator.

All these entries are surrounded with:

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 Launch Upload screen 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 Operation 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 77 The 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](#)

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

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

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

9.4 Team Collaboration

Team Collaboration is now available for datasets, allowing the data administrator to designate certain rights to other team members. These rights include the ability to add, remove, or modify subscribers, plus the ability to browse through subscriber data for purposes of downloading data for reports. Also available is the right to customize the subscriber access web pages.

To set up team collaboration for a dataset, click the **Actions** link, and then select **Team Collaboration**. The Team Collaboration screen opens. All of the team members in the same group as your own account are listed in the table on this screen.



Note: Only data administrators have the right to grant team collaboration permissions to other team members; therefore, if you cannot access the Team Collaboration screen, then you are not a data administrator.

To grant permissions to other team members, simply check the box that corresponds to that particular permission. To revoke permissions, simply uncheck the box for that particular permission. To grant or revoke all of the permissions for a team member, click on the team member's name. All of the boxes will either be checked or unchecked simultaneously.

To copy existing permissions from another dataset, select the dataset from the drop-down menu. The permissions will be automatically copied.

Figure 78 Team Collaboration Screen

Dataset Team Collaboration

Grant other account holders permission to execute the following actions on the dataset.

You also can load permissions from another dataset:

Team Member	Customize Subscriber Pages	Add/Remove Subscribers	Modify Subscribers	Browse Subscribers
chloe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
robert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following permissions can be granted to a team member:

- Customize Subscriber Pages**
If this box is checked, then the team member has permission to customize the subscriber pages associated with the dataset and its hosted lists.
- Add/Remove Subscribers**
If this box is checked, then the team member has permission to add new members to the dataset and new subscribers to the hosted lists in the dataset. They can also remove members or subscribers from the dataset or its lists.

If this permission is granted, then the **Modify Subscribers** and **Browse Subscribers** permissions are also automatically granted.
- Modify Subscribers**
If this box is checked, then the team member has permission to modify existing members of the dataset or modify existing subscribers of the hosted lists in the dataset.

If this permission is granted, then the **Browse Subscribers** permission is granted.
 If this permission is revoked, and the **Add/Remove Subscribers** permission was already granted, then both permissions are revoked.

- **Browse Subscribers**

If this box is checked, then the team member has permission to browse and view the list of current members of the dataset or subscribers of the hosted lists in the dataset.

If this permission is revoked, and the **Add/Remove Subscribers** and/or the **Modify Subscribers** permissions were already granted, then all three permissions will be revoked.



Note: Some team members in the list may be displayed as “read only”, with all permissions granted and the Data-Admin label. This means that this particular team member is a data administrator. A data administrator always possesses all possible permissions, which can not be revoked from them on this screen. A user is considered a data administrator if the **Administer Hosted Recipient Datasets** option is granted in the Administration HUB (set by the administrator).

Figure 79 Data Team Collaboration Example

Dataset Team Collaboration

Grant other account holders permission to execute the following actions on the dataset.

You also can load permissions from another dataset: -- Select --

Team Member	Customize Subscriber Pages	Add/Remove Subscribers	Modify Subscribers	Browse Subscribers	
beth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(Data-Admin)
fnaf	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
jeff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
patrick	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
robert	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Dataset Info
 Name: L-Soft's Opt-In E...
 Description: Just a demo -- no...
 yet unconfirm...
 into everyone...
 European, IS...
 LNAME (Text)
 bold are mandatory fields which the member must fill out.)

What the "fnaf" account sees in Data Warehouse Action menu

- Browse/Edit Confirmed Members
- Add Single Member
- Modify Members by Upload
- Download all Members
- Subscriber Access URLs
- Delete all Members

What the "jeff" account sees

- Browse Confirmed Members
- Download all Members
- Subscriber Access URLs

Data admins always have all the subscriber management rights

Section 10 Allowing Members to Join a Dataset

Although data administrators can add members to a dataset and subscribers to a list, allowing people to sign themselves up to receive the email they want is the best way to grow an internal mailing list. One of the best practices an organization can undertake to ensure that their messages are received, opened, and reacted to by those who wish to participate is to build 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 email 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 email. 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 email message that was sent to the address they used when joining. Members usually have 48 hours to confirm a membership. They can also request another confirmation message be sent to them if they misplaced the original one.

Joining a dataset using the membership form is a two step process. The first step is to enter an email 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 80 Joining a Membership Area

Join XYZ Company

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 prospective 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 the request.

Figure 81 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!

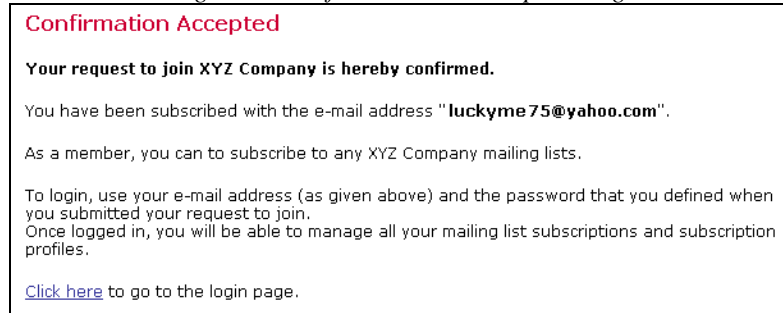
You can subscribe to any of the mailing lists under My Lists and manage your membership settings under My Profile.

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 email 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 82 Confirmed Membership Message



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 83 Membership Area for Confirmed Member

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.

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.

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 be changed and saved. Use the **Subscription Status** drop-down menu to suspend (“nomail”) or activate mailings. If the member is subscribed to a Hosted LISTSERV List (HLL), and that HLL has the digest setting enabled, then use the **Subscription Type** drop-down menu to change the DIGEST settings.



Note: These settings are also available if the member clicked the **Subscribe** link. If the member is subscribing to a Hosted Recipient List (HRL), then only the **Subscription Status** option is available. If the member is subscribing to a Hosted LISTSERV List (HLL), and that HLL has the digest setting enabled, then the **Subscription Status** and **Subscription Type** options are available.

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 email address and a password. LISTSERV Maestro checks to see if the email 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 84 Subscribe to List Screen from a List URL

Subscribe to

Step 1: E-mail Address and Password

E-mail Address: *

Password: *

Step 2: Profile

First Name:

Last Name:

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.

HISTORY
 ART
 SCIENCE
 MATH
 READING
 Also receive messages which do not specify any topic

Values marked with an asterisk <*> are mandatory.

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, users that have permission can send mail directly to any hosted LISTSERV list by selecting the **Send to an Existing LISTSERV List** option using the Define Recipients wizard when defining the recipients for a mail job. If 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. It is also possible to send mail to a hosted LISTSERV list by sending a message to the list address using a regular email client; the From: address on such a message must be permitted to post to the list. Mailings sent from outside of LISTSERV Maestro cannot be tracked.

Target groups are required to send mail to hosted recipient 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 Web Page 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 email lists – is to provide 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 used in links on the organization’s main web site or sent in an email message in order to invite members and subscribers to join. Subscriber access URLs can be found on the Recipient Dataset Details screen by clicking the **Actions** menu, and then selecting **Subscriber Access URLs**. Each dataset may have the following URLs defined:

- **Login** – Takes existing members to their membership page when they enter their email address and password. Members that have been added by the data administrator but do not have a password can enter their email 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** – Takes a prospective member to the sign up page for the membership area (dataset). This URL is only available for datasets that are defined as “Open to everyone”.
- **Subscribe List [list name]** – Takes a prospective subscriber to the list’s subscription page. Each list defined as “Open to everyone” in a dataset that is “Open to everyone” will have its own subscription URL.

Figure 85 Subscriber Access URLs

The screenshot shows the 'Recipient Dataset Details' interface. On the left, a list of datasets for 'XYZ Company' is shown: DEVELOP-XYZ, NEWS-FROM-XYZ, TALK-BACK-TO-, and XYZ Monthly News. A text box states: 'Each list in the dataset has its own Subscribe page.' An arrow points from this text to the 'Subscriber Access URLs' page shown in a separate window below. The 'Subscriber Access URLs' page provides shortcut access to all public pages of XYZ Company, including links for Login, Join Member Area, and Subscribe List for each dataset (DEVELOP, NEWS-FROM, TALK-BACK-TO, and XYZ Monthly Newsletter).

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. If the automatically generated web pages are inadequate for your site, they may be customized.

11.1 Customizing the Subscriber Access Web Pages

The Customization wizard for the Subscriber Interface makes it possible for the data administrator to customize every page and email that a subscriber will see. This will make it easier for you to focus on your subscriber's "touch points" and convey your organization's message. This same customization can be applied to all of the pages related to a single dataset or you can customize each individual page. For example, text for some lists can be in English, and text for others can be in French, or the entire look and feel of the signup page for an individual list can be different from all other lists in the dataset.

Context-sensitive instructions guide you through the Customization wizard, describing each template, listing the placeholders used in each template, and showing you how each template relates to the others.

The Customization wizard maintains two versions of every template – a draft version and a production version. You are also able to test the draft version of the template, using varying conditions, before releasing it into production.

To access the Customization wizard, click on the **Recipient Warehouse** icon, and then select **Recipient Datasets**. Click on the name of the dataset that you want to customize. The Recipient Dataset Details screen opens; click on the Membership Area Layout tab. If you have not customized your subscriber pages, then a general overview and introduction into the topic of membership area customization is displayed.



Note: If the subscriber pages are not customized, then LISTSERV Maestro will use the default setting for the visual layout and text.

Figure 86 Membership Area Layout Customization

The screenshot shows the 'Recipient Dataset Details' interface. On the left, a tree view shows 'The Taylor Group' expanded to 'Heritage' and then 'The Taylor Group'. The main content area is titled 'List Details' and has two tabs: 'Settings Overview' and 'Membership Area Layout'. The 'Membership Area Layout' tab is active and displays the following text:

Membership Area Layout Customization

All subscriber pages for the member area **The Taylor Group** are currently **not customized** and use the LISTSERV Maestro default settings for the visual layout and the texts.

To better integrate the member area subscriber pages with your own web site, you should consider customizing the layout.

A good first step for customization is to supply a customized member area header/footer which acts as a shared visual frame for all subscriber pages:

[Supply a custom membership area header/footer](#)

Alternatively, you can start the customization with any of the other available pages of the list:
[Select a page](#)

On the right side of the main content area, there is an 'Actions' link and a small thumbnail image of the LISTSERV Maestro interface with a yellow arrow pointing to a specific section.

To start customization, click on either the name of the dataset or the name of the list you want to customize, and then click either of these links:

- **Supply a custom membership area header/footer** – The header/footer is a common template which is (by default) shared by all pages that constitute the membership area;

therefore, any changes to the header/footer will automatically affect all pages. Because of this, the header/footer is the ideal place to start the customization, providing a common layout for all pages.

- **Select a page** – In addition to the header/footer template, there are a number of other layout elements which can be customized. This link takes you to a list of all available layout elements.



Note: The sections below only summarize the customization process. For more information, see the Interface Customization Manual or the online help.

11.1.1 Supplying a Custom Membership Area Header/Footer

The Supply a custom membership area header/footer link opens the Customize Page Layout screen. This screen allows you to preview the draft and production version for each layout element you want to customize for the dataset.

To customize the membership area layout for the dataset, click the **Currently Customizing** drop-down menu and select **Membership Area Layout**. This layout is shown by default. To customize the list(s) in the dataset, click the drop-down menu and select list you want to customize (i.e. if you have a list named XYZ, then select **Layout of List XYZ**).

11.1.1.1 Customizing the Membership Area Layout

The Customize Page Layout screen for the Membership Area Layout is divided into two panes. The left pane is where you select the page or template that you want to customize. The default is the Membership Area Header/Footer page. To change, simply click the drop-down menu and select a different page/template to work with. From this menu, you can also select to customize notifications, messages, or error text. Once you make a selection, the area below the drop-down menu displays the following:

- If you selected a **template page, normal page**, or a **notification email**, then a short description of the selected layout element is displayed.
- If you selected a **message text** for a message group, then a list of available message for that group is displayed. Click on one of the messages to select it as the layout element you want to customize (or view). When you initially select a message group from the drop-down menu, the first message in the group is selected, by default.
- If you selected an **input validation error** for an error group, then a list of available errors for that group is displayed. Click on one of the errors to select it as the layout element you want to customize (or view). For each error group, there is an Error Group Header/Footer option that defines a common opening and closing text that is shared by all of the errors in this group. This header/footer appears first in the list of errors for the group and is select, by default, when you initially select an error group from the drop-down menu.

The right pane contains two tabs – the Draft Version tab and the Production Version tab. The production version is the version that subscribers, who access the membership area pages, actually see. The draft version, on the other hand, is not visible to the subscribers. This means that you can safely make any changes to the draft version without them becoming immediately visible. For example, you may want to customize one page after the other by editing their draft versions; but, you want to make the customized versions available all at once, after you have finished with all pages. Or, you may want to experiment a bit with the layout, without disturbing the actual production versions that subscribers see. Only when you finally deploy the draft version as the new production version will your changes become visible to subscribers.

Various action icons may be displayed, letting you execute certain action on the current draft version of the selected layout element. Not all actions are always available.



Edit Source – Click to edit the current draft version.



Deploy as Production Version – Click to deploy the current draft version as the new production version. This will make a copy of the current draft version of the selected layout element and write it into the element's production version, making this the version of the selected element which subscribers actually see. The draft version remains unchanged.



Copy from Production Version – Click to make a copy of the current production version and use it as the new draft version. This will overwrite all current changes to the draft version. The production version remains unchanged.



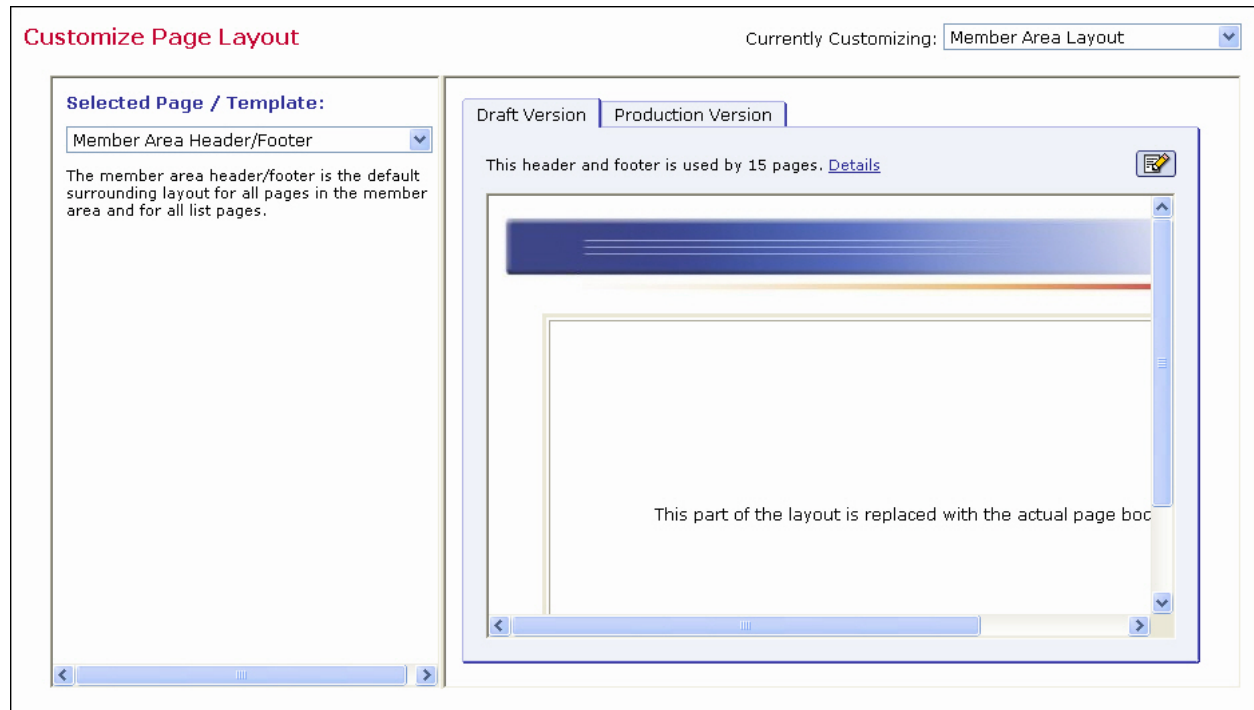
Reset to System Default – Click to reset the current draft version to the LISTSERV Maestro system default. This will overwrite all manual changes to the draft version and will reset it to its default. The production version remains unchanged.

Various comments may also be displayed, depending on the type of layout element you selected to customize.

- **Header/Footer Template** – The comment displays how many pages (in the dataset and its lists) that are currently using the header/footer template (i.e. pages that do not have a header/footer defined of their own but are inheriting the template). Click the **Details** link to view a detailed list of pages using this template.
- Any of the **List Page Templates** – The first comment displays if the template page inherits the header/footer template (see above) or if the header/footer is defined locally on the list page template. The second comment (below the first one) displays how many list pages are currently using the corresponding template (i.e. pages that do only define the layout of the actual list profile fields locally, but inherit the rest of the page layout from this template).
- Any of the **Normal Pages** – The comment displays if the page inherits the header/footer template (see above) or if the header/footer is defined locally on the page.
- Any of the **Message Page Texts** – The comment describes the currently selected message and the circumstances under which it is displayed to the subscriber.
- Any of the **Input Validation Errors** – The comment describes the currently selected error message and the circumstances under which it may occur. Also, unless the current message is already the error-header/footer of the error group, then it provides a link to select the error-header/footer for the current error group. By editing the error-header/footer, you can provide all errors in one error group with the same opening and closing texts.

Additional controls may also appear, allowing you to simulate certain system states so you can verify their impact on the actual preview. These controls vary depending on the layout element selected, and only a few elements offer them. For information on these controls, please see the online help.

Figure 87 Customizing the Membership Area Layout



11.1.1.2 Customizing the Layout of a List

The Customize Page Layout screen for the selected list is divided into two panes. The left pane is where you select the list page that you want to customize. The default is the External Subscribe, Step 1 page of the list. To change, simply click the drop-down menu and select a different list page to work with. Once you've made a selection, a short description of the current list page is displayed below the drop-down menu.

Various action icons may be displayed, letting you execute certain action on the current draft version of the selected layout element. Not all actions are always available.



Edit Source – Click to edit the current draft version.



Deploy as Production Version – Click to deploy the current draft version as the new production version. This will make a copy of the current draft version of the selected layout element and write it into the element's production version, making this the version of the selected element which subscribers actually see. The draft version remains unchanged.



Copy from Production Version – Click to make a copy of the current production version and use it as the new draft version. This will overwrite all current changes to the draft version. The production version remains unchanged.



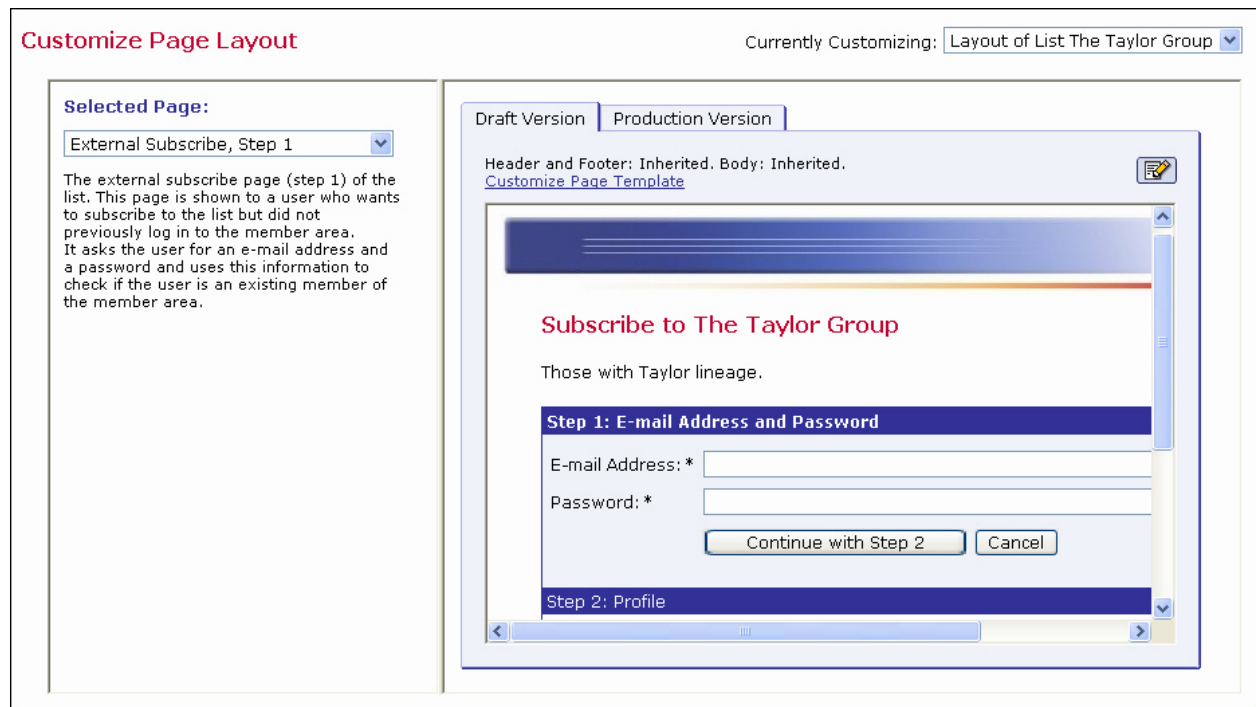
Reset to System Default – Click to reset the current draft version to the LISTSERV Maestro system default. This will overwrite all manual changes to the draft version and will reset it to its default. The production version remains unchanged.

Various comments may also be displayed, giving further details about the current list page. All list pages consist of three parts – the outer header/footer, the page body, and the inner list fields. It is possible to customize each page on three levels.

- Inherit the header/footer and the page body from the list template and customize only the inner list fields.
- Inherit the header/footer from the list page and customize the body, including the inner list fields.
- Customize the whole page, including header/footer, body, and inner list fields.

Additional controls may also appear, allowing you to simulate certain system states so you can verify their impact on the actual preview. These controls vary depending on the layout element selected, and only a few elements offer them. For information on these controls, please see the online help.

Figure 88 Customizing the Layout of a List



11.1.2 Selecting a Subscriber Page

To start customizing a subscriber page, click on either the dataset name or the list name (in the right pane of the Recipient Dataset Details screen), and then click the **Select a page** link.

11.1.2.1 Customizing Subscriber Pages for a Dataset

Once you've selected to customize a subscriber page for a dataset, then the Membership Area Layout tab refreshes and displays a list of all customizable layout elements. The layout elements are divided into three tables – Templates, Pages, and Subscriber Notification Mails. Each table lists the available elements and displays their current customization status:





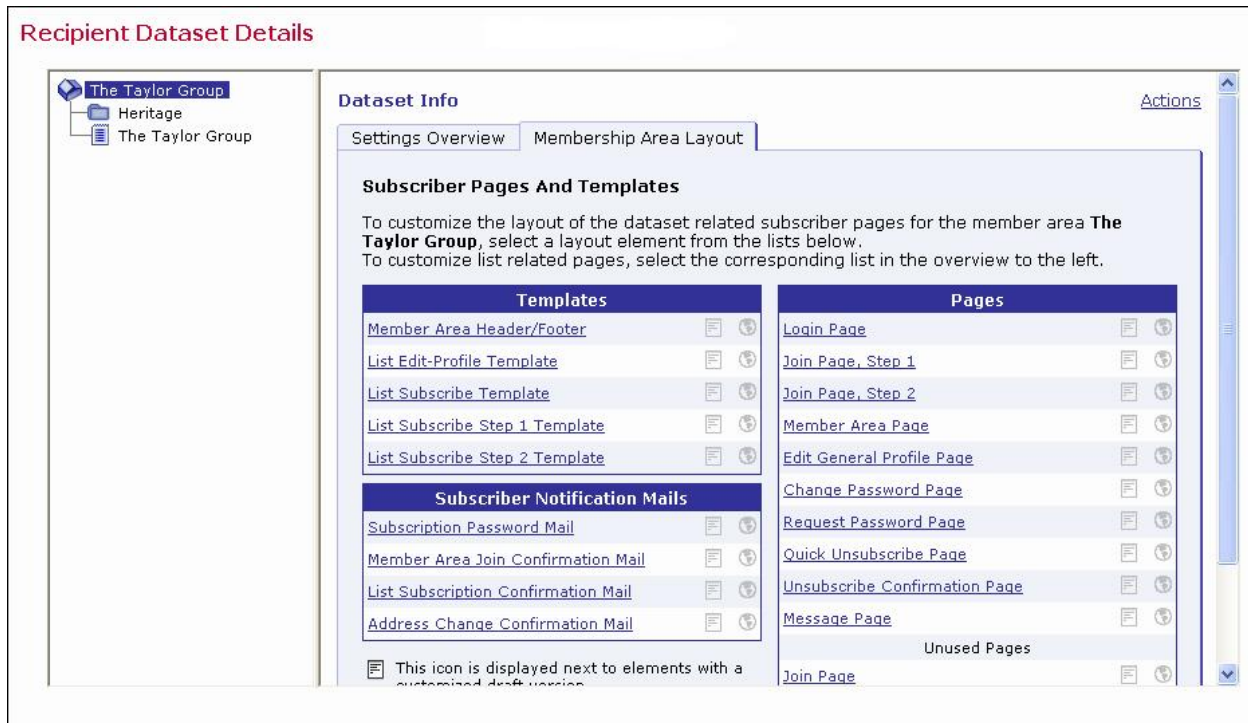
-  The draft version of the layout element is not customized.
-  The draft version of the layout element is customized.
-  The production version of the layout element is not customized.
-  The production version of the layout element is customized.

Figure 89 Selecting a Subscriber Page for a Dataset



To start customizing a layout element, simply click on it.

If at least the draft or production version of a layout element is customized (or both), then either a "=" or a "≠" sign is displayed between the two icons. This lets you know whether or not the current draft version is equal to the current production version. If both versions are not customized, then the equals-sign is not displayed because the two versions are the same.



If you have at least one layout element in the dataset where the draft version is different than the current production version, then the **Deploy** icon allows you to deploy all these draft versions at once (either the ones in the dataset itself or all draft versions in the dataset and all its lists).

For some customization placeholders (that you can use on customized pages), it is possible to provide certain attributes that determine how each placeholder will be rendered on the final HTML page. For these placeholders, it is also possible to define which attributes shall be used by default (i.e. on all pages that do not define individual attributes for their placeholders). Click the **Profile-Placeholder Default Attributes** link at the bottom of the Pages table to define these defaults. For more information, please see the online help.

If the customized versions of some pages are no longer compatible to the dataset, then the following additional icons may be displayed instead of the icons explained above:



The draft version of the page is customized, but the customized version is no longer compatible with the dataset. Therefore, before you can view (or deploy) the current customized draft version, you will have to make it compatible to the dataset again.



The production version of the page is customized, but the customized version is no longer compatible with the dataset. Therefore, the system has automatically modified the customized production version to make it compatible again (and has saved a backup copy of the original customized production version).

If the customization of any page is currently incompatible to the matching dataset, then the tab also displays an additional notification message about this fact and contains a link to a page where you can view (and access) all incompatible pages.

11.1.2.2 Customizing Subscriber Pages for List

Once you've selected to customize a subscriber page for a list, then the Membership Area Layout tab refreshes and displays a list of all customizable layout elements. The layout elements are divided into two tables – Pages and Matching Templates.



Note: The Pages table contains the actual layout elements that can be customized for the selected list, while the Matching Templates table contains the layout elements of the dataset that the list belongs to. However, since the list pages by default make use of these templates, the templates have been included for convenience.

Each table lists the available elements and displays their current customization status:





-  The draft version of the layout element is not customized.
-  The draft version of the layout element is customized.
-  The production version of the layout element is not customized.
-  The production version of the layout element is customized.

Figure 90 Selecting a Subscriber Page for a List

Recipient Dataset Details

The Taylor Group















- Heritage
- The Taylor Group

List Details [Actions](#)


Settings Overview Member Area Layout


Subscriber Pages And Templates

To customize the layout of the pages related to list **The Taylor Group**, select a layout element from the lists below.
To customize pages related to the dataset or another list, select the corresponding item in the overview to the left.

Pages	Matching Templates*
External Subscribe, Step 1  	List Subscribe Step 1 Template  
External Subscribe, Step 2  	List Subscribe Step 2 Template  
Internal Subscribe / Edit Profile  	List Edit-Profile Template  
Unused Pages	Unused Templates
Defaults	
Profile-Placeholder Default Attributes	List Subscribe Template  

*: The templates are defined on dataset level and apply to all lists in the dataset which do not individually override template usage.

 This icon is displayed next to elements with a customized draft version.

 This icon is displayed next to elements with a customized production version.

To start customizing a layout element, simply click on it.

If at least the draft or production version of a layout element is customized (or both), then either a "=" or a "≠" sign is displayed between the two icons. This lets you know whether or not the current draft version is equal to the current production version. If both versions are not customized, then the equals-sign is not displayed because the two versions are the same.



If you have at least one layout element in the list where the draft version is different than the current production version, then the **Deploy** icon allows you to deploy all these draft versions at once (either the ones in the dataset itself or all draft versions in the dataset and all its lists).

For some customization placeholders (that you can use on customized pages), it is possible to provide certain attributes that determine how each placeholder will be rendered on the final HTML page. For these placeholders, it is also possible to define which attributes shall be used by default (i.e. on all pages that do not define individual attributes for their placeholders).

Click the **Profile-Placeholder Default Attributes** link at the bottom of the Pages table to define these defaults. For more information, please see the online help.

If the customized versions of some pages are no longer compatible to the list, then the following additional icons may be displayed instead of the icons explained above:



The draft version of the page is customized, but the customized version is no longer compatible with the list. Therefore, before you can view (or deploy) the current customized draft version, you will have to make it compatible to the list again.



The production version of the page is customized, but the customized version is no longer compatible with the list. Therefore, the system has automatically modified the customized production version to make it compatible again (and has saved a backup copy of the original customized production version).

If the customization of any page is currently incompatible to the matching list, then the tab also displays an additional notification message about this fact and contains a link to a page where you can view (and access) all incompatible pages.

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 email lists, to select recipients and recipient data to the point where end users 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**.

Users can choose among 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 end 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 end users 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 email 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 **Recipient Warehouse** icon, and click **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.

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>.

Figure 91 Recipient Target Groups

Recipients Target Groups

All defined target groups for your account.

Category: <No 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:

-- Select --

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 Definition 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** – Click 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. The category may be changed by engaging the Target Group Definition wizard.
- **Delete** – Click to delete the selected target group.
- **Target Group Type** – 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 LISYSERV (see Section 12.2 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 end users will be able to select an appropriate target group for their email 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 edits 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 Define 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 then click the **Create a new target group with recipients based on** drop-down menu. Select one of the five ways to create a new target group, and then click the **[Create]** button. The Target Group Definition wizard will initiate the process of creating the new target group. Wizard pages will be 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 **Send to an Existing LISTSERV List** recipient type in the Define Recipients wizard. (For more information, 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 Definition wizard will display all available LISTSERV lists on the server assigned to the account group. 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 **Upload a Recipients Text File** recipient type in the Define Recipients wizard. (For more information, see Section 4.5.Upload a Recipient's Text File in the LISTSERV Maestro User's Manual.) The Data Administrator can upload the file into the system while defining the target group, storing the recipients at that time, or set up a server file to be uploaded just before the job is delivered.
- **Database accessed by LISTSERV Maestro** – This target group type is based on the **Select Recipients from a Database** recipient type in the Define Recipients

wizard. (For more information, 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 Definition 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 recipient type in the Define Recipients wizard. Optionally, the SQL statement may be parameterized. Using parameters in the SQL statement allows the user to fill in values to be used for segmenting the recipients 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 **Let LISTSERV Select Recipients From a Database** recipient type in the Define Recipients wizard. For more information on this part of the Define Recipients wizard, see Section 4.7 Letting LISTSERV Select 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 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 fill in values to be used for segmenting the recipients when this target group is used for a recipient definition. For more information on using parameters, see Section 18 [Defining Parameters](#).

12.3 The Target Group Definition Wizard

The Target Group Definition wizard takes the data administrator through all of the steps necessary to define the settings of the target group. The top row of the wizard displays links to each of the steps necessary to complete the wizard. The current step 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 step is disabled, it means that the step 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. A new target group will not be created if the wizard is terminated by clicking **[Cancel]**, clicking any of the navigational icons, or by closing the browser.

For an existing target group, if the wizard is exited by clicking **[Cancel]**, clicking navigational icons, or closing the browser, then 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 the **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 Definition wizard, and going directly to the Summary screen (click on the **Summary** link at the top of the page). On the Summary screen, check **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 and the first recipient has been added, 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 Target Group Definition wizard as described below.



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

13.1 General

The general characteristics of the target group consist of a name, a category, and a description. This information will be used by end 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 end users who are selecting target groups in the Define 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 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. Target group categories are optional. If no category is selected or created, target groups are placed into the <No Category> category by default.

Figure 92 The Target Group Definition Wizard – General Screen for Hosted Lists

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, AGE, GENDER from hosted recipient list "XYZ Newsletter"

Type the name of the new category here

Select Existing Category

Once you're finished entering the information for the target group, click **[Next ->]** to continue.

13.2 Source

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

Figure 93 The Target Group Definition Wizard - Source Screen for Hosted Lists

Target Group Definition

General Source Source Details Parameters Input Layout Input Preview Summary

Cancel Save & Exit <- Back Next ->

Source

Select the mailing list to retrieve your recipients from.

Recipient Warehouse

- L-Soft international, Inc.
 - Employee News
 - LISTSERV at Work**
 - Training News
- PetsMart Company
- Widget Company

List Details

Name: LISTSERV at Work

Description: LISTSERV at Work Newsletter

Once you're finished selecting the dataset and list, 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 their data. Multiple fields of data can be used

along with combined operators to fine tune which messages are sent to specific sets of recipients.

By selecting conditions and operators, the Data Administrator builds the query that will be submitted to the dataset to pull recipients from the dataset. Like other queries in the Target Group Definition 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 SQL query is displayed below. Click on the **[Actions on Selected Node](#)** link 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 D: 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 D: 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 **Based on a Previous Job** recipient type in the Define Recipient wizard. 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 D: Building Hosted Recipient Queries](#).

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

Figure 94 The Target Group Definition Wizard - Source Details Screen for Hosted Lists

Target Group Definition

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

Cancel Save & Exit <- Back Next ->

List Subscriber Condition

Supply the condition that determines if a list subscriber shall receive the mail or not.

Available Fields of List: LISTSERV at Work

EMAIL (Text)	FULLNAME (Text)	EMPLOYER (Single Select)	JOBDESC (Text)	SITE (Boolean)	OWNER (Boolean)	EDITOR (Boolean)
-----------------	--------------------	-----------------------------	-------------------	-------------------	--------------------	---------------------

Subscribers of "LISTSERV at Work"

- (... AND ...)
- (... AND ...)
- EMPLOYER={{industry}}
- OWNER=true

AND Combination Operator

Actions on Selected Node

- Change Operator Type
- Add Condition
- Add Job Based Condition
- Add Combination Operator
- Cut
- Copy
- Delete

This combination operator evaluates as true if in turn all its child combination operators and/or condition nodes evaluate as true when applied to a subscriber.

Condition in text form:
{EMPLOYER={{industry}} AND OWNER=true}

Once you're finished setting conditions for the list, 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 when employing the target group for a recipient definition.

Figure 95 The Target Group Definition Wizard - Parameters Screen for Hosted Lists

Target Group Definition

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

Cancel Save & Exit <- Back Next ->

Parameters

Enter the necessary details for each of the parameters in the condition.
Navigate the condition tree to display the conditions containing parameters.

Subscribers of "LISTSERV at Work"

- (... AND ...)
- (... AND ...)
- EMPLOYER={{industry}}
- OWNER=true

Parameter Details

Parameter: industry

Label:

Description:

Input Type:

Once you're finished entering the details for each parameter, 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 end 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 the **[Save Entry]** button to save headings and introductory text. Use the **Delete Heading** link to remove a saved heading.

Figure 96 The Target Group Definition Wizard - Input Layout Screen for Hosted Lists

Once you're finished entering any parameter details, 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 end users will see it is generated here. Verify that the layout is acceptable. If it is acceptable, click the **[Next ->]** button. If it is not, then click the **[<- Back]** button to return to previous pages in the wizard to make changes.

Figure 97 The Target Group Definition Wizard - Input Preview Screen for Hosted Lists

Target Group Definition

General Source Source Details Parameters Input Layout Input Preview Summary

Cancel Save & Exit <- Back Next ->

Parameter Input Page 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. Please verify that everything looks as it is supposed to, or go back to the previous pages to change the settings.

Subscribers Reported Industry

Select the industry that subscribers have reported being affiliated with as criteria for segmenting a mail job.

Industry: (Industry subscribers are affiliated with)

- Accounting
- Advertising
- Agriculture/Fishing
- Armed Services
- Banking/Financial/Insurance
- Civil Service/Local Government
- Computing/Data Processing**
- Communications
- Construction
- Education
- Engineering

13.7 Summary

The Summary screen displays the target group definition, conditions, and parameters. In order for users to access the target group when defining recipients for a mailing, it must be enabled. Check **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 end users.

Figure 98 The Target Group Definition Wizard - Summary Screen 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 **Send to an Existing LISTSERV List** recipient type in the Define Recipients wizard. Multiple screens guide the data administrator through 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 users who are selecting target groups in the Define 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 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. Target group categories are optional. If no category is selected or created, target groups are placed into the <No Category> category by default.

Figure 99 The Target Group Definition Wizard – General Screen for Classic LISTSERV Lists

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](#) [Select Existing 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

Click here to enter add a new category

Once you're finished entering the information, click **[Next ->]** to continue.

14.2 Source

The Source screen lets you select the LISTSERV list and specify any additional information. Select the LISTSERV list for the drop-down menu. Next, select the type of message by selecting **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. The message will be archived if there are list archives, and the message will be available for list digests.

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;. Special list messages do not go into the archives or digests.

Figure 100 The Target Group Definition Wizard – Source Screen for Classic LISTSERV Lists

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 within 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 only to those list subscribers that selected any of the checked list topics.
- Expose the topics as parameters so that end 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.
- **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.

Figure 101 The Target Group Definition Wizard - Source Details Screen for Standard List Message

Click the **Select Topics** link to open the Topics Selection screen. From here, you can choose which topics to use. Also, you can hide or expose the selected topics in the subject line of the message by selecting the corresponding option. If the list subscribers are aware of the topics and are accustomed to using them (for example, if they set up filters in their email clients to move list messages to different folders depending on the topic), 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. Topics will be defined in an email “X-header” so they will be revealed to recipients who choose to view the (usually hidden) email headers in their email clients.

Figure 102 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 email 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 &pet = "cat"
```

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

```
&pet = "{{pet_type}}" OR &pet = "{{pet_type}}"
```

The brackets denote 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 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 103 The Target Group Definition Wizard - Source Details Screen for a Special 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 a conditional expression that will be evaluated by LISTSERV and check list subscription options.

Send to LISTSERV List: HLL

Options

MAIL DIGEST INDEX NOMAIL

Condition

&pet = "dog" OR &pet = "cat"

Parameter placeholders in the LISTSERV list condition are enclosed by the following tags:

Opening Tag: {{ Closing Tag: }}

Once you're finished setting up any conditions for the list, click **[Next ->]** to continue.

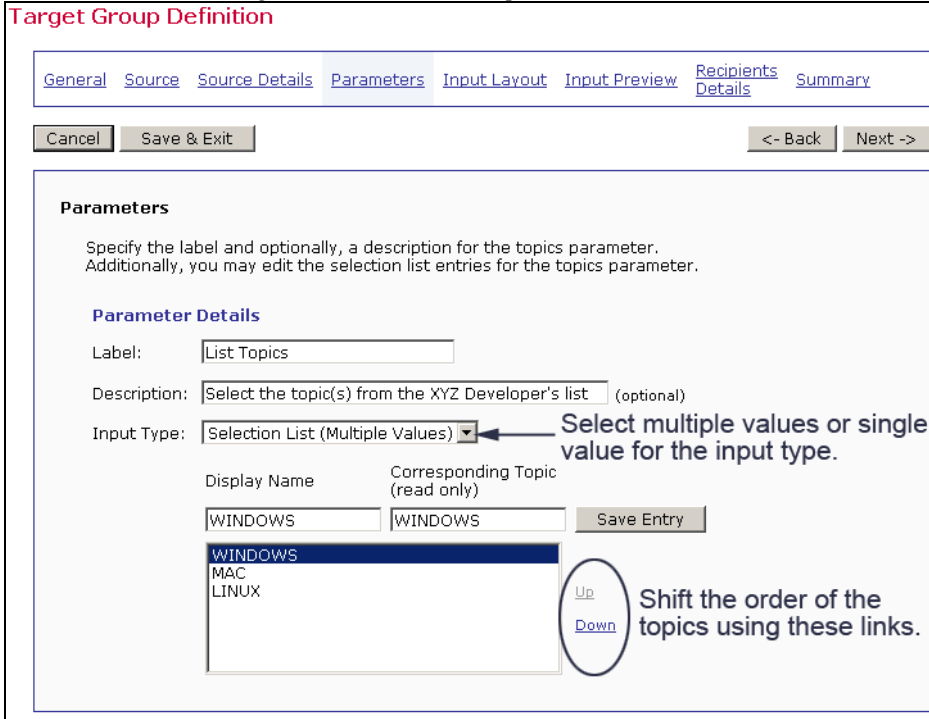
14.4 Parameters

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 users to select which topic(s) to use in the recipient definition of their email jobs. Fill out the parameter details by giving the parameter a label and a description. These will help users understand what they are selecting for their recipient 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; multiple select allows for more than one topic choice from the drop-down menu. Use the **Up** and **Down** links to shift the order of the topics in the drop-down menu.

Figure 104 LISTSERV Topics as Parameters



Target Group Definition

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

Cancel Save & Exit <- Back Next ->

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: List Topics

Description: Select the topic(s) from the XYZ Developer's list (optional)

Input Type: Selection List (Multiple Values) **Select multiple values or single value for the input type.**

Display Name	Corresponding Topic (read only)
WINDOWS	WINDOWS

Save Entry

WINDOWS
MAC
LINUX

Up
Down **Shift the order of the topics using these links.**

Once you're satisfied with the parameter details, 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; parameters appearing as normal links have already been defined. To select a parameter, simply click on 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 Define Recipients wizard. For more information on creating parameters, and the different parameter types, see Section 18 [Defining Parameters](#).

Figure 105 Parameters in Conditional Expressions

Once you're satisfied with the parameter details, 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 end users. Headings and additional screen text can be added to further describe the choices users have among the different selections available in the target group. If there are multiple parameters, then they can be grouped under headings and their order can be arranged. The more description 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 email 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 end users.

Figure 106 Input Layout for LISTSERV Lists with Topics as a Parameter

Once you're finished, 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 end users.

Figure 107 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)
 mail_type (Check for HTML mail)
 Change the order of the parameters using the Up and Down links.

Up
 Down
 New Heading
 Delete Heading

Heading: HTML Messaging

Optional Text:
 Add any additional descriptive text here.

Save Entry

Add a new heading or delete an existing one.

Once you're finished, click **[Next ->]** to continue.

14.6 Input Preview

The Input Preview screen reveals how the target group will appear to users when defining recipients. Use this screen to check the appearance of the target group and make selections that are run against the data.

Figure 108 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 (Operating system topics)
 MAC
 LINUX

Figure 109 Input Preview for LISTSERV List with Conditions

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.

Software Development

Software project: Add It Up (Enter the software project being developed)

HTML Messaging

Check for HTML mail:

Check or uncheck the box for the second condition.

Use the drop-down menu to select the data to fulfill the first condition.

Click the [**<- Back**] button to return to the Input Layout screen to make changes, or click the [**Next ->**] button to continue.

14.7 Recipients Details

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

Figure 110 Recipient Details for Hosted LISTSERV Lists

Target Group Definition

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

Cancel Save & Exit <- Back Next ->

Recipients Details

This page displays a list of the columns you may use for mail merge.

Recipient Identification Columns

E-mail Column: *TO
Name Column: FULL_NAME

Additional Mail Merge Columns

The following columns may be used for mail merging.

Merge Columns: FNAME
LNAME
USERNAME
SOFTWARE
DOB
HTML
BETATEST

All of these columns can be used as mail merge variables in the message body.

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 email message.

Once you're finished, 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 users to access the target group to define recipients for a mailing, it must be enabled. Check **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 in the Define Recipients wizard.

Figure 111 The Target Group Definition Wizard – Summary Screen for Classic LISTSERV Lists

Target Group Definition

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

Cancel Save & Exit <- Back Finish

Summary

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 the **[Finish]** button 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 **Upload a Recipients Text File** recipient type in the Define Recipients wizard. 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

The general characteristics of the target group consist of a name, a category and a description. This information will be used by 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 users who are selecting target groups in the Define 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 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. Target group categories are optional. If no category is selected or created, target groups are placed into the <No Category> category by default.

Figure 112 The Target Group Definition Wizard – General Screen for Uploaded Text File

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:

Type the name of the new category here

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 immediately upload a file from a local drive that will be 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. Every job that uses this target group will send to the exact same list of recipients. In order to update the list of recipients, the data administrator will have to update the definition of the target group and reload an updated file.
– OR –
- 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. Each job using this target group may end up sending to different recipients if the file is updated on the server between jobs.

If you selected the **Define recipients now** option, then the **Upload a recipients file** link is enabled. 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 C: Email and International Character Sets](#).

Figure 113 Define Recipients from an Uploaded File

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.

If you selected the **Load recipients just before sending from a server file** option, then enter the path and name of the file the recipients will be imported 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.

In order to proceed with the next steps, it is necessary to have a file of the right name on the server. It does not have to be the final recipient file – it could contain just test recipients – but it needs to use the same formatting as the final file so that LISTSERV Maestro can determine how to import it correctly.

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 email 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 114 The Target Group Definition Wizard - Parse Recipients Screen for an Uploaded Text File

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
 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

Refresh Preview

If the parsing is accurate with each column of data separated correctly and labeled with a header row, then click the [**Next ->**] button to continue.

If LISTSERV Maestro has not interpreted the data correctly, or an unconventional delimiter and/or quote character has been used, click on the **Specify details manually** link 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 115 Manually Parse an Uploaded File

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.

Headers are specially defined rows used 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 **No, the file does not contain a header row** option 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 **Yes, the first row in the file contains headers** option and the headers within the file will be used.

If the parsing is accurate with each column of data is separated correctly and labeled with a header row, then click the **[Next ->]** button to continue.

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 email 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 email. If the **Use additional recipient data for mail merging and tracking** option is selected, columns from the text file or database can be used in the email 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 email** option 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 117](#)).

15.4.2 Recipient Identification Columns

In order to process an email job, LISTSERV Maestro needs to know which column represents the recipients' email addresses. Use the drop-down menus to select the **Email Column**. When additional recipient data is being used for mail merging, it is possible to select the **Name Column** as well (see [Figure 116](#)). This drop-down menu will not appear when sending bulk email (see [Figure 117](#)).

15.4.3 Header Definition

Headers are specially defined rows used 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 **Email Column** and the **Name Column** using the drop-down menus.

Figure 116 Recipient Details Using Additional Recipient Data

Target Group Definition

General Source Source Details Recipients Details Duplicate Elimination Summary

Cancel Save & Exit <- Back Next ->

Recipient's 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: **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.isoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.isoft.com	Yvette	Yosel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.isoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.isoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.isoft.com	Vanna	Vonschedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.isoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.isoft.com	Toby	Tuttle	slow-poky	3	1992	y	n	y	n
Seth@maestro-demo.isoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.isoft.com	Ron	Ronnington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.isoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Figure 117 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: **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

Once you're finished selecting the columns and defining the headers, 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 email addresses** – If the text file contains entries with the same email 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 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.



Tip: 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 email address, for example, a work email address and a personal email 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 email addresses. In contrast, several recipients may use the same email address, for example, family members sharing an ISP may also share an email 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 email account.

Figure 118 The Target Group Definition Wizard - Duplicate Elimination Screen for an Uploaded Text File

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

Once you're finished setting up the removal of duplicates, click **[Next ->]** to continue.

15.6 Summary

The Summary screen displays all the selections for the target group definition. In order for end users to access the target group, it must be enabled. Check **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 end users.

Figure 119 The Target Group Definition Wizard - Summary Screen for an Uploaded Text File

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 **Select Recipients from a Database** recipient type in the Define Recipients wizard. 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 Target Group Definition 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 users who are selecting target groups in the Define 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 end 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 of the available target groups, 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. Target group categories are optional. If no category is selected or created, target groups are placed into the <No Category> category by default.

Figure 120 The Target Group Definition Wizard – General Screen

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:

Once you're finished enter a name and description, 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. Plugins are available for MySQL, Oracle, SQL Server, DB2, and ODBC. If the desired plugin is not listed on the drop-down menu, then that means it has not been registered in the Administrative HUB – contact the LISTSERV Maestro administrator to request plugin registration.

Once a selection has been made, the screen will automatically refresh with input boxes for connection parameters. The Source screen is slightly different for each 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. 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 when this target group is used for defining recipients. See Section 18 [Defining Parameters](#) for more information on how to parameterize the SQL statement and for details on the **Opening Tag** and **Closing Tag** fields.

Figure 121 The Target Group Definition Wizard – Source Screen

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,
```

Enter the SQL statement here.

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.

Select an option 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 Define Recipients wizard, and when the Summary screen of that wizard is entered. This means that if the user chooses this target group in the Define Recipients wizard, then the list of the actual recipients is defined at the moment the user completes the Define Recipients wizard. If the database content changes between that moment and the actual sending of the job, then those changes will not be reflected in the recipient list. In order to update the data, the end user would have to go back into the Define Recipients wizard and specifically request a reload.
- **Just before sending** – The SQL statement will be executed when this target group is used in the Define Recipients wizard at the moment before the job is actually sent. This means that if the end user chooses this target group in the

Define 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 Define Recipients wizard is completed. If the database content changes between the completion of the Define Recipients wizard and the actual sending of the job, then those changes will be reflected in the recipient list.



Important: If **Just before sending** is selected and the database is not available during the sending of the job, the job will fail. Be sure to coordinate the sending and database maintenance times to avoid conflicts.

Once you're finished entering the database connections details, click **[Next ->]** to continue.

16.3 Parameters

If parameters are part of the SQL statement on the Source screen, then they will need to be further defined on the Parameters screen. All parameters appear as links. Parameters highlighted in yellow are undefined; parameters appearing as normal links have already been defined. Click on a 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 Define Recipients wizard. For more information on creating parameters, and the different parameter types, see Section 18 [Defining Parameters](#).

Figure 122 The Target Group Definition Wizard – Parameters for a Database Accessed by LISTSERV Maestro

Target Group Definition

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

Cancel Save & Exit <- Back Next ->

Parameters

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

SQL Statement: `SELECT customer_id as customerid, first_name as firstname, last_name as lastname, city, state, email_address as email FROM maetest WHERE state IN ('(statesel)')`

Parameter Details

Parameter: statesel

Label: *The label appears to the end user to identify what input is required*

Description: (optional) *A description can appear after the input to assist the end user*

Input Type: *Select the type of input that appears to the regular user*

Specify list entries manually Retrieve list entries from database *Specify whether to type the list entries in manually or have them retrieved from the database*

SQL Statement:
`select distinct STATE from mae_recipients`

Enter a SELECT statement here that will determine the selection list values available to the end user

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/time. Click **[Next->]** to continue.

16.4 Input Layout

The Input Layout screen allows the data administrator to design how the recipient target group appears to end users. Heading and additional screen text can be added to further describe the choices users have among the different selections available in the target group. If there are multiple parameters, then they can be grouped under headings and their order can be arranged. The more description 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 email jobs.

If one or more parameters are of the **Restrict values(s) to floating point numbers** type, then 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 Define Recipients wizard, the end user will always use a dot as the decimal separator when entering a floating point number.

Figure 123 The Target Group Definition Wizard - Input Layout for a Database Accessed by LISTSERV Maestro

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:

Optional Text:

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.

Once you're finished enter information about the parameters, click **[Next ->]** to continue.

16.5 Input Preview

The Input Preview appears as it would to 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 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.

The values entered in the Input Preview screen are used to fill out the actual target group SQL statement the same way as it will later happen in the Define 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. Click **[Next->]** to continue.



Note: If the Target Group Definition wizard is engaged to create 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.

Figure 124 The Target Group Definition Wizard – Input Preview for a Database Accessed by LISTSERV Maestro

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 email 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 email. If the **Use additional recipient data for mail merging and tracking** option is selected, columns from the text file or database can be used in the email 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 email** option 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 126](#)).

16.6.2 Recipient Identification Columns

In order to process an email job, LISTSERV Maestro needs to know which column represents the recipients’ email addresses. Use the drop-down menu to select the **Email Column**. When additional recipient data is being used for mail merging, it is possible to select the **Name Column** as well (see [Figure 125](#)). This option is not available for bulk email (see [Figure 126](#)).

16.6.3 Header Definition

Headers are specially defined rows used to label the columns of data so that the system and the user can correctly identify the columns. LISTSERV Maestro will use the field names returned by the SQL query as headers. By default, these are the field names used in the database tables, but they can be changed by the SQL query through the use of an “AS” clause. It is possible to edit the headers returned by the SQL query in order to make them easier to use in mail merging. Changing the headers in LISTSERV Maestro will not change the field names in the original database.

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 **Email Column** and the **Name Column** using the drop-down menus.

Figure 125 The Target Group Definition Wizard - Recipients Details Use Additional Recipients 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.isoft.com	Zoe	Zimmerman	zimmy	3	1961	n	n	y	n
yvette@maestro-demo.isoft.com	Yvette	Yocel	kitty-kool	1	1987	y	n	y	n
Xavier@maestro-demo.isoft.com	Xavier	Xero	no-way	2	1970	y	y	n	y
Wilfred@maestro-demo.isoft.com	Wilfred	Wonderly	wiz-kid	4	1980	y	n	y	y
Vanna@maestro-demo.isoft.com	Vanna	VonSchedule	letters	2	1983	n	n	n	n
Ursula@maestro-demo.isoft.com	Ursula	Underhill	hobbit-girl	1	1991	y	n	n	n
Toby@maestro-demo.isoft.com	Toby	Tuttle	slow-picky	3	1992	y	n	y	n
Seth@maestro-demo.isoft.com	Seth	Simpson	Homer	1	1982	y	y	y	y
Ron@maestro-demo.isoft.com	Ron	Remington	remmer	3	1979	y	y	n	n
Quod@maestro-demo.isoft.com	Quod	Quartermaster	four-ways	4	1974	n	n	n	n

Figure 126 The 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

Once you're finished defining the recipients and the headers, click **[Next ->]** to continue.

16.7 Duplicate Elimination

On the Duplicate Elimination screen define how duplicate recipients, which 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 email addresses** – If the list of recipients retrieved by the SQL query contains entries with the same email 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, then they will be considered duplicates. Only the first 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** section 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 127 The Target Group Definition 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

Once you're finished defining how duplicate recipients are to be removed, click **[Next ->]** to continue.



Tip: 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 email address (i.e. a work email address and a personal email 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 email addresses. In contrast, several recipients may use the same email address (i.e. family members sharing an ISP may also share an email 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 email 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 Define 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 **Yes, allow the definition of recipients based on this target group**. Target groups that are enabled meet all the requirements for the definition of recipients, and they are available for use in the Define Recipients wizard. To disable a target group, uncheck the option. 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.

Figure 128 The Target Group Definition Wizard – Summary for a Database Accessed by LISTSERV Maestro

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:

```
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.Isoft.com	Mirjam	Mirjam McIntosh	8787	fish	rent	tv	72	h
Lisa@maestro-demo.Isoft.com	Lisa	Lisa Lopez	5454	other	rent	tv	55	h
temp5@cherry.ease.Isoft.com	Mark	Mark Ryder	8787	cat	none	none	18	h
temp8@cherry.ease.Isoft.com	Lupe	Lupe Medina	8787	other	own	newspaper	30	h
Mirjam@maestro-demo.Isoft.com	Mirjam	Mirjam McIntosh	8787	fish	rent	tv	72	h
Lisa@maestro-demo.Isoft.com	Lisa	Lisa Lopez	5454	other	rent	tv	55	h
temp5@cherry.ease.Isoft.com	Mark	Mark Ryder	8787	cat	none	none	18	h
temp8@cherry.ease.Isoft.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 **Let LISTSERV Select Recipients from a Database** recipient type in the Define Recipients wizard. Multiple screens take the data administrator through the process of defining a recipient target group using LISTSERV to select recipients from a database.

17.1 General

The General screen in the Target Group Definition 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 users who are selecting target groups in the Define 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 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. Target group categories are optional. If no category is selected or created, target groups are placed into the "<No Category>" category by default.

Figure 129 The Target Group Definition Wizard – General Screen for a Database Accessed by LISTSERV

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.

Once you're finished entering the name and description, 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 the LISTSERV Developers Manual.

Enter the SQL statement. The statement may be a fixed statement or it may contain parameters that are later filled out when this target group is used in defining the recipients.

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 130 The Target Group Definition Wizard – Source Screen for a Database Accessed by LISTSERV

Once you’re finished entering the database information, click **[Next ->]** to continue.

17.3 Parameters

If parameters are part of the SQL statement on the Source screen, then they will need to be further defined on this screen. All parameters appear as links. Parameters highlighted in yellow are undefined; 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 Define 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 131 The Target Group Definition Wizard – Parameters for a Database Accessed by LISTSERV

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	

Entries have to be added manually because LISTSERV Maestro has no direct connection to the data.

Save Entry

Up
Down
New
Delete

Use these links to add and delete entries as well as move them up or down,

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/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 end users. Headings and additional screen text can be added to further describe the choices 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 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 email jobs.

If one or more parameters are of the **Restrict values(s) to floating point numbers** type, then 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 Define Recipients wizard, the end user will always use a dot as the decimal separator when entering a floating point number.

Figure 132 Input Layout - LISTSERV Selects from a Database

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.

Demographics
statesel (State)
minage (Age between)
maxage (and)
Mail preference
html (HTML)
text (Text)

Up
Down
New Heading
Delete Heading

Heading: Mail preference

Optional Text:
Add any additional descriptive text here.

Save Entry

Add a new heading or delete an existing one.

Once you've finished entering any additional information, click **[Next ->]** to continue.

17.5 Input Preview

The Input Preview screen appears as it would to 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 parameter order needs to be changed, click the **[<- Back]** button. If labels or descriptions need to be changed, click the **Parameters** link to re-enter the Parameters screen.

Figure 133 Input Preview for LISTSERV Selects from a Database

Target Group Definition

General Source Parameters Input Layout **Input Preview** Recipients Details 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. Please verify that the layout is satisfactory. If not, return to the previous pages to change the settings.

Demographics

State: Alabama (State of residence)
Alaska
Arizona
Arkansas

Age between: 25 (minimum age)
and: 55 (maximum age)

Mail Preference

HTML mail: (check box to send HTML mail)
Text mail: (check box to send plain text mail)

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**.

In the **Recipient Identification Columns** section, specify which of the recipient columns in the database contains the email addresses that will be used for delivery. Enter the column name in the corresponding text box. Optionally, specify which of the recipient columns in the database contains the names of the recipients by entering the column name in the corresponding text 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. In the **Additional Merge Columns** section, enter each column name in the corresponding text box, one name per row. Mail merging is optional, but if engaged, other recipient data can be used in the message making it more personal. For more information on using merging fields, see Section 5.6 Merge Fields and Conditional Blocks in the LISTSERV Maestro User's Manual.

Figure 134 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

Once you're finished specifying the columns, 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 Define 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 **Yes, allow the definition of recipients based on this target group**. Target groups that are enabled meet all the requirements for defining recipients, and they are available for use in the Define Recipients wizard. To disable a target group, uncheck the option. This will put the target group into a state called **Complete**, meaning that all the requirements for defining recipients are met, but the target group is not released for use.

Figure 135 The Target Group Definition Wizard – Summary Screen for a Database Accessed by LISTSERV

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 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 end 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 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 give 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 are 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.

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 tags in the **Opening Tag** and **Closing Tag** fields below the **SQL statement** field on the Source screen.

Parameter placeholders must follow these 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 end 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 is entered as the parameter value (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 within an 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 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 that the target group SQL statement includes the condition "value in ({{arg}})" and that the user selected the choices "1", "5", "23" and "412". The actual SQL query submitted by LISTSERV Maestro will include the condition: "value in (1,5,23,412)".
- Assume that the statement includes the condition "lastname in ('{{arg}}')" and that the user selected the choices "Miller", "O'Brian" and "Wagner". The actual SQL query submitted will include: "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 then 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 – checkbox, edit field, selection list, and date/time. Each parameter type is only available for certain types of select statements.

Table 4 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
Checkbox	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/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 – checked or unchecked. 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 136 Parameter Type Checkbox – Data Administrator's View

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 137 Parameter Type Checkbox – 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.

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 within an in-clause context.

Figure 138 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 139 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 within 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. Select an option 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, edit its visible text and/or internal value in the two edit fields above, and then 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 then click **Delete**.

Figure 140 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	
<input type="text" value="Albany"/>	<input type="text" value="Albany"/>	<input type="button" value="Save Entry"/>
<input type="text" value="Albany"/> <input type="text" value="Baltimore"/> <input type="text" value="Brooklyn"/> <input type="text" value="Buffalo"/> <input type="text" value="Carson City"/> <input type="text" value="Chicago"/> <input type="text" value="Dublin"/>		Up Down New Delete

Figure 141 Parameter Type Selection List – End User's View

18.2.3.2 Database specification

Enter a SQL statement. 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, then 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 142 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 ('{city1}')`

Parameter Details

Parameter: city

Label:

Description: (optional)

Input Type: ▼

Specify list entries manually Retrieve list entries from database

SQL Statement:



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 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 order, according to specification), and/or as two or three input fields for the time (hours and minutes with or without seconds, according to 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 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 the format string is being typed into the input field, the sample date/time "Sep. 1, 2002 08:04:06 AM" will 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 143 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 144 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: mm dd yyyy



Important: 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).

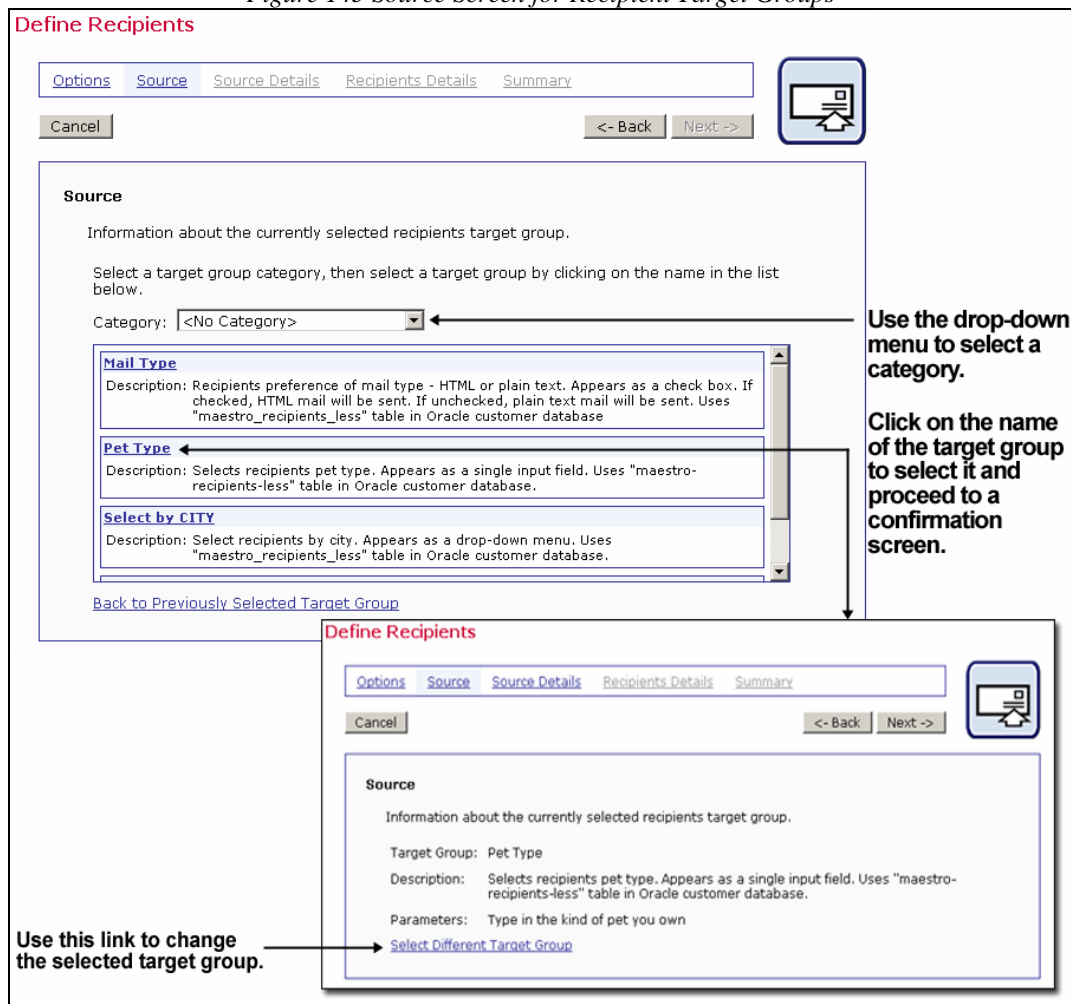
Section 19 Using Enabled Target Groups in the Recipients Wizard

Once recipient target groups have been created and enabled by the data Administrator, they can be used in the Define Recipients wizard to define recipients for an email job. For more information on using the Define Recipients wizard, see Section 4 Defining Recipients of an Email Job in the LISTSERV Maestro User's Manual.

The Define Recipient wizard is comprised of five separate screens. On Options screen, users can elect to **Send to a Recipient target group**. 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 **Select Different Target Group** link.

Figure 145 Source Screen for Recipient Target Groups



Click **[Next->]** to continue onto 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 Input Preview screen does in the Target Group Definition wizard. Make the desired selections from the checkboxes, drop-down menus, and/or input boxes.

Figure 146 Define Recipients Using a Target Group

The screenshot shows the 'Define Recipients' wizard with the 'Source Details' tab selected. The wizard has a navigation bar with tabs: Options, Source, Source Details (active), Recipients Details, and Summary. Below the navigation bar are buttons for 'Cancel', '<- Back', and 'Next ->'. A 'Finish' button is also visible in the top right corner. 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.



Note: 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 diagram.

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 a true or false statement.

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 Define Recipient wizard. The user selects the matching plugin for the database, then provides the connection data (like host name, port, user name, password, etc.). LISTSERV Maestro is then able to access that database to select the recipients.

Datasets – 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, menu selections, dates and so on. The data administrator designs the datasets within a recipient warehouse, defining 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 pertain just to those lists.

Email Merge – Placing variables that are extracted from a database into an email message template. This operation permits individual personalization of otherwise bulk email 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.

Hosted 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.

Hosted LISTSERV List – On some platforms, it is possible for LISTSERV Maestro to create traditional LISTSERV lists and store the subscription data for these lists such that they are accessible from the LISTSERV Maestro subscription pages. These types of lists are referred to as Hosted LISTSERV Lists or HLLs because their data is “hosted” within LISTSERV Maestro’s system database.

Hosted Recipient List – Lists that are controlled completely by LISTSERV Maestro.

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 users to create email 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 end user defines it.

Quote character – In a SQL statement: a character (usually the single quote) used to enclose string literals in order 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, then all the fields of data are separated by a comma. If the comma is also used within a field, then a quote character must surround the entire field. If the quote character is used in a field, then 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 the 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 for 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, then this contained quote character must be escaped in an appropriate way.

Target Group – Predefined recipient lists, complete with name and description, created by the data administrator. Target groups can simplify and streamline the use of data sources, including databases, uploaded text files, and email lists, to select recipients and recipient data to the point where end users do not need to know anything about how and where data is stored.

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 **Hosted Recipient List** type and in the context of the special “*Calc” system drop-in. 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 be optionally 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 **number** type or of the **text** type. 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 **number** type.

Usage: To include a constant number in a formula, simply type the number using only the digits “0”-“9” (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 **text** type.

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 line breaks in the text string.

Since the text literal must be quoted, it must also follow the rules for quote escaping.

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 the **number** or **text** type, depending on their context or 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 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, 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 the **number** type have the number expression type.

- Profile fields of the **text** type have the text expression type.
- Profile fields of the **Single Selection** type have the text expression type.
- Profile fields of the **Boolean** and **Multiple Selection** types 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 is used 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, then only profile fields which are defined in the hosted recipient list as “mandatory” are allowed as **standard merge field** expressions. Fields defined as “optional” must use the **optional merge field** expression instead.

Optional Merge Field Expressions

Restriction: Optional 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 display during test delivery).

Type: Optional merge field expressions can be of the **number** or **text** type, depending on their context or 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, type the name of the merge field being addressed and enclose it with “&” and “;”. Then, 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 immediately 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 **number** type while others require them to be of the **text** type.

Operators for Number Operands

The following operators require both operand expressions to be of the **number** type:

- + 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 the **text** type:

- + 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 one string that contains the 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 the **number** type, then the “+” is interpreted as the addition operator and the result will be of the **number** type too.

If at least one of the operands is of the **text** type, then the “+” is interpreted as the concatenation operator and the result will be of **text** type. If the other operand is of the **number** type, 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 **text** type is required, an expression of the **text** type or of the **number** type can be used. In the latter case, the number will first be converted into 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.

„Abs“ Abs (arg)	
Function:	Returns the absolute value of the given number argument.
Return-Type:	Number
Arguments:	arg – Number type: The argument whose absolute value is to be determined.
Examples:	Abs(-10), Abs(&VALUE;), Abs(30 - &ACCOUNT; * 2)

“CurrentMillis” CurrentMillis	
Function:	Returns the current time, in milliseconds since “Jan. 1 st 1970, 00:00:00 GMT”.
Return-Type:	Number
Arguments:	None.
Examples:	CurrentMillis

“IndexOf”	
IndexOf(<i>text</i> , <i>searchtext</i> [, <i>startindex</i>])	
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”.
Return-Type:	Number
Arguments:	<p><i>text</i> – Text type: The text string to search in.</p> <p><i>searchtext</i> – Text type: The string to search for.</p> <p><i>The third argument is optional:</i></p> <p><i>startindex</i> – Number type: 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>
Examples:	<pre>IndexOf("a longer text", "lo"), IndexOf("abc def abc def", "abc", 4)</pre>

“Length”	
Length(<i>text</i>)	
Function:	Returns the length of the given text string (the number of characters in the text).
Return-Type:	Number
Arguments:	<i>text</i> – Text type: The text whose length shall be determined.
Examples:	<pre>Length("some text"), Length(&FULL_NAME;)</pre>


“Max”	
Max(arg1, arg2 [, arg3, ... , argN])	
Function:	Returns the greatest of all given number arguments.
Return-Type:	Number
Arguments:	arg1 – Number type: The first argument to find the maximum of. arg2 – Number type: The second argument to find the maximum of. <i>Further arguments are optional:</i> arg3 – Number type: The third argument to find the maximum of. ... argN – Number type: The N th argument to find the maximum of.
Examples:	Max(3, -4), Max(17, 22, 4), Max(82, &VALUE; * 7)


“Min”	
Min(arg1, arg2 [, arg3, ... , argN])	
Function:	Returns the smallest of all given number arguments.
Return-Type:	Number
Arguments:	arg1 – Number type: The first argument to find the minimum of. arg2 – Number type: The second argument to find the minimum of. <i>Further arguments are optional:</i> arg3 – Number type: The third argument to find the minimum of. ... argN – Number type: The N th argument to find the minimum of.
Examples:	Min(13, 2), Min(17, -&VALUE; , 4 * -17)

“Pow”	
<i>Pow</i> (<i>base</i> , <i>exp</i>)	
Function:	Returns the value of the first argument raised to the power of the second argument.
Return-Type:	Number
Arguments:	<i>base</i> – Number type: The base argument. <i>exp</i> – Number type: The exponent argument.
Examples:	<i>Pow</i> (2, 8), <i>Pow</i> (&BASE; , &EXPONENT;)

“Random”	
<i>Random</i> [(<i>threshold</i>)]	
Function:	Returns a pseudo-random number in a range specified by the argument. No argument given: The range is from 0 to the largest possible number value. One argument given: The range is from 0 to the value of the given argument minus one (i.e. “0” to “threshold-1”).
Return-Type:	Number
Arguments:	<i>The argument is optional:</i> <i>threshold</i> – Number type: The threshold value for the random number. The random number will range from “0” to “threshold - 1”.
Examples:	<i>Random</i> , <i>Random</i> (6), <i>Random</i> (&MAX_RANDOM;), <i>Random</i> (&VALUE; - 17 * &MAX;)


“SubscribeTimeMillis”	
SubscribeTimeMillis	
Function:	Returns the time at which 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. 1 st 1970, 00:00:00 GMT”.
Return-Type:	Number
Restriction:	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.
Arguments:	<i>None.</i>
Examples:	SubscribeTimeMillis

“Substring”	
Substring(<i>originaltext</i> , <i>startindex</i> [, <i>endindex</i>])	
Function:	<p>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 by “startindex”. 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”.</p>
Return-Type:	Text
Arguments:	<p><i>originaltext</i> – Text type: The original text string from which the substring will be extracted.</p> <p><i>startindex</i> – Number type: The beginning index, inclusive, zero-based.</p> <p><i>The third argument is optional:</i></p> <p><i>endindex</i> – Number type: The ending index, exclusive, zero-based.</p>
Examples:	<p>Substring("original text", 5),</p> <p>Substring("original text", 3, 3 + &VALUE;)</p>


“ToDate”	
ToDate(<i>datevalue</i> , <i>formatpattern</i> [, <i>localename</i> <i>langcode</i> , <i>countrycode</i>])	
<p>Function:</p> 	<p>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 the optional parameters “langcode” and “countrycode” to specify your own locale. See Time and Date Patterns for details.</p>
Return-Type:	Usually Text . However, may be Number , if the result can be expressed as a number.

<p>Arguments:</p>	<p><code>datevalue</code> – 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><code>formatpattern</code> – Type Text: Specifies the format pattern to use to convert the milliseconds value in “datevalue” into the formatted representation.</p> <p><i>The following arguments are optional: Either you supply no further argument at all...</i></p> <p><i>Or you supply <u>only</u> the following argument:</i></p> <p><code>localename</code> – Text type: A name of a predefined locale. See section 0 for a list of available locale names. If specified, any locale specific text in the formatted date/time representation will be given according to this locale.</p> <p><i>Or you supply <u>both</u> the following two arguments:</i></p> <p><code>langcode</code> – Text type: 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><code>countrycode</code> – Text type: 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>	<p><code>ToDate(CurrentMillis, "MMM dd. yyyy")</code> (formats the current date using the default U.S. locale)</p> <p><code>ToDate(CurrentMillis, "MMM dd. yyyy", "Germany")</code> (formats the current date using the pre-defined locale for Germany)</p> <p><code>ToDate(CurrentMillis, "MMM dd. yyyy", "de", "AT")</code> (formats the current date using a custom locale for language “de” =German and country “AT” =Austria)</p>

“ToLower”	
<code>ToLower(text)</code>	
Function:	Returns the given text argument with all letters converted to lowercase letters.
Return-Type:	Text
Arguments:	<code>text</code> – Text type: The text string to convert to lowercase.
Examples:	<code>ToLower("Convert All UPPERCASE to Lowercase")</code>

“ToMillis”	
<code>ToMillis(datetext, formatpattern [, localename langcode, countrycode])</code>	
Function:	<p>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>
Return-Type:	Number

<p>Arguments:</p>	<p><code>datetext</code> – Text type: 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.</p> <p><code>formatpattern</code> – Text type: specifies the format pattern to use to parse the “<code>datetext</code>”. See Date and Time Patterns for details.</p> <p><i>The following arguments are optional: Either you supply no further argument at all...</i></p> <p><i>Or you supply <u>only</u> the following argument:</i></p> <p><code>localename</code> – Text type: A name of a predefined locale. See Date and Time Patterns for a list of available locale names. If specified, any locale specific text in “<code>datetext</code>” will be expected according to this locale.</p> <p><i>Or you supply <u>both</u> the following two arguments:</i></p> <p><code>langcode</code> – Text type: 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><code>countrycode</code> – Text type: 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 “<code>langcode</code>” and “<code>countrycode</code>” are specified, they are used to create a locale for the given language and country, and any locale specific text in “<code>datetext</code>” will be expected according to this locale.</p>
<p>Examples:</p>	<p><code>ToMillis("February 22. 2004", "MMMM dd. yyyy")</code> (parses the given date using the default U.S. locale)</p> <p><code>ToMillis("Februar 22. 2004", "MMMM dd. yyyy", "Germany")</code> (parses the given date using the pre-defined locale for Germany)</p> <p><code>ToMillis("Februar 22. 2004", "MMMM dd. yyyy", "de", "AT")</code> (parses the given date using a custom locale for language “<code>de</code>” =German and country “<code>AT</code>” =Austria)</p>

“ToNum” ToNum(<i>text</i>)	
Function:	<p>Tries to parse a number from the given text string and returns that number.</p> <p>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>
Return-Type:	Number
Arguments:	<i>text</i> – Text type: The text string to convert to a number.
Examples:	<p>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>

“ToUpper” ToUpper(<i>text</i>)	
Function:	Returns the given text argument with all letters converted to uppercase letters.
Return-Type:	Text
Arguments:	<i>text</i> – Text type: The text string to convert to uppercase.
Examples:	ToUpper("convert all lowercase to uppercase")

Date and Time Patterns

The format of the date and time patterns must be specified for the functions “ToDate” and “ToMillis” 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.



Important: 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



Notes: 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.

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 822 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 PM, Pacific Daylight Time
"K:mm a, z"	0:08 PM, PDT
"yyyy.MMMM.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, then 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: Email 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 email message is sent. Email programs take the message and convert it to bits. The message is sent and the receiving email 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 α at the same positions.

In addition to the ISO-8859 charsets, there are of course a multitude of other charsets, including the “Unicode” charset (which aims to include all characters from all languages), and, for example, charsets for the east Asian languages, such as Chinese, Japanese, and Korean.

The following charsets 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 .)
- BIG5 Traditional Chinese
- GB-2312 Simplified Chinese
- ISO-2022-JP Japanese
- EUC-JP Japanese
- Shift-JIS Japanese
- KSC-5601 Korean
- EIC-KR Korean
- 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 email messages written and delivered in LISTSERV Maestro?

Internally, LISTSERV Maestro uses pure Unicode, allowing for the mixture of any characters in email, 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.

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 contains characters that are displayed with the ASCII charset, then LISTSERV Maestro will choose the ASCII charset. If the message contains characters outside of the ASCII range, but 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), if 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.

Similarly, if you have used Chinese, Japanese, or Korean characters, which can be displayed with one of the supported Asian charsets, then LISTSERV Maestro will choose such a charset. And, optionally (only if you have told LISTSERV Maestro that using Unicode is OK), if you have used characters that can not be displayed with one of the supported ISO-8859 or Asian charsets, or if you have mixed characters from several ISO-8859 charsets and/or from other languages, 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 email 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 email, 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, selected from a database by the Maestro User Interface**, or come from a target group based on a **hosted recipient list**, 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 email 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, then 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**, then 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**, a *hosted 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 emails 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. The character displayed will be from the actual charset that has the same byte value (like 'Ä' from ISO-8859-1 and 'Δ' from

ISO-8859-7). If there is no corresponding byte value in the charset, they may not be displayed at all.

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 email client in some fashion), personalizing the email one step further.

When using recipients **uploaded as text files, selected from the database by the Maestro User Interface**, or that come from a target group based on a **hosted recipient list**, 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 email 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. This means that a German recipient will correctly see umlauts, a Russian will see Cyrillic and a Greek will see Greek letters (under the condition 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**, a **hosted LISERSERV 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 LISERSERV, 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, then you'll have to 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 that 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 LISERSERV Maestro.

Actually, LISERSERV 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 email 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.

Appendix D: 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 Definition 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 the condition tree is edited is separated into two parts. 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.



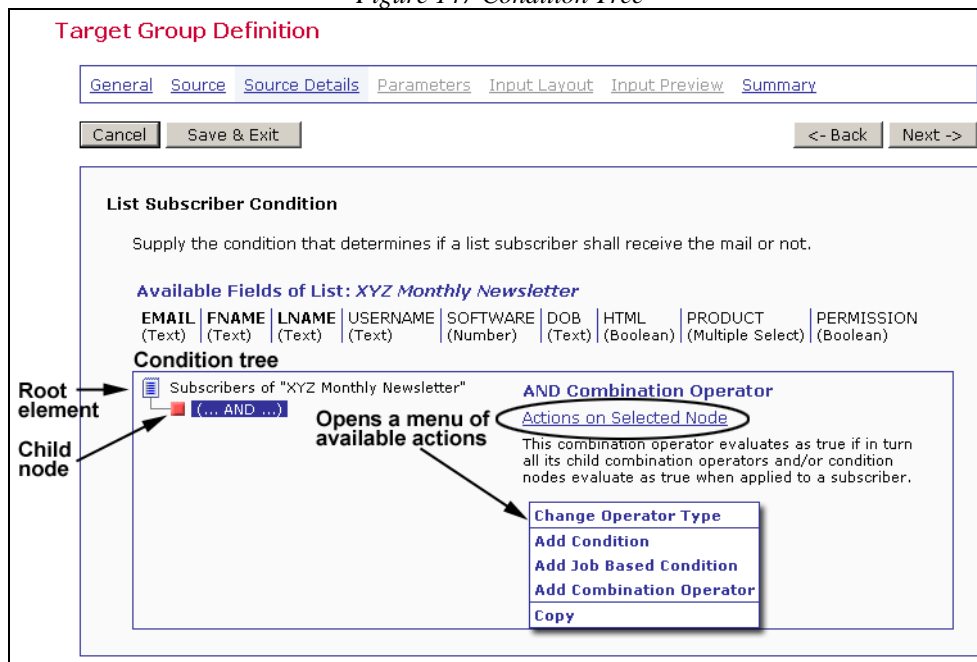
If a node in the tree has sub-nodes, then the node itself can be either closed (hiding the sub-nodes) or open (displaying the sub-nodes). Closed nodes are displayed with a small  icon, and open nodes are displayed with a small  icon. Click on the icon to open or close a node (double-clicking the node name will not work).

Figure 147 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** 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. The actions available on the menu depend 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. If there are currently no unnecessary nodes, then 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". 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 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. 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** option on the Actions menu.

When performing 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.

Certain nestings of operator nodes are superfluous and will therefore be removed ("pruned") if the **Remove Unnecessary Nodes** option on the Actions menu 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 when the node is first created and can later be edited 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 screen shows several drop-down lists and may also contain fields or selection boxes that allow for the definition of the condition for the node. On this screen, 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 screen 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 Edit Condition screen, 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 the left operand 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 can 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 can 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 can 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 **Number** type or of the **Field** type where the field in turn has the **Number** data type. 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 **Text** type or of the **Field** type where the field in turn has the **Text** data type. 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 **Boolean** type or of the **Field** type where the field in turn has the **Boolean** data type. 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 **Field** type where the field in turn has the **Single Select** data type. 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 **Field** type where the field in turn has the **Multiple Select** data type. 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 [intersects "&"]** 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 intersects "&"]** 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 **Text** type, then the operator will also be a text operator and the other operand is converted to text if necessary.
- If both operands are of **Number** type 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 **Number** type 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 **Field** type 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 the **Field** type and the corresponding field is of the **Number** type. 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 the **Field** type and the corresponding field is of the **Field** type. 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 the **Field** type and the corresponding field is of the **Boolean** type. 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 the **Number**, **Text**, **Formula**, or **Field** (where then in turn the corresponding field must be of the **Number** or **Text** type). 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 the **Field** type (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 Define Recipients wizard. [See below](#) for details about parameters.

- **Check for "empty"** – Only available if the left operand is of the **Field** type 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 the **Field** type and the corresponding field is of the **Single Select** type. 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 the **Field** type and the corresponding field is of the **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 Define 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 Define 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: 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 Define 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 Define 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 screen 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 Define 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), then 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 Define 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, then 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. To enable the option, check **With the following tracked behavior**, and then 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 one of the click events is selected, you also need to specify which URLs to look at. This is done with the options 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 Define Recipients wizard by filling out a parameter. The parameter's name needs to be specified here, together with the selected option. Later in the Define 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: 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, then 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. 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 Define 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 Define 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 Define 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).

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