

L-Soft Sweden AB



User's Manual

LISTSERV[®] Maestro, version 3.0



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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 via email to: manuals@lsoft.com

The following documentation conventions have been used in this manual:

- Menus, options, icons, fields, and text boxes on the screen will be bold (e.g. the **Recipient Warehouse** menu).
- Clickable buttons will be bold and within brackets (e.g. the **[OK]** button).
- Clickable links will be bold and underlined (e.g. 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 that can help you save time.
- This symbol denotes a new feature for LISTSERV Maestro 3.0.

What's New in LISTSERV® Maestro 3.0

The following sections describe the new features for LISTSERV Maestro, version 3.0.

LISTSERV and LISTSERV Maestro Integration

LISTSERV is a powerful email list management software solution that sets the industry standard. It allows you to easily manage opt-in email lists, such as email newsletters, announcement lists, and discussion groups.

LISTSERV Maestro is a highly intuitive, advanced email communication solution. It allows you to manage and track sophisticated, database-driven opt-in email campaigns with a powerful, yet easy-to-use Web interface.

LISTSERV Maestro started out in version 1.0 as a user-friendly interface to LISTSERV's DISTRIBUTE command, making it easy to take recipient data from nearly any source (databases, text files, and LISTSERV lists) and process targeted and personalized messages through LISTSERV's powerful mail-merge engine.

In version 2.0, LISTSERV Maestro added a data warehouse to collect and store recipient data for itself and for LISTSERV lists. The Maestro data administration interface now included an easy to use Wizard for creating simple database-backed LISTSERV lists within Maestro.

Meanwhile, the LISTSERV 14.x series added some integration with LISTSERV Maestro. The List Wizard became aware of Maestro hosted LISTSERV lists, and LISTSERV Maestro's powerful HTML message import applet became part of the LISTSERV Web Interface's new message sending interface. The LISTSERV 14.x series also added important deliverability, anti-spam, and anti-virus features that benefited both products.

Now, in LISTSERV 15.0 and LISTSERV Maestro 3.0, the two interfaces have been completely redesigned, merging the best features of each into the other, and allowing free flow from one application to the other.

LISTSERV 15.0 can still function independently of Maestro, but the two products together offer the most comprehensive email communications package on the market. With the recent addition of HDMail, L-Soft's new High Deliverability mail engine, the L-Soft software suite has become an email communications solution unmatched in deliverability, speed, and ease of use.

The following features are a result of this integration between LISTSERV 15.0 and LISTSERV Maestro 3.0, and they are described in the sections below.

Single Sign-On

LISTSERV Maestro now provides an option to map LISTSERV Maestro accounts or identities to email addresses and to trust LISTSERV's login mechanism. Thus, once logged into the LISTSERV Web interface, a user can select a Maestro menu option and go directly into LISTSERV Maestro without having to login again. If a LISTSERV Maestro identity is mapped to an email address, then the user can select which account within that identity to use.

For more information, see the Administrator's Manual for LISTSERV Maestro 3.0.

LISTSERV Access to LISTSERV Maestro Subscriber Pages

The Maestro data administrator (if given that right in HUB account management) may request that the subscriber pages for any datasets be made accessible from the Subscriber's Corner in the LISTSERV Web interface. In that case, the Subscriber's Corner menu option becomes a pull-down menu with links to each of the available datasets in LISTSERV Maestro. Single Sign-On can also be available to subscribers so that, having logged into LISTSERV, they can be automatically logged in to the LISTSERV Maestro subscriber pages that they visit.

For more information, see the Administrator's Manual for LISTSERV Maestro 3.0.

LISTSERV Maestro Subscriber Pages Access to LISTSERV Archives

For datasets containing HLLs with archives, the subscriber pages provide links to the lists' home page and archives within the LISTSERV Web Interface.

For more information, see the Administrator's Manual for LISTSERV Maestro 3.0.

Usability Enhancements

Several enhancements have been made to improve a user's ability to easily maneuver through the LISTSERV Maestro User Interface and to quickly summarize the job, recipient, membership, and subscriber statistics. These enhancements are described in the following sections.

Toolbar

Navigation within LISTSERV Maestro now uses the same type of toolbar with pull-down menus as the LISTSERV 15.0 Web interface. The Toolbar for LISTSERV Maestro contains menus and icons that give you quick access to the different functions of LISTSERV Maestro. These menus adapt to context; for example, when working in a dataset, the **Dataset** menu becomes available for performing dataset operations.

For more information, see Section 2.1 [The Toolbar](#).

Dashboard

The new Dashboard displayed upon logging in provides a quick summary of job status – what happened recently and what is due to happen in the future.

The Dashboard is divided into several sections, which can be rearranged or hidden so that the information most important to each user is shown at the top of the dashboard.

The Dashboard sections are:

- **Currently In The System** shows general statistics such as the number of jobs in progress, number of jobs completed, etc.
- **Recently Visited** provides shortcuts to the most recently used jobs, reports, etc. This lets you easily resume work in one area if you interrupted it to visit another area. These are also available in the **Back To** menu.
- **Jobs Due Next** shows the jobs that are due soon or overdue for authorization. Each job may now be assigned an authorization due date so that Maestro can help you stay on schedule.

- **Current and Upcoming Deliveries** shows a list of jobs that are currently being delivered and that are scheduled next for delivery.
- **Recent Deliveries** shows the status of jobs that were recently delivered – or attempted delivery and failed.

For more information, see Section 2.2 [The Dashboard](#).

Interactive Drill-Down Reporting

Several new types of reports are available in the LISTSERV Maestro User Interface. These reports are interactive charts and let you drill down for details; simply hover the mouse over the chart to pick a particular day and get the stats for that day or drill down to get an hourly chart for that day. The job-based reports below, besides being available to individual accounts, are also available to the site admin over all groups and accounts.

- **Recipients Distribution over Time:** A line chart that shows the distribution over time of the recipients that were processed in the defined period, sub-divided in delivered and bounced recipients.
- **Recipients Per Job in Period:** A bar diagram that shows the successful delivered and bounced recipients of each job in the selected period.
- **Delivered Jobs Distribution over Time:** This line chart shows the distribution over time of the jobs that were processed in the display period supplied above, sub-divided in delivered and failed jobs.
- **Membership and Subscriber Statistics:** These line charts show dataset and list subscriptions and signoffs over time.

For more information, see Section 13 [Tracking Statistics and Reports](#). For information on the Membership and Subscriber Statistics reports, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Hosted LISTSERV Lists Enhancements

Extensive improvements have been made to Maestro Hosted LISTSERV Lists (HLLs), including advanced configuration features, a new list type, a LISTSERV list wizard for cloning or converting standard lists, and the ability to create links to traditional LISTSERV lists.

HLL Definition Wizard - New List Type

A new “user defined” list type is available for creating lists that do not fall neatly into the first three list types (announcement, moderated, and unmoderated). Creating user defined lists is an advanced feature that requires knowledge of LISTSERV list headers and keywords; therefore, this list type is most suited for those experienced LISTSERV users. The behavior of this list depends entirely on the value that is entered for the “Send” keyword.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

HLL Definition Wizard - New Advanced Configuration Tab

The new Advanced Configuration tab makes it easy for the traditional LISTSERV experts to configure lists by setting the keywords they are familiar with, while the list creation

Wizard makes it easy for people new to LISTSERV to create even the most complex lists without needing to know anything about LISTSERV's list header syntax.



Note: A small number of special-purpose or obsolete keywords, such as Peers= and New-List=, are unsupported in LISTSERV Maestro.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Convert or Clone Standard LISTSERV Lists

A new wizard lets you convert a traditional LISTSERV list and turn it into an HLL. This allows you to add data fields and provide default values. The subscribe time from the LISTSERV list is imported as well; therefore, the interactive Subscriber Statistics report can be used effectively on lists that have existed for years. Alternatively, you can clone an existing LISTSERV list, creating a new list with the same configuration and importing its subscribers.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Linked LISTSERV Lists

Now you can create a "link" from your dataset to any existing traditional LISTSERV lists. Once linked, the list is integrated into the membership area so that the subscribers can perform the usual tasks from within the membership area, i.e. subscribe / unsubscribe / edit settings. As with all the Maestro subscriber pages, the list pages for linked LISTSERV lists are customizable.

With these linked LISTSERV lists and the ability to import traditional LISTSERV lists into HLLs, it is easy to transition from LISTSERV to LISTSERV Maestro. Existing lists can be kept exactly as they are or imported into HLLs, and new HLLs and HRLs can be added as well. Lists of all types can be presented to subscribers from a single subscriber interface or split among multiple subscriber datasets, each with its own set of subscriber pages.



Note: This feature is a result of the LISTSERV and LISTSERV Maestro integration. Be sure to read the information on this integration before linking lists.

To establish the user's right for this feature, see the Administrator's Manual for LISTSERV Maestro 3.0. For more information on using this feature, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Subscriber Interface and Data Administration Enhancements

Several enhancements have been made to improve the data administrator's ability to manage both data and subscriber information, including a setting that lets members' signup without a password, a setting that lets members save their password for a quick login, and a new way for members to unsubscribe to a list. These enhancements, plus more, are described in the following sections.

Signup without a Password

If desired, it is now possible to request that the password field not be displayed on the automatically generated pages for joining a dataset or subscribing to a list. In that case, a password is automatically assigned and sent to the subscriber in the subscription

confirmation email. Of course, for security and privacy, existing subscribers are still required to provide a password for making changes to their subscriptions and data.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Quick Login

An option is now available for saving the password in a cookie so that the subscriber is automatically logged on at each visit.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Unsubscribe Pages

Previously, unsubscribing from a list required either logging in to the membership pages or clicking on an unsubscribe link in a message. New pages, which can be linked from any web page, have been added specifically for unsubscribing from lists without first logging into the membership pages.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0 and the Interface Customization Manual for LISTSERV Maestro 3.0.

Subscriber Options

The automatically generated subscriber pages now provide functions that allow subscribers to change their subscriber options, such as mail headers.

In addition, subscriber profiles now contain a section that lets the data administrator have access to these options, just as the subscriber would.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Special List Mailing Condition

In a LISTSERV condition (LISTSERV list target groups with the special list message defined), it is now possible to prefix the parameter name with the "text:" string. Because of this, a parameter that is immediately enclosed with quotes will be interpreted as a text-parameter, and a parameter that is not immediately enclosed with quotes will be interpreted as a number-parameter unless the parameter name starts with "text:"; in which case, it will also be interpreted as a text-parameter.

For more information, see the Data Administrator's Manual for LISTSERV Maestro 3.0.

Job Management Enhancements

Numerous enhancements have been made to make job management easier to perform. These enhancements include:

- A due date can now be assigned to each job. The Dashboard lists the jobs that are due next and the Open Jobs list shows the due date, making it easy to find the jobs that require attention.

For more information, see Section 4.1.1 [Advanced Options](#).

- Jobs can now be assigned to categories.

For more information, see Section 4.1 [Starting a Job](#).

- The three job lists – Open Jobs, Ongoing Jobs, and Completed Jobs – can be made to show jobs in specific categories.
For more information, see Section 10 [Open Jobs](#), Section 11 [Ongoing Jobs](#), and Section 12 [Completed Jobs](#).
- Jobs can be automatically archived a set number of days after delivery. The administrator can provide a default setting for all users as well as for each group or single user. Job owners can change the auto-archive setting for individual jobs.
For more information, see the Administrator's Manual for LISTSERV Maestro 3.0 and the User's Manual for LISTSERV Maestro 3.0.
- All three job lists – Open Jobs, Ongoing Jobs, and Completed Jobs – have a filter that can be used to narrow down the list of jobs displayed. This makes it easier to find jobs fitting certain characteristics.
For more information, see Section 10.1 [Advanced Filter Settings](#), Section 11.1 [Advanced Filter Settings](#), and Section 12.1 [Advanced Filter Settings](#).
- In all three job lists (Open Jobs, Ongoing Jobs, and Completed Jobs), it is now possible to select several jobs at once to perform group actions such as deleting or archiving the jobs, or assigning them to a category.
For more information, see Section 10.2 [Multiple Job Actions](#), Section 11.3 [Multiple Job Actions](#), and 12.3 [Multiple Job Actions](#).

Account Administration Enhancements

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

User Identities

The LISTSERV Maestro administrator may now define "identities" in the Administration Hub. An identity is a collection of several accounts, which may be single user accounts or group accounts, within the same group or in different groups. When logged in to an account that is a member of an identity, a user may switch to any of the other accounts in that identity without having to log out and log back in again.

For example, a university may have a group that handles admissions-related mailings, another group for faculty communications, and yet another group for alumni relations. Though the groups are distinct, they may share one technical staff member who handles the data administration for all three groups. An identity may be defined for the three data administrator accounts owned by this staff member to facilitate moving between the three accounts. Additionally, non-privileged accounts owned by the same staff member could also be assigned to that identity so that the data administrator can easily check what is available to the other accounts in the group.

For more information, see the Administrator's Manual for LISTSERV Maestro 3.0. For information about switching to other accounts within an identity, see the documentation about the **Logout** menu option on the Toolbar (Section 2.1 [The Toolbar](#)).

Advanced Security

The LISTSERV Maestro administrator may now define the number of allowed unsuccessful login attempts a user can have before being locked out of the LISTSERV Maestro User Interface or for the Administration Hub. This additional security is a good way to protect against dictionary attacks, which is a technique used to gain illegal access to a system by automatically employing a list of words in a dictionary to determine the login password for a given user account. The effectiveness of such an attack can be reduced by only allowing a limited number of invalid login attempts and by locking access to the account for a certain period of time.

For more information, see the Administrator's Manual for LISTSERV Maestro 3.0.

Remote Log Access

The three main LISTSERV Maestro components all write their own log files. These files can be found in the "logs" subfolder of each component's home folder inside of the installation folder.

However, in some situations the administrator does not have access to these folders, but still wants to access the log files.

To solve this, LISTSERV Maestro offers remote log file access. The remote access allows an administrator to download the log files from the server, directly in the web-browser.

For more information, see the Administrator's Manual for LISTSERV Maestro 3.0.

Globally Closing Datasets for Maintenance

The LISTSERV Maestro administrator can now define whether or not all datasets are closed for maintenance. This will globally close all datasets for maintenance (in preparation of a server upgrade, etc.). This setting overrides all individual dataset settings.

For more information, see the Administrator's Manual for LISTSERV Maestro 3.0.

Section 1 Introduction to LISTSERV Maestro

Designed specifically to work with LISTSERV[®] 15.0 (or later) LISTSERV Maestro Lite allows users to easily create and send personalized email messages using a web interface. Incorporated into this powerful tool is a hosting component, collecting and retaining recipient data by creating data tables and public web pages, and a tracking component, collecting data when a recipient opens an email message or clicks on a URL contained within the message. LISTSERV Maestro Lite can:

- Organize and store recipient data, including subscription settings, so that it can be used to send out personalized and targeted mailings.
- Create different types of mailing list Hosted Recipient Lists and Hosted LISTSERV Lists.
- Produce customizable public web pages that allow people to sign on and off lists and to manage their own profile data.
- Define a targeted group of recipients based on stored internal recipient data, a LISTSERV list, an external database, a past job, responses to a past job, or a text file.
- Define an email message in plain text or HTML and attach files to it.
- Delegate various tasks related to defining recipients, creating the messages, and delivering email to other team members.
- Schedule email messages for a single delivery or recurring deliveries on any date, at any time, within any time zone.
- Save messages, as well as sender and recipient information, for future email jobs.
- Test email messages before delivery.
- Define the types of data to track.
- Track when recipients open a message.
- Track when recipients click on URLs contained within a message, including URLs that are text-based, image-based, or contained within image maps.
- Track when recipients respond to a web form.
- Produce different types of tracking reports from tracking data.
- Download tracking data and import into Microsoft[®] Excel.
- Produce bounce reports tabulating the number and type of bounce.

1.1 System Requirements

LISTSERV Maestro needs to be installed on a server and configured by a system administrator. However, LISTSERV Maestro does not have to reside on the same server as LISTSERV. The administrator will set up user accounts, assign initial passwords for all individuals who need access to the program, and create account groups if collaboration is desired. Groups are optional and accounts do not need to be part of a group to use the program. Groups are required for collaboration among accounts.

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

- **Microsoft Internet Explorer 5.5** or later (Windows only)
- **Apple Safari 2.0 Build 412** or later (Mac OS X only)
- **Mozilla 1.0.0** or later (Windows, Linux, or Mac OS X)
- and any other browser on Windows, Linux, or Mac OS X that is based on a compatible Mozilla version, such as:
- **Firefox 1.0** or later
- **Netscape 7.0** or later



Note: Some special issues apply when using Netscape or Mozilla on a Linux client. See Appendix F: [Using Netscape or Mozilla Browsers with a Linux Client](#) for more information.

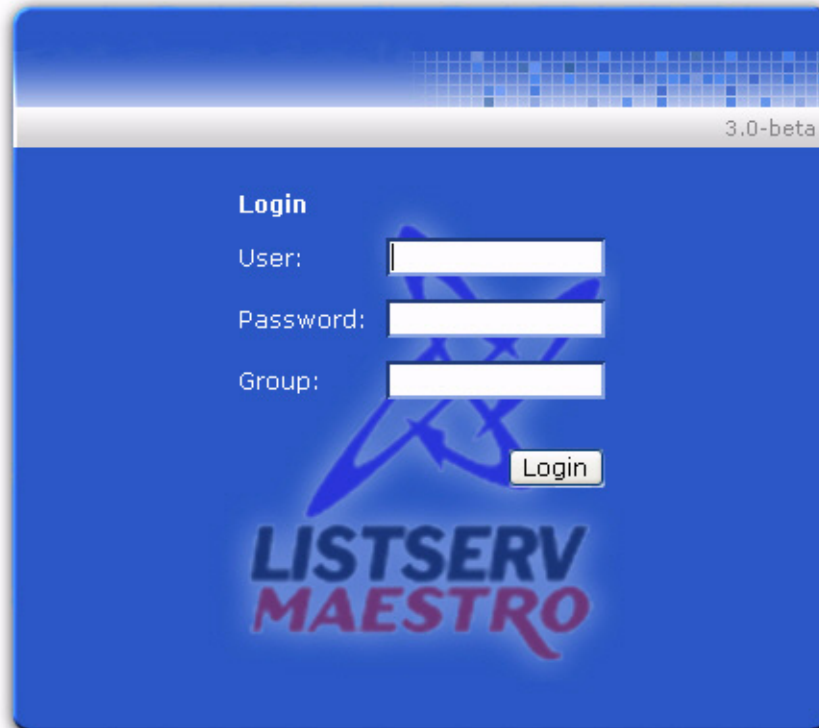
The client does not necessarily need to have the same operating system as the LISTSERV Maestro server. For example, a Linux client can be used to access LISTSERV Maestro on a Windows server and vice versa.

It is important to note that recipients of email being tracked by LISTSERV Maestro may use whatever browser they wish to access the URLs contained in the message. Tracking occurs no matter what browser is used by email recipients.

1.2 Accessing LISTSERV Maestro

Once the system administrator has installed the program and created user accounts, set a compatible browser to http://Your_Maestro_Host/loi. Click on the **Start LISTSERV Maestro Session** link. The Login Screen opens.

Figure 1-1 LISTSERV Maestro Login Screen



A user name and password are required in order to login and access the program. If an account is a member of a group, the group name will also be required at login.

Enter user name, password, and group (if required), and then click the **[Login]** button. User names and groups are not case sensitive. Passwords are case sensitive, and must have a minimum of five characters.

Section 2 Understanding the LISTSERV Maestro Interface

The first thing to understand is that 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 the LISTSERV Maestro documentation, "job", "email job", and "mailing" are used interchangeably and represent the same thing – the summation of the multiple functions that make up the definition and distribution of customized email messages.

Next, The LISTSERV Maestro Interface contains two main features that enable users to easily navigate from one area to another. These two features are the [Toolbar](#) and [Dashboard](#). The following sections describe each in detail.

2.1 The Toolbar



The Toolbar contains menus and icons that give you quick access to the different functions in LISTSERV Maestro.

Figure 2-1 The Toolbar



The **Mail Job** menu lets you create a new job, view a list of open jobs (jobs that you have not finished setting up the criteria for), view a list of ongoing jobs (jobs that repeat), and a list of completed jobs. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **New** – Create a new job.
- **Import** – Import a previously archived job from the archives.
- **Open Jobs** – Display the list of open jobs that have not been authorized for delivery.
- **Ongoing Jobs** – Display the list of ongoing jobs that are authorized for delivery and that are currently being processed or awaiting delivery.
- **Completed Jobs** – Display the list of completed jobs that have been delivered or closed after a delivery failure.
- **Archived Jobs** – Display the list of archived mail jobs.
- **Job Info** – Define the general information of the email job, such as the job title.
- **Authorize Delivery** – Authorize the job for delivery.
- **Team Collaboration** – Define the team collaboration settings for the job.
- **Revoke Send Authorization** – Revoke the delivery authorization of the job.
- **Stop Sending** – Stop delivery of the job.
- **Re-Open Job** – Re-open the job for further editing.
- **Close Job** – Close the job in its failed state.

- **Retry Sending** – Retry the delivery of the failed job.
- **Resume Sending** – Resume the delivery of the job to the pending recipients.
- **Move Job to Archive** – Move the selected mail job to the archive. An archived job will no longer be accessible in the normal LISTSERV Maestro User Interface; it will appear as if the job was deleted. Only the LISTSERV Maestro administrator can import an archived job. Also, an imported job will be “frozen” into the state that it had when it was initially archived (for example, no more tracking events will be collected for this job).
- **Delete Job** – Delete the job.
- **Multiple Job Actions** – Work with one or several jobs at once with one of the following options:
 - **Edit Category of All Selected Jobs** – Edit the job category of all selected jobs.
 - **Edit Team Collaboration of All Selected Jobs** – Edit the team collaboration settings of all selected jobs.
 - **Move All Selected Jobs to Archive** – Move all selected jobs to the archive.
 - **Delete All Selected Jobs** – Delete all selected jobs (not recoverable).
 - **Select All** – Select all jobs in the current job list.
 - **Unselect All** – Unselect all jobs in the current job list.
 - **Enable Multiple Job Actions** – Enable the multiple job actions. Checkboxes will appear next to every job, allowing multiple job selection, and the **Multiple Job Actions** menu will be displayed.



Note: By default, the Multiple Job Actions feature is disabled and the menu contains only the **Enable Multiple Job Actions** option. By selecting this option, Multiple Job Actions become enabled, which has two effects: The menu now contains more options (with various actions that can be applied to several jobs at once), and in the job list, a checkbox is shown in front of each listed job. Check those jobs that you want to manipulate, then select the desired option from the **Multiple Job Actions** menu. This action will then be applied to all selected jobs.

For the administrator, the multiple job actions are always enabled and can not be disabled.

- **Disable Multiple Job Actions** – Disable the multiple job actions. Checkboxes and the **Multiple Job Actions** menu will be hidden.
- **Change Owner of All Selected Jobs** – Change the owner of all selected jobs.
- **Import all Selected Jobs** – Import all selected jobs from the archive.

The **Report** menu lets you create a new report, view any existing reports, and open the Delivered Jobs Statistics and Delivered Recipients Statistics reports. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **New Report** – Create a new tracking statistic report.
- **Reports** – Display the list of currently available tracking statistics reports.
- **Completed Jobs Statistics** – Display the statistical report about the previously delivered jobs.
- **Delivered Recipients Statistics** – Display the statistical report about the recipients of previous jobs.

The **Recipient Warehouse** menu lets you create new and manage datasets, lookup tables, and target groups. You can also edit the bounce process settings for the warehouse. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **New Dataset** – Create a new recipient dataset.
- **Datasets** – Display a list of currently available recipient datasets.
- **Datasets & Lookup Tables** – Display the administrator’s page for recipient datasets and lookup tables.
- **Lookup Tables** – Display the list of currently available lookup tables.
- **New Recipient Target Group** – Create a new target group using one of the following options:
 - **Based on Hosted Recipient List** – Create a new target group that is based on a hosted recipient list.
 - **Based on Classic LISTSERV List** – Create a new target group that is based on a classic LISTSERV list.
 - **Based on Uploaded Text File** – Create a new target group that is based on an uploaded text file (CSV-file).
 - **Based on Database Access by LISTSERV Maestro** – Create a new target group based on a database accessed by LISTSERV Maestro.
 - **Based on Database Access by LISTSERV** – Create a new target group based on a database accessed by LISTSERV.
- **Target Groups** – Display the list of currently available target groups.
- **Bounce Processing** – Define the bounce processing strategy for the Recipient Warehouse.

The **Utility** menu lets you create new and manage drop-in content and sender profiles; plus, it lets you change your account password. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **New Drop-In Content** – Create a new drop-in.
- **Drop-Ins** – Display the list of currently available drop-ins.
- **New Sender Profile** – Create a new sender profile.
- **Sender Profiles** – Display the list of currently available sender profiles.

- **Change Password** – Change the password of the current user account.
- **Print Page** – Print the current page.

The **Dataset** menu lets you manage the datasets, categories, and members. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **Dataset Overview** – Return to the Recipient Dataset Details screen.
- **Edit Dataset Settings** – Edit the dataset settings.
- **Edit Category** – Edit the settings of the category that is currently selected in the dataset tree.
- **Create** – Create hosted lists and categories using one of the following options:
 - **Create Hosted Recipient List** – Create a new Hosted Recipient List in this dataset.
 - **Create Hosted LISTSERV List** – Create a new Hosted LISTSERV List in this dataset.
 - **Create Category** – Create a new category (either in the currently selected category or in the root of the dataset tree).
 - **Convert or Clone Standard LISTSERV List** – Convert an existing, non-hosted LISTSERV list into a Hosted LISTSERV List or creates a Hosted LISTSERV List as a clone of an existing non-hosted LISTSERV list without changing the original list.
- **Browse/Edit Confirmed Members** – Browse through the members of the dataset and edit them manually.
- **Browse Confirmed Members** – Browse through the members of the dataset.
- **Add Single Member** – Add a single, new member to the dataset.
- **Modify Members by Upload** – Add, update, or delete members in the dataset by uploading a file.
- **Download all Members** – Download the current members of the dataset.
- **Team Collaboration** – Define the team collaboration settings for the dataset.
- **Refresh and Manage Linked LISTSERV Lists** – Define which of the non-hosted LISTSERV lists at the LISTSERV server to include in the dataset as Linked LISTSERV Lists. This option will also refresh the settings of the already linked LISTSERV lists by reading their current settings (as defined in the list headers) from LISTSERV so that LISTSERV Maestro will be aware of any changes to the lists.
- **Subscriber Access URLs** – Display the URLs for the Subscriber Access pages of the dataset's member area.
- **Tree Structure** – Manage operations in a dataset tree using one of the following options:

- **Cut** – Cut the selected category from the dataset tree in preparation for a Cut & Paste operation (more precisely, the node will be marked as “cut”, but it will only be removed from its current parent node once you select **Paste** in another node).
- **Copy (Categories Only)** – Copy the selected category (and its subcategories) in the dataset tree in preparation for a Copy & Paste operation (more precisely, the category will be marked as “copied”, but it will only be created once you select **Paste** in another node).



Note: Any hosted lists in the category or sub category will not be copied.

- **Paste** – Paste a node into the currently selected node or root of the dataset tree. The node to paste must have been marked for “cut” or “copy” (see the **Cut** and **Copy** options above).
- **Clear Cut/Copy State** – Clear the current “cut” or “copy” state and unmarks the node that was to be “cut” or “copied” (see the **Cut** and **Copy** options above).
- **Delete all Members** – Delete all members (including unconfirmed ones) from the dataset.
- **Delete Dataset** – Delete the dataset, including all members and lists contained within it.
- **Delete Category** – Delete the category that is currently selected in the dataset tree.

The **Hosted List** menu contains options that are related to the hosted list currently selected in the dataset tree. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **Dataset Overview** – Return to the Recipient Dataset Details screen.
- **Edit List Details** – Edit the hosted list.
- **Browse/Edit Confirmed Subscribers** – Browse through the subscribers of the hosted list and edit them individually.
- **Browse Confirmed Subscribers** – Browse through the subscribers of the hosted list (view only).
- **Add Single Subscriber** – Add a single, new subscriber to the hosted list.
- **Modify Subscribers by Upload** – Add, update, and delete subscribers in the hosted list by uploading a file.
- **Download all Subscribers** – Download the current subscribers of the hosted list.
- **Tree Structure** – Manage operations in a dataset tree using one of the following options:
 - **Cut** – Cut the selected hosted list from the dataset tree in preparation for a Cut & Paste operation (more precisely, the node will be marked as “cut”, but it will only be removed from its current parent node once you select **Paste** in another node).

- **Clear Cut/Copy State** – Clear the current “cut” or “copy” state and unmarks the node that was to be “cut” or “copied”
- **Delete all Subscribers** – Delete all subscribers from the hosted list.
- **Delete List** – Delete the hosted list with all subscribers.

The **Linked LISTSERV List** menu contains options that are related to the Linked LISTSERV List currently selected in the dataset tree. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **Dataset Overview** – Return to the Recipient Dataset Details screen.
- **List Configuration** – Open the corresponding LISTSERV Web Interface page for management of the selected Linked LISTSERV List.
- **Convert To or Clone As Hosted List** – Convert the selected Linked LISTSERV List into a Hosted LISTSERV List or clone a Hosted LISTSERV List from it (cloning will not change the original Linked LISTSERV List).
- **Manage Linked LISTSERV Lists** – Define which of the non-hosted LISTSERV lists at the LISTSERV server to include in the dataset as Linked LISTSERV Lists.
- **Tree Structure** – Manage operations in a dataset tree using one of the following options:
 - **Cut** – Cut the selected Linked LISTSERV List from the dataset tree in preparation for a Cut & Paste operation (more precisely, the node will be marked as “cut”, but it will only be removed from its current parent node once you select **Paste** in another node).
 - **Clear Cut/Copy State** – Clear the current “cut” or “copy” state and unmarks the node that was to be “cut” or “copied”
- **Remove Link to LISTSERV List** – Remove the link to this LISTSERV List (removes the Linked LISTSERV List node from the dataset tree and the actual list at LISTSERV will remain the unchanged).

The **LISTSERV** menu takes you to specific areas in the LISTSERV Web Interface. The options available vary depending on where you are in the application and what function you are performing. The possible options are:

- **Server Administration Dashboard** – Open the Server Administration Dashboard of the LISTSERV Web Interface.
- **List Administration Dashboard** – Open the List Administration Dashboard of the LISTSERV Web Interface.
- **Site Configuration** – Open the site configuration page of the LISTSERV Web Interface.
- **LISTSERV Archives** – Open the LISTSERV archives page of the LISTSERV Web Interface.
- **Server Reports** – Contains options for reports in the LISTSERV Web Interface.

- **Server Usage Reports** – Open the server usage reports page of the LISTSERV Web Interface.
- **Anti-Virus & Anti-Spam Reports** – Open the anti-virus and anti-spam reports page of the LISTSERV Web Interface.
- **Server Activity Reports** – Open the server activity reports page of the LISTSERV Web Interface.

The **Back To** menu is a quick way to return to the previous screen or to one of the recently visited screens. The possible options are:

- **Dashboard** – Go back to the Dashboard screen.
- **Selected Job "JOB NAME HERE"** – Go back to the job with the given name.
- **Create New Job** – Go back to the Start New Job screen.
- **Selected Report "REPORT NAME HERE"** – Go back to the tracking report with the given name.
- **Create New Report** – Go back to the Define Report screen.
- **Selected Dataset "DATASET NAME HERE"** – Go back to the dataset with the given name.
- **Create New Dataset** – Go back to the Recipient Dataset Definition wizard.
- **Selected Lookup Table "LOOKUP TABLE NAME HERE"** – Go back to the lookup table with the given name.
- **Create New Lookup Table** – Go back to the Lookup Table screen.
- **Selected Target Group "TARGET GROUP NAME HERE"** – Go back to the target group with the given name.
- **Create New Target Group** – Go back to the Target Group Definition wizard.
- **Selected Drop-In "DROP-IN NAME HERE"** – Go back to the drop-in with the given name.
- **Create New Drop-In** – Go back to the Drop-In Content Element screen.
- **Selected Sender Profile "SENDER PROFILE NAME HERE"** – Go back to the sender profile with the given name.
- **Create New Sender Profile** – Go back to the Sender Profile screen.


The **Preferences** menu contains options for defining various user preferences. The possible options are:

- **User Interface** – Contains options for defining preferences for the User Interface.
 - **Date and Number Formats** – Define the date, time, and number preferences for the User Interface.
 - **Display** – Define the display preferences for the User Interface.
- **Mail Jobs** – Contains options for defining job-related preferences.

- **New Mail Job** – Define the preferences for a new job, including the team collaboration preferences.
- **Recipients** – Define the preferences for the recipient definition of a job.
- **Content** – Define the preferences for the content definition of a job.
- **Tracking** – Define the preferences for the tracking definition of a job.
- **Delivery Test** – Define the preferences for the delivery test of a job.
- **Scheduling** – Define the preferences for the schedule definition of a job.
- **Reports** – Contains options for defining preferences for reports.
 - **New Report** – Define the general tracking report preferences.
- **Datasets** – Contains options for defining recipient dataset preferences.
 - **Team Collaboration** – Define preferences for the team collaboration settings for recipient datasets.

The **Logout** menu logs you out of the LISTSERV Maestro Interface. For a user account that is not part of an identity, then this menu appears as a single item, which, if you click on it, allows you to log out from LISTSERV Maestro. For a user account that is part of an identity, then this menu has the following options:

- **Logout this Account** – Log out from LISTSERV Maestro.
- **Switch Account** – Switch to a different account in the same identity (without the need to logout and login again).

 The **Help** icon is used to access the help associated with the current screen.

2.2 The Dashboard



The opening screen of LISTSERV Maestro's interface is called the Dashboard, providing a quick summary of what has happened recently and what is due to happen in the future. The Dashboard contains five sections that may be displayed, hidden, or rearranged. This allows for a convenient and easy way to customize the information shown, making it possible for you to see what is most important to you.



Note: The administrator has the option to show a summary of all user accounts, certain user accounts, or just your user account on the Dashboard.

The Dashboard sections are:

- **Currently in the System** – This section contains the general statistics for your account, such as jobs in progress, number of jobs completed, etc.
- **Recently Visited** – This section provides shortcuts to the most recently used jobs, reports, etc., making it easy for you to resume work in one area if you interrupted it to visit another area. The areas visited may also be available in the **Back To** menu on the Toolbar

- **Jobs Due Next** – This section contains a list of jobs that are currently open and that are due next for authorization. This section does not show any jobs that have a “Authorize Due By” date configured.
- **Current and Upcoming Deliveries** – This section contains a list of jobs that are currently being delivered and that are scheduled for an upcoming delivery. From this section, you can also view any failed jobs that have yet to be closed or re-opened.
- **Recent Deliveries** – This section contains a list of jobs that have been recently delivered and jobs that have attempted delivery but failed.

Figure 2-2 The Dashboard

Dashboard
Data retrieved at Aug. 29, 2006 04:39:24 PM. [Refresh](#)

Currently In The System

Open Jobs:	4	Directly Distributed Recipients:	10,141	Datasets:	1
Ongoing Jobs:	5	Postings To LISTSERV Lists:	0	Hosted Lists:	1
Completed Jobs:	4	Reports:	0	Hosted Recipients:	10,000
of which tracked jobs:	3	Tracking Events:	139	Remaining Quota:	25,771

(Shows only objects in your group which are visible to your account.) ▾

Recently Visited

No objects visited so far.
(Shows only objects visited in this session.) ▾

Jobs Due Next

Overdue - at May 4, 2006 07:13:00 AM - **060504C: This job is overdue!**
Overdue - at Jun. 18, 2006 06:15:00 AM - **060504B: Another job which is due in the future**
In 40 hours - at Aug. 31, 2006 08:00:00 AM - **060829A: Test Job 2**
[more...](#) (show up to jobs)

(Shows only jobs in your group which are visible to your account.) ▾

Current And Upcoming Deliveries

In 29 days - at Sep. 27, 2006 08:00:00 AM - **060827A: Test Job**
In 125 days - at Dec. 31, 2006 07:00:00 PM - **060428F: Job for next year...**
In 251 days - at May 7, 2007 03:08:00 AM - **060428E: Another long-time scheduled job**
[more...](#) (show up to jobs)

(Shows only jobs in your group which are visible to your account.) ▾

Recent Deliveries

2 days ago - at Aug. 27, 2006 08:00:00 AM - **060810D: Test Job**
123 days ago - at Apr. 28, 2006 09:14:52 AM - **060428C: And a third nice job...**
123 days ago - at Apr. 28, 2006 09:11:22 AM - **060428B: A second test job by Johannes**
[more...](#) (show up to jobs)

(Shows only jobs in your group which are visible to your account.) ▾

[Hide/Show Dashboard Sections](#)

To update the data displayed on the Dashboard, click the **Refresh** link. The date and time of the data being viewed is shown next to this link.

To rearrange the order in which the sections are displayed on the Dashboard, click the up or down arrows that are located in the top and bottom right corners of each section.

To hide or show a section, click the **Hide/Show Dashboard Sections** link. This link opens the Hide/Show Dashboard Sections screen. To show a section, check the box associated with that section. To hide a section, uncheck the box.

Figure 2-3 The Hide/Show Dashboard Sections screen

Hide/Show Dashboard Sections

You can customize the dashboard appearance by hiding and showing some of the dashboard sections.
Set the checkmark for those sections which you want to appear on your dashboard:

- Currently In The System**
Shows general statistics over the data and objects that are currently in LISTSERV Maestro (as they are visible to your account).
- Recently Visited**
Shows shortcuts to the most recently visited object of each type (for any previously visited objects) which allow you to jump back to each object, directly to the last visited page of the object (similar to the "Back To" menu).
- Jobs Due Next**
Shows a list of jobs which are currently open and which are due next for authorization (does not show any jobs for which a "Authorization Due By" date has not been configured).
- Current And Upcoming Deliveries**
Shows a list of jobs which are currently being delivered and which are scheduled next for upcoming delivery. Also shows any failed jobs which have not yet been closed or re-opened.
- Recent Deliveries**
Shows a list of jobs which have been delivered recently. Also shows failed jobs which have been closed.

(To also change the ordering of the visible dashboard sections, please use the arrow icons at the right hand border of each section on the dashboard page itself.)

Section 3 User Preferences

The **Preferences** menu on the Toolbar allows individual users to save and change their account's user settings. The user can define specific preferences for the way LISTSERV Maestro's user interface appears on the screen as well as setting defaults for the way content is input for new jobs and reports.

3.1 User Interface Preferences

The following options are available to you in order to customize the User Interface.

- **Date and Number Formats** – Select the date, time, and number format for the User Interface from the drop-down menus.

Figure 3-1 Date and Number Format Preferences Screen

- **Display** – From each drop-down menu, select the tab that will be at the front (i.e. active) when the screen is initially opened.

Figure 3-2 The Display Preferences Screen

3.2 Mail Jobs Preferences

The following options are available to you in order to customize new mail jobs.

- **New Mail Job** – Set the preferences for defining a new job, including the default Job ID Prefix and the default Team Collaboration settings.

Figure 3-3 The Job Definition Preferences Screen

Job Definition Preferences
Set your individual job definition preferences on this page.

Default Job ID Prefix

Let the system use the last prefix.

Use the following prefix:

Default Team Collaboration

Click on the following link to change the team: [Edit](#)

Recipients Definition:
Message Authoring:
Tracking:
Scheduling:
Testing:
Delivery:
Use in Reports:

- **Recipients** – Select the default recipient type for new jobs

Figure 3-4 The Recipient Preferences Screen

Recipient Preferences
Set your individual recipient related preferences on this page.

Default Recipient Type

Use the following recipient type:

- **Content** – Select the default content type (Plain Text or HTML), as well as the default character set encoding. Elect to have HTML messages default to having alternative text or not using the options buttons.

Figure 3-5 The Content Preferences Screen

Content Preferences
Set your individual content related preferences on this page.

Default Content Type
Use the following content type: Plain Text

Defaults for HTML Alternatives
 Use Text Format Alternative.

Default Character Set
Use the following Character Set: English (American charset US-ASCII)

Default Drop-In Tags
Use the following opening tag: {{
Use the following closing tag: }}

OK Cancel

- **Tracking** – Select whether tracking will be on or off for new jobs.

Figure 3-6 The Tracking Preferences Screen

Tracking Preferences
Set your individual tracking related preferences on this page.

Tracking On/Off
The tracking is by default: On Off

OK Cancel

- **Delivery Test** – Enter a default test line for all outgoing delivery tests.

Figure 3-7 The Tracking Preferences Screen

Delivery Test Preferences
Set your individual delivery test related preferences on this page.

Default Test Line
Enter your test line:

OK Cancel

- **Scheduling** – Select the default delivery type and the default time zone for new jobs.

Figure 3-8 The Tracking Preferences Screen

Schedule Preferences
Set your individual schedule related preferences on this page.

Default Schedule Type
Use the following schedule type:

Default Time Zone
Use the following time zone:

3.3 Report Preferences

The following option is available to you in order to customize new reports.

- **New Report** – Set a variety of default report options including Report Type, Time Period, Time Zone, Download Encoding, and Team Collaboration.

Figure 3-9 The Report Definition Preferences Screen

Report Definition Preferences
Set your individual report definition preferences on this page.

Default Report Type
 Let the system use the last Report Type.
 Use the following Report Type:

Default Period Type
 Let the system use the last Period Type.
 Use the following Period Type:

Default Time Zone
 Let the system use the last Time Zone.
 Use the following Time Zone:

Default Download Encoding
 Let the system use the last Download Encoding.
 Use the following Download Encoding:

Default Team Collaboration
 Click on the following link to change the team: [Edit](#)
 Edit and Execute:
 Only Execute:

3.4 Dataset Preferences

The following option is available to you in order to customize datasets.

- **Team Collaboration** – This option is only available for data administrators. Select the rights that you want to assign to an individual member. The rights selected here will be applied as the default for all new datasets that you create. New datasets will start out with these collaboration rights already assigned. You can then change the rights for each individual dataset.

Figure 3-10 Default Dataset Team Collaboration Screen

Default Dataset Team Collaboration

Grant other account holders permission to execute the following actions for a new dataset.

<u>Team Member</u>	<u>Customize Subscriber Pages</u>	<u>Add/Remove Subscribers</u>	<u>Modify Subscribers</u>	<u>Browse Subscribers</u>
francoise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
harpo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
noodles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rgw	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wateam1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wateam2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wateam3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

OK Cancel

To assign multiple rights at the same time:

- Click on the name of the member to select/unselect all of the rights for that member.
- Click on the name of a right to select/unselect this right for all members.
- Click on **Team Member** to select/unselect all of the rights for all members.

Section 4 Using LISTSERV Maestro to Define an Email Job

Creating and sending customized email messages with LISTSERV Maestro is a multi-step procedure. Some of the steps can be done at any time during the process of defining an email job, and other steps are dependent on the completion of previous steps.

- A new job is started and assigned a title and a job ID.
- The message is created and recipients are defined.
- Tracking is set up, if desired.
- The sender of the message is defined.
- Testing takes place.
- The message is scheduled for delivery.
- Final approval is recorded, and when the scheduled time arrives, the message is delivered.
- Delivery and tracking data, if requested, can then be retrieved as messages are received and opened by recipients.

4.1 Starting a Job

To begin creating a new email job, click **Mail Job > New** from the Toolbar. By default, the individual who initiates a new email job becomes the “owner” of that job¹. A job owner:

- Automatically has the rights (privileges) to all the different functions of the job from assigning a job title to final approval for delivering the message.
- Is the only account holder that can change the Job Title and Job ID.
- Is the only account holder that can designate team members that are allowed to participate in creating the job, called Team Collaboration.
- Is the only account, besides the Administrator account, that can delete a job.

The first step to creating a new job is to assign it a **Job Title** and a **Job ID Prefix**. A Job Title is the way individual users identify specific jobs by name. The Job Title can be composed of letters and numbers, and may contain spaces. The Job ID is generated by the system to ensure each ID is unique and is used by the system to identify each individual job.

Job owners can enter a Job ID Prefix. The prefix will appear at the beginning of the system generated Job ID and will be separated from the generated part by a hyphen. Depending on the settings of the account, the Job ID prefix may already be set or limited to pre-set options. If a choice of Job IDs has been pre-set by the system administrator, a drop-down menu will be available instead of the **Job ID Prefix** text box. Use the prefix to identify jobs or group jobs for reporting or billing purposes. For more on Job Titles and Job IDs, see the LISTSERV Maestro online help or the LISTSERV Maestro Administrator’s Manual.

1. The default job owner setting can be modified by the system administrator so that a different account within the group becomes the owner of the jobs created by the initial account.

Once a Job Title and Job ID have been assigned, they will appear in the upper left side of the screen on every screen that is associated with that particular job.

Figure 4-1 The Start New Job Screen

A new job can be created one of two ways:

- The first way is by selecting the **All new job, with empty settings and the following job category** option, which requires you to enter all new information. Once you've selected this option, click the drop-down menu and select the category you want this job to belong to. To define a new category for this job to belong to, click the **Define New Category** link.
- The second way is by selecting the **Copy settings (content, recipients, etc.) and job category from job** option, which automatically takes the settings from an existing job as the basis for the new job. Once you select this option, click the drop-down menu and select the job you want to copy information from.

A new, empty job needs to have the email message defined as well as the sender and recipient information determined. A job based on a copy of an existing job can reuse a previously composed message, sender information, testing information, and recipient information. The settings from the existing job can always be edited to suit the new job.

Once you're finished selecting your job setting, press **[OK]** to continue or **[Cancel]** to return to the previous screen. If you pressed **[OK]**, then the Job Details screen opens. See the following section for more information on defining your job details.



Tip: Copying an existing job can save time and effort by reusing messages and recipients lists. For example, a monthly newsletter would change its message each month but would be sent to the same recipient list. Or, a new product announcement could contain the same message but be sent to different recipient lists.

4.1.1 Advanced Options

To display the advanced options, click the **Show Advanced Options** link (to hide them again, you can click the **Hide Advanced Options** link).

Figure 4-2 Advanced Options for Starting a New Job

Start New Job

Job Title:

Job ID Prefix: (Prefix for the system generated job ID)

Authorization Due By: Date: [mm/dd/yyyy]

Time: [hh:mm]

Time zone to be applied to the date and time specified above:

Note: Leave the date and time field empty if you do not want to define an "Authorization Due By" date. If a date and time is specified, daylight saving time is taken into account automatically.

Auto-Archive: days after delivery

[Hide Advanced Options](#)

Initial Job Settings

All new job, with empty settings and the following job category:
 [Define New Category](#)

Copy settings (contents, recipients, etc.) and job category from job:

The following options are available:

- **Authorization Due By** – If you have a special date and time by which the mail job is supposed to be authorized for delivery, then you can enter this information here. The due date will then be displayed in the Open Jobs screen and also on the Dashboard in the Jobs Due Next section as a reminder of which open jobs need your attention most. You can also define or change this date at a later time (up until the job is finally authorized for delivery).
- **Auto-Archive** – Defines if and when the job will be automatically moved to the archive. The following options are available:
 - **Administrator defined default** –The job will be automatically archived (or not) according to the default settings defined by the administrator.
 - **Do not automatically archive this job** – The job will not be automatically archived.
 - **Automatically move this job to the archive** – The job will automatically be archived a certain number of days after the job's delivery (or delivery failure). Enter the number of days into the field that appears when this option is selected.



Note: This feature can be used to keep the list of handled jobs clean by automatically removing jobs that are "older" than a certain threshold. However, in contrast to actually deleting the old jobs, this feature moves the job into a special archive folder. The archived jobs no longer appear in the normal LISTSERV Maestro User Interface (they will appear to have been deleted), but can, if necessary, be restored by the LISTSERV Maestro administrator.



Important: Use this feature with care so that only jobs that you really are not interested in anymore (that are "old enough" to be uninteresting) are archived automatically. And, remember that only the LISTSERV Maestro administrator will be able to restore such an archived job, and when it is restored, the job will appear "frozen" in the state that it had at the moment it was archived (for example no further tracking events will be collected for this job).

4.2 Defining a New Job

Once a new job has been created, the next steps are to define the recipients of the message and create the email message itself (unless these components are being based on an existing job). Both of these operations must take place before defining any tracking data to be collected for reports. Defining the sender and scheduling the delivery can take place at any time. The Job Details screen displays either a Workflow or Summary diagram. These diagrams serve to guide account holders through the proper sequence of events for defining an email job. Both of these displays chart the process of creating an email job and contain links that allow each step to be edited.

The [Workflow Diagram](#) is a visual representation of the process of creating an email job. To reach this diagram, click on the Workflow tab from the Job Details screen. Clickable icons represent each of the steps, the order in which they must occur, and the status of each step. By clicking an icon on the Workflow diagram, the account holder opens up a wizard in LISTSERV Maestro that defines and edits that step of the email job. After the definition or editing has occurred, the account holder will be returned to the Workflow diagram to select the next step.

The [Summary Diagram](#) is a textual listing of the process of creating an email job. To reach this diagram, click on the Summary tab from the Workflow diagram. Each area of LISTSERV Maestro is listed in the left column, the status of the step is listed in the middle column and an **Edit** link is listed in the right column. Access to each function is obtained by clicking the **Edit** link. After the definition or editing has occurred, the account holder will be returned to the Summary diagram to select the next step.



Tip: Individual account holders can set their preference for the Job Details screen to open as either the Workflow Diagram or the Summary Diagram. See [Section 3.1 User Interface Preferences](#) for more information.

The Test Reports tab will only become active once an email job had been completed through the delivery test phase. At that point, it becomes possible to run quick reports on the test messages containing tracked links for open-up and click-through events. For information on using the Test Reports functions, see [Section 9.1 Delivery Testing for a Job](#).

4.3 Using the Workflow Diagram

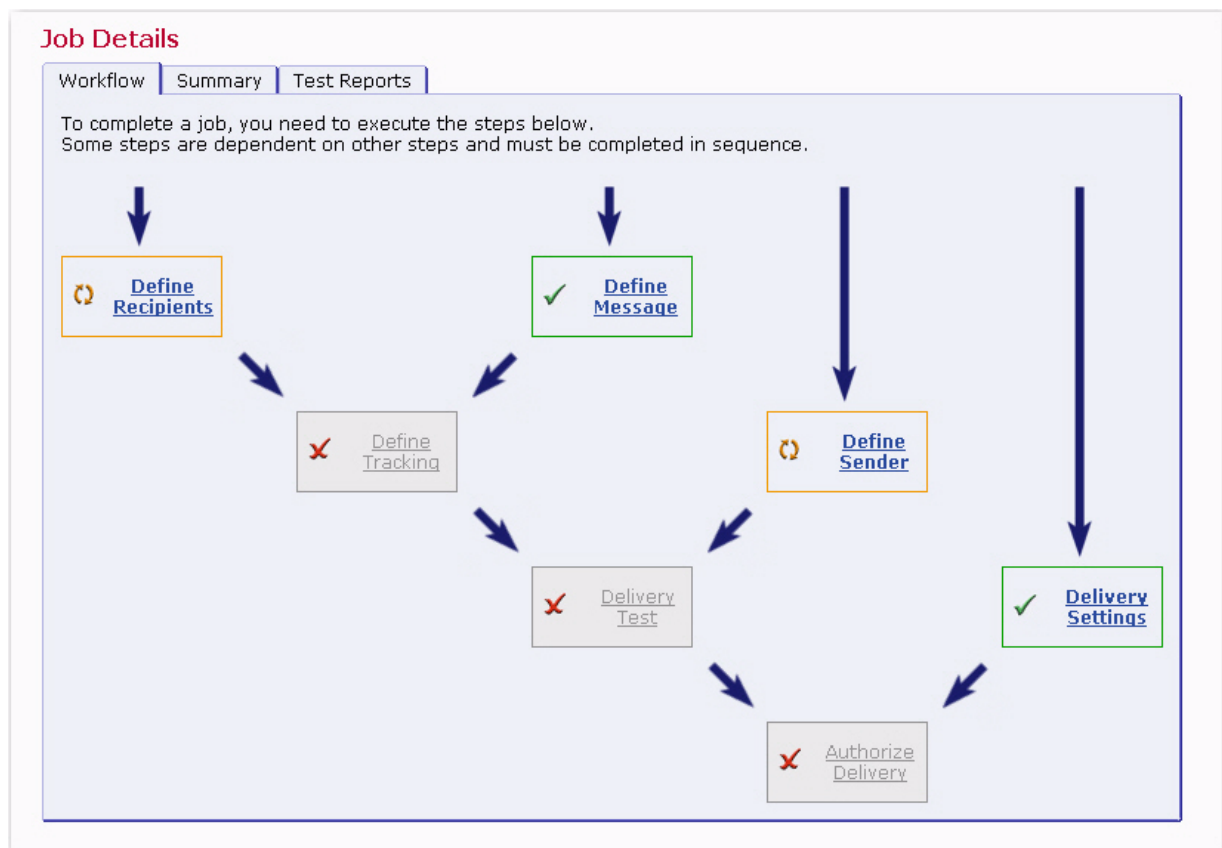
This Workflow Diagram serves as a visual representation of the process of creating a new email job. Clicking on each icon opens up the interface for defining the components or details of the job. As components are defined, the next steps for the job become available. For example, it is not possible to define tracking data for a job until the message and the recipients are defined.

Once all the components of the email job are defined, they can be edited in any order from this screen or the Summary diagram. If an earlier step is edited, the later steps must be revisited. For example, if the recipient list is changed under Define Recipients, the Delivery Test step will have to be redone.

The job owner can:

- delete the current job from this screen by clicking **Mail Job > Delete Job**,
- change the Job Title and Job ID by clicking **Mail Job > Job Info**,
- or change the Team Collaboration by clicking **Mail Job > Team Collaboration**. (See Section 4.5 [Team Collaboration](#) for more information.)

Figure 4-3 The Workflow Diagram on the Job Details Screen



- ✓ This icon means that the step has been successfully completed.
- 🔄 This icon means that the step is waiting to be completed.
- ✗ This icon means that the step cannot yet be completed.



Note: If the **Authorization Due By** date and time have expired, then a warning will appear on the Workflow Diagram.

Icons on the Workflow Diagram change appearance to signal the status of the step they represent. Icons that are not clickable represent steps that cannot be started until earlier steps are completed.

Icons may also not be clickable for an individual, even though the step is available, because the account holder does not have permission to execute that particular step of the job. Permission to execute certain steps in an email job is granted by the job owner or by the LISTSERV Maestro Administrator when the user's account was set up. For more information on individual user account privileges see the LISTSERV Maestro Administrator's Manual.

4.4 Using the Summary Diagram

The Summary Diagram has all of the same functionality as the Workflow Diagram, but the information is presented in a different manner. The Summary Diagram is most helpful in reviewing and editing aspects of an email job once they have been defined. It is possible to delete the current job and to authorize the delivery of a job from the Summary diagram.

Individual account holders may set a personal preference in the User Settings that will open the Summary Diagram first when entering the Job Details screen instead of the Workflow diagram. See Section 3.1 [User Interface Preferences](#) for more information.

Click on the **Edit** link adjacent to each function to enter or change existing settings. If the **Edit** link is not clickable, it will appear grayed out or a lighter color. This means that a preceding step has not been successfully completed or the user does not have permission to execute that step.

Figure 4-4 Summary Diagram from the Job Details Screen

Job Details

Workflow Summary **Test Reports**

To change the details of the current job, click on the corresponding "Edit" link.

Job		Edit
Job ID:	060810C	
Job Title:	Test Job	
Recipients		Edit
Recipients Information:	<no recipients defined>	
Content		Edit
Subject:	Test Job	
Mail Type:	Plain	
List of Attachments:	<no attachments defined>	
Tracking		Edit
Tracking is:	OFF	
Sender		Edit
Sender Information:	<no sender defined>	
Test Status		Test
Test result:	<not tested>	
Delivery		Edit
Delivery Settings:	Deliver immediately when authorized	
Team Collaboration		Edit
Recipients Definition:	holly	
Message Authoring:	holly	
Tracking:	holly	
Scheduling:	holly	
Testing:	holly	
Delivery:	holly	
Use in Reports:	holly	



Note: If the **Authorization Due By** date and time have expired, then a warning will appear on the Summary Diagram.

4.5 Team Collaboration

To access the Team Collaboration settings, simply click **Mail Job > Team Collaboration** from the Toolbar. These settings make it possible to set up a team of people to collaborate on a job. From the Summary Diagram, the Team Collaboration settings are at the bottom and can be edited if the **Edit** link is active.

The job owner can choose team members and assign each person privileges (rights) to perform certain functions within that job. The job owner always has privileges to all the functions of his/her job and other account holders may not revoke these privileges. Other team members can have different responsibilities for different aspects of a job. Team members can also share responsibilities for the same aspects of a job.

The Team Collaboration screen displays other account holders in the job owner's group. The job owner can choose the privileges to grant or revoke by clicking in the check boxes next to each account. To grant or revoke a certain privilege for all accounts in the group, click on the corresponding privilege in the title bar. To grant or revoke all privileges for a certain account, click on the account holder's name. To grant or revoke all privileges for all accounts, click on **Team Member** in the top left corner of the table. It is also possible to copy permissions from another job by selecting the job from the drop-down menu. Click **[OK]** to save the settings.

Figure 4-5 The Team Collaboration Screen

Team Collaboration

Grant other account holders permission to execute the following workflow steps for this job.

You also can load permissions from another job:

-- Select -- ▼

Team Member	Recipients Definition	Content Definition	Tracking	Scheduling	Testing	Delivery	Use in Reports
francoise	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
jht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mge	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
rgw	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
wateam1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
wateam2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wateam3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Tip: Separating responsibilities for different aspects of an email job to team members with expertise in those aspects will help to ensure an effective message is sent to the right recipients and useful tracking data is collected. For example, a company wants to send new product information to clients and find out which clients opened certain links contained in the message. A team would be assembled to send out this message. The project leader would initiate the job in LISTSERV Maestro and become the job owner. The job owner would enlist an HTML expert to create the content of an HTML message, a marketing expert to determine the recipients of this message, and an analyst to decide the types of information to be tracked for a company report.

Section 5 Defining Recipients of an Email Job

The next step in creating an email job is to define or select the recipients of the message. Generating a recipient definition is a multi-step process. The steps are contained in the Define Recipients wizard, which guides the account holder through the process. The wizard is comprised of the following steps:

- **Options** – Deciding where the recipient data will come from. There are seven different options split into two categories that can be selected to define the source for a recipient list.
 - **Send to a Recipient target group** – Allows account holders to select pre-defined groups of recipients from a database.
 - **Send to an Existing LISTSERV List** – Recipients are defined by a LISTSERV list.
 - **Determine Recipients Based on Reaction to the Job** – Recipients are selected based upon a defined action they performed in a previous job.
 - **Use Recipients Definition from Job** – Recipients are copied from a previous job.
 - **Upload a Recipients Text File** – A text file uploaded into the system defines recipients.
 - **Select Recipients from a Database** – Recipients are defined by a LISTSERV Maestro defined database.
 - **Let LISTSERV Select Recipients from a Database** – Recipients are defined by a database that has been configured so that LISTSERV has direct access to it.

Options are made available by the LISTSERV Maestro administrator. Every option is not always available for every account.

- **Source** – Selecting the source information and/or uploading a source file from which the recipient data will be generated.
- **Source Details** – Interpreting the recipient data source information once it has been selected.
- **Recipient Details** – Adding or editing header information (labels for columns).
- **Summary** – Displaying the interpretation of the recipient data in a table for review.

Depending on the selection of options for each step, subsequent steps and options will become available or will not be necessary to complete.

The [**<-Back**] and [**Next ->**] buttons navigate to the previous and following pages, automatically saving any changes on the current page. Click on any active link to go immediately to that screen, saving any changes on the current page.

Click [**Cancel**] to close the wizard without saving changes and return to the Workflow or Summary diagram. Exiting the wizard by closing the browser or clicking on a navigational or functional icon before successfully completing it acts the same as clicking [**Cancel**].

5.1 Send to a Recipient Target Group

Send to a Recipient Target Group allows account holders to select pre-defined groups of recipients from a data source. All accounts in the group where the recipient target groups are saved may use them to build a recipient list for an email job. The data administrator will set up target groups based on available data, and will decide what the target group functionality will look like – check boxes, drop-down menus, or a combination. For information on how to create target groups, see the Data Administrator’s Manual.

There are many advantages to using recipient target groups:

- They can be fixed – pulling recipients in a predefined fashion such as “all males” or “all cat owners above age 40.”
- They can include parameters – giving the account holder the freedom to select a sub-set of data such as “all customers in a certain country” where country is a list of countries that the user can select from.
- The account holder does not have to know how to query the data – the data administrator programs the query that retrieves data from the database, freeing the user from this task.
- They are reusable – target groups can be reused on different jobs.

5.1.1 Options

The first screen that opens in the Define Recipients wizard is the Options screen. Select the **Send to a Recipient Target Group** option, and then click **[Next ->]**.

Figure 5-1 The Define Recipients Options Screens for Target Groups

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Options

Select the type of Recipients to use for the job.

Use existing recipients

- Send to a Recipient Target Group
- Send to an Existing LISTSERV List
- Determine Recipients Based on Reaction to the Job:
 - Select -- (There are no jobs available to base recipients on.)
- Use Recipients Definition from Job:
 - Select --

Define recipients

- Upload a Recipients Text File
- Select Recipients from a Database
- Let LISTSERV Select Recipients from a Database

5.1.2 Source

The Source screen for the **Send to a Recipient Target Group** option contains a list of the available target groups. Target groups may be placed within categories by the data administrator for organizational purposes. Click the **Category** drop-down menu to select a category associated with the target group (if appropriate). Once the category is selected, the target groups listed in the table will only be 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, then click the **[Next ->]** button. To change the target group, click the **Select Different Target Group** link, which will re-open the first source screen.

Figure 5-2 The Source Screen for Recipient Target Groups

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Source

Information about the currently selected recipient target group.

Target Group: Target Group 1
Category: Target Groups
Description: Target Groups
Version of: Aug. 29, 2006

[Select Different Target Group](#)

5.1.3 Source Details

The Source Details screen is only displayed for target groups that have parameters defined. This screen allows the account holder to choose the specific recipients from the target group based on the parameters set up by the data administrator. Each parameter is designed by the data administrator to appear as a drop-down menu, a check box, or a text input box. The Source Details screen requires that those parameters be filled in by selecting what data will be extracted from the data source.

For example, to select recipients from certain cities as recipients, the recipient target group may appear as a drop-down menu listing all the cities in the database. Simply select the city or cities from the drop-down menu and all recipients associated with those cities in the data source will be used in the recipient definition.

For menus that allow multiple selections, click on the first selection, and then press **CTRL** while clicking additional items (or press **SHIFT** while clicking additional items to select a range of items).

Figure 5-3 Multiple Parameters Recipient Target Group

Define Recipients

Options Source **Source Details** Recipients Details Summary

Cancel <- Back Next ->

Input Values for Target Group Parameters

Enter values for all parameters of the selected target group.

State: AK CA CT FL IL MD MI NV NY OH (select one or more)

Age between: and:

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)

There can be more than one parameter on the Source Details screen; therefore, scroll down to make sure values have been selected for all parameters. After selections have been made, click **[Next ->]** to continue and to query against the data source.

5.1.4 Recipient Details

There are no Recipient Details for recipient target groups.

5.1.5 Summary

If the target group is defined to retrieve recipients, then the Summary screen will appear listing the count and a sample of the recipients who matched the criteria and make up the recipients list. Valid recipients and recipients with errors in their addresses may be downloaded. Duplicate elimination is usually determined by the data administrator when the target group is first created. If the target group is defined to retrieve recipients just before sending, then the Summary screen simply summarizes the choices that were made throughout the Define Recipients wizard.

5.2 Send to an Existing LISTSERV List

Sending to an existing LISTSERV list uses the identified list's subscriber names and addresses to create the recipient list for the email job. Contained in a drop-down menu are all the LISTSERV lists available to the LISTSERV Maestro instance.

5.2.1 Options

The first screen that opens in the Define Recipients wizard is the Options screen. Select the **Send to an Existing LISTSERV List** option, and then click **[Next ->]**.

Figure 5-4 Options for an Existing LISTSERV List

The screenshot shows the 'Define Recipients' wizard with the following elements:

- Navigation:** Tabs for 'Options', 'Source', 'Source Details', 'Recipients Details', and 'Summary'. Buttons for 'Cancel', '<- Back', and 'Next ->'. An email icon is in the top right.
- Options:**
 - Text: "Select the type of Recipients to use for the job."
 - Use existing recipients:**
 - Send to a Recipient Target Group
 - Send to an Existing LISTSERV List
 - Determine Recipients Based on Reaction to the Job:
 - Dropdown: "-- Select --" (Note: "(There are no jobs available to base recipients on.)")
 - Use Recipients Definition from Job:
 - Dropdown: "-- Select --"
 - Define recipients:**
 - Upload a Recipients Text File
 - Select Recipients from a Database
 - Let LISTSERV Select Recipients from a Database

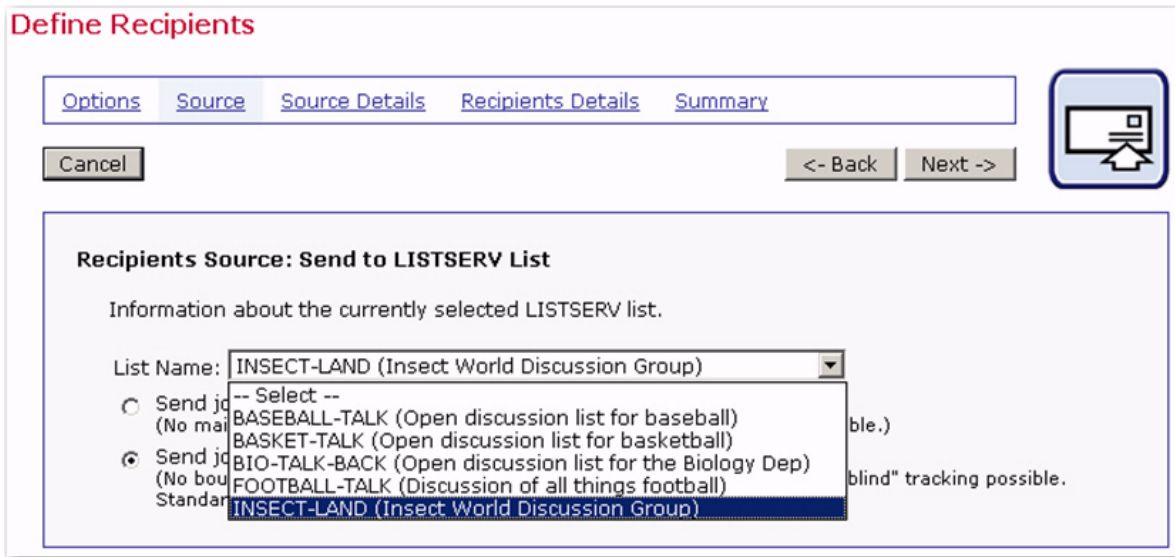
5.2.2 Source

Select the LISTSERV list for the job from the drop-down menu. Next, select one of the two options for the type of list message to be sent. The **Send job as standard list message to list members** option limits the tracking options, but allows for the use of topics (see Section 5.2.3.1 [LISTSERV Topics](#)). The **Send job as special list message** option is used to send the message as a special list message (see Section 5.2.3.2 [Special LISTSERV Messages](#)), which allows for mail merging and more tracking options.



Important: The type of message selected has an impact on how the sender of the message is defined. The sender of a message is defined using the **Define Sender** icon (located on the Work Flow diagram). If the message is sent as a standard list message, the "From:" address field in Define Sender must be an authorized sender for that list. For more information on defining the sender of a job, see Section 8.1 [Define Sender](#).

Figure 5-5 Define Recipients from a LISTSERV List



5.2.3 Source Details

The Source Details screen will become active if the selected LISTSERV list has topics defined and the **Send job as standard list message to list members** option is selected. It will also become active if the **Send job as special list message** option is selected as the message type for the job. No Source Details screen will open if the selected list has no topics and the message is sent as a standard list message to list members.

5.2.3.1 LISTSERV Topics

LISTSERV lists often use sub-groups within the list to give subscribers the opportunity to receive only the posts to the list that pertain to the topics they are most interested in reading about. Sub-groups are created in LISTSERV by defining the keyword topics in the list header. Lists can have up to 23 topics defined.

List subscribers can select the topic(s) they are interested in receiving, including the "Other" topic, which includes all messages that are not specifically assigned to a topic.

Someone sending a message to the list can designate which topic or topics that message covers. Alternatively, they can request that their message be sent to all subscribers, regardless of the subscribers' topic selections. If no topic designation is made when sending a message to the list, that message falls in the "Other" topic, and is sent only to those subscribers who have selected the "Other" topic.

For example, a large list could have the general subject of Insects of North America. Topics could be defined by type of insect, by geographical region, or by areas of research. For more information on Topics, see the LISTSERV List Owner's Manual.

When topics are defined for the list selected in the Recipients wizard, there are three ways to send the message:


- **Send only to subscribers with the following topics** – The message will be sent to only those list subscribers that selected any of the checked list topics.

- **All subscribers, ignore topics** – The message will be sent to all list subscribers, regardless of their topic selections. This is the same as selecting all topics and “Other”.
- **Send to subscribers with no topics or with “OTHER” topic** – The message will be sent to all list subscribers that have selected the OTHER topic.

Figure 5-6 Source Details for LISTSERV List Topics

Define Recipients

Options Source **Source Details** Recipients Details Summary

Cancel <- Back Next -> 

Source Details

Use this page to specify the details about the list subscribers that will receive the mail.

The selected LISTSERV list contains list topics. Specify how the topics that the subscribers have chosen will be used to determine the subset of the list subscribers that will receive the mail.

Send only to subscribers with the following topics:
 <none>
[Select Topics](#)

All subscribers, ignore topics

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

Click the **Select Topic** link to view the available topics for the list. Use the check boxes to select which topics to include as message recipients. Click the **Select All** link to select all topics. Next, decide whether to hide or expose the selected topics in the subject line of the message by selecting the corresponding option button.

If the list subscribers are aware of the topics and are accustomed to using them (for example, to automatically move list messages to folders in their email programs), 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 have not been directly selected by the recipients. Click **[OK]** to save the selections and return to the Source Details screen. **[Cancel]** negates the action and returns you to the Source Details screen without changing any settings.

5.2.3.2 Special LISTSERV Messages

A “special” LISTSERV message is one that by-passes the normal operation of the list, and instead, treats the subscriptions in a list as a recipient database. Special messages do not get archived and do not honor subscriptions settings such as SUBJECTHDR, DIGEST, or NOMAIL. However, the subscription settings MAIL, DIGEST, INDEX, and NOMAIL can be used to subset the list. List owners generally use such special messages to send administrative messages to a certain class of subscribers (for example, all subscribers set to “NOMAIL”).

When messages are sent to a list as a special list message, the Source Details screen allows for setting a condition as well as setting other options for mail delivery.

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-based lists, other information in the list's database table. 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>


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 an index of subjects.
- **NOMAIL** – Will deliver the message to users that currently receive no mail.

Figure 5-7 Source Details for a Special Message for a LISTSERV List

Define Recipients

Options Source **Source Details** Recipients Details Summary

Cancel <- Back Next -> 

Source Details

Use this page to specify the details about the list subscribers that will receive the mail.

Specify a conditional expression that shall be evaluated by LISTSERV and check list subscription options.

Condition:

Options:

- MAIL (Deliver this message to normally subscribed users.)
- DIGEST (Deliver this message to subscribers who receive only a digest.)
- INDEX (Deliver this message to subscribers who receive only a topics index.)
- NOMAIL (Deliver this message to subscribers who currently receive no mail.)

Once you are finished making your selection, click **[Next ->]** to continue.



Note: Conditions are explained in detail in the [LISTSERV Developer's Guide](#).

5.2.4 Recipient Details

There are no Recipient Details for LISTSERV Lists.

5.2.5 Summary

The Summary screen will display the LISTSERV List details and Recipient Details for the recipients of the job.

Figure 5-8 Summary for LISTSERV Lists

Define Recipients

Options Source Source Details Recipients Details **Summary**

Cancel <- Back Finish

Summary

Summary of the recipients information. Click the Finish button to save this as a new recipients definition for the job.

LISTSERV List Details

List Name: INSECT-LAND

Contribution Type: Send e-mail as standard list message (added to list archives and list digests, no mail merging and bounce reporting possible and only "blind" tracking is supported).

Handling of List Topics: Send only to subscribers with the following selected topics:
ANTS
The recipients will **not see** the topics in the received mail.

Recipient Details

Name Column: USER_NAME

Mail Merge Columns: <no additional merge columns available>

5.3 Determine Recipients Based on Reaction to a Previous Job

Under the right conditions, it is possible to send an email to recipients that reacted in a certain way to a previously delivered email job. For example, the recipients for an email job can be defined as the recipients who opened an HTML mail, or clicked on a certain link, or conversely those recipients who did not do either of these. In order for this option to be available, all of the following conditions must be met by the previous job:

- Recipients were defined from an uploaded text file or a database selection, or a target group based on one of these.
- Personal tracking was turned on.
- Tracking data has been received by the system.

All previous jobs that match these conditions will appear in the drop-down menu. If no jobs appear in the menu, this option is not available.



Tip: Although this option in its present form is not available for jobs based on Hosted Recipient Lists that have personal tracking, it is possible to create a new job based on the reaction of recipients to these types of jobs by using a target group instead. Ask the LISTSERV Maestro Data Administrator for assistance with this option, or see the LISTSERV Maestro Data Administrator's Manual for more information.

5.3.1 Options

The first screen that opens in the Define Recipients wizard is the Options screen. Select the **Determine Recipients Based on Reaction to the Job** option, and then select a job from the drop-down menu. Click **[Next ->]** to proceed.

Figure 5-9 Options for Reaction to a Previous Job

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Options

Select the type of Recipients to use for the job.

Use existing recipients

- Send to a Recipients Target Group
- Send to an Existing LISTSERV List
- Determine Recipients Based on Reaction to the Job:
 - Select --
 - Select --
 - 040721A - Base Job** from Job:
 - Select --

Define recipients

- Upload a Recipients Text File
- Select Recipients from a Database
- Let LISTSERV Select Recipients from a Database

5.3.2 Source

The Source screen defines the conditions that potential recipients had to fulfill in the previous job to become eligible to receive the new message. First, decide whether to include recipients who performed an action or to exclude recipients who performed an action in the follow up message. Next, select which actions the recipients performed, opening up the message and/or clicking on specific links.

Select the **include only recipients that performed at least one of the actions below** option to include all those recipients who were part of the previous job and did react in the configured way – opening up the mail and/or clicking on a link contained in the message.

Select the **exclude all recipients that performed at least one of the actions below** option to include all those recipients who were part of the previous job and did not react in the configured way.

Next, select **Open-Up Action** and/or **Click-Through Actions**. The resulting recipients list is based upon including or excluding recipients that performed one of these specific actions in a previous job. Click **[Next ->]** to continue.

Figure 5-10 Determine Recipients Based on Reaction to the Job

Define Recipients

Options Source **Source Details** Recipients Details Summary

Cancel <- Back Next ->

Source

Define the desired recipients actions.

From the recipients that reacted on the job:
020225B - recipients

exclude all recipients that performed at least one of the actions below

Open-Up Action:

The recipient did open the mail

Click-Through Actions:

The recipient clicked on one of the following links:

microsoft - http://dgl.microsoft.com/

5.3.3 Source Details

When a recipients list is generated by a reaction from a previous job, the Source Details screen opens so that a time frame can be set to define the reactions of the previous recipients in relation to a time period. Recipient reactions will only be considered for the new job if they fall within the time period set on this screen.

By default, LISTSERV Maestro uses the send time of the original job as the start time and the send time of the current job as the end time. By changing one or both of these default settings, it is possible to narrow the number of recipients of the current job because they will have had a limited amount of time to react.



Tip: Use the Time Period Details screen as a means of measuring the reaction to a time based offer in an email message. For example, a message could contain a link to a discount coupon with an expiration date. By setting the time period to the range of time that the coupon is valid, it would be possible to collect tracking data on those who clicked on the link within the time frame so that a follow-up could be sent. It would also be possible to send a follow-up message to those who did not click within the time frame with another offer or extension.

Select a **Start Time** option; use the original job's send time or enter in another date and time.

Select an **End Time** option; use the new job's send time or enter in another date and time.

Select the time zone that the time values are relative to from the drop-down menu. This selection is only necessary if the start and end times have been input and are not the original or current jobs times. Click **[Next ->]** to continue.

Figure 5-11 Source Details for Reaction to a Previous Job

Define Recipients

Options Source **Source Details** Recipients Details Summary

Cancel <- Back Next ->

Time Period Details

Recipient actions will only be considered if they occur in the time period that is specified on this page.

Start Time

Send time of the original job 040521A: May 21, 2004 02:45 PM
(this time is relative to your local time zone)

The following time:

(Format: mm/dd/yyyy hh:mm.
Time is optional: If left out, 00:00 is used)

End Time

Send time of the current job

The following time:

(Format: mm/dd/yyyy hh:mm.
Time is optional: If left out, 23:59 is used)

The given date and time values are relative to this time zone:

5.3.4 Recipient Details

Once LISTSERV Maestro knows which recipients to select from the previous mailing, then 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.

5.3.4.1 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 Section 6.6 [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.

Once a selection has been made for **Usage of Recipient's Data**, the selections for **Recipient Identification Columns** and **Header Definition** will change to reflect what is available for each.



Tip: It is common practice to use a generic email address with a matching generic name for the organization sending the bulk mail job in the “To:” **Address** and **Name** fields. An example of this might be “info@xyzcorp.com” as the address and “Your XYZ Team” as the name. Be sure to use an authentic email address in the “To:” **Address** field to avoid any bounces that could result from recipients using “Reply to all” in response to the message.

5.3.4.2 Recipient Identification Columns

In order to process an email job, LISTSERV Maestro needs to know which column represents the recipients' email addresses.

Figure 5-12 Recipients Details for Uploaded File without Additional Recipient Data

Define Recipients

Options Source Source Details **Recipients Details** Summary

Cancel <- Back Next ->

Recipients Details

The system now knows how to separate the recipients file into columns. Select the columns in the recipient data containing the e-mail address and name.

Usage of Recipients Data

Use additional recipient data for mail merging and tracking

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

Recipient Identification Columns

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

E-mail Column: EMAIL

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

Address:

Name: (optional)

Header Definition

NAME	EMAIL	MODEL_NUM	CITY	STATE
Zoe Zimmerman	zoe@server.company.com	9595	Baltimore	MD
Yvette Yosel	yvette@server.company.com	8787	Hartford	CT
Xavier Xero	Xavier@server.company.com	5454	New York	NY
Wilfred Wonderly	Wilfred@server.company.com	9595	New York	NY
Vanna VonSchedule	Vanna@server.company.com	8787	Lansing	MI
Ursula Underhill	Ursula@server.company.com	5454	Albany	NY

Use the drop-down menu to select the **Email Column**. In the case of a mail merge job, the drop-down menu may be used to select the **Name Column** as well (this is optional).

If the job is sent as bulk email, with no mail merging, it is necessary to type in a "To:" address that will be used in the header of the message for all recipients. If necessary, type in a name for the "To:" address. All messages will be sent using this address and this name, no personalization is possible.

5.3.4.3 Header Definition


Headers are special rows in tables. Headers are used to label the columns of data so that the system and the user can correctly identify the columns. The header definition used from the previous job becomes the header of the current job. If a text file or a database was used to define recipients, and additional recipient data was used for mail merging and tracking, it is possible to edit the existing headers.

Editing the headers does not change the original uploaded file or the original job. However, editing does allow the user to create meaningful headers that can be used to merge recipient data into each message, making each message personalized. The name of the header becomes the name of the mail merge place holder in the message; therefore, it is important to select names that are meaningful to the users who are assembling the message content. See Section 6.6.1 [Merge Fields](#) for more information.

Figure 5-13 Recipients Details for Reaction to a Previous Job with Additional Recipient Data

Define Recipients

Options Source Source Details **Recipients Details** Summary

Cancel <- Back Next -> 

Recipients Details

The system now knows how to separate the recipients file into columns. 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:

Name Column: (optional)

Header Definition

Name	Model_num	City	State
Zoe Zimmermann	zoe@server.company.com	9595	Baltimore MD
Yvette Yosel	yvette@server.company.com	8787	Hartford CT
Xavier Xero	Xavier@server.company.com	5454	New York NY
Wilfred Wonderly	Wilfred@server.company.com	9595	New York NY
Vanna VonSchedule	Vanna@server.company.com	8787	Lansing MI
Ursula Underhill	Ursula@server.company.com	5454	Albany NY
Toby Tuttle	Toby@server.company.com	5454	Rockville MD
Seth Simpson	Seth@server.company.com	9595	Buffalo NY

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, identify the recipients email address and name by using the drop-down menus for the **Email Column** and the **Name Column**.

5.3.5 Summary

The Summary screen will display the selection made for the current job, including the original job, the selected recipients, the time period, the special purpose columns, and a sample of recipients from the original job (this sample will not reflect any header changes you made).

5.4 Use Recipients Definition from Job

This recipient definition transfers all the data and settings from a previous job to the new job. The recipient definition from any job that has already had the recipients defined can be used as a template for the new job; the copied job does not have to have been delivered. Using this option can save time by reusing an already created recipients list as a template for a new job. Some settings can be changed within the new job, depending on the type of job that was copied.



Note: If the original job used “just-in-time” recipient retrieval, then the copied job will too. However, if the original job retrieved recipient data at the time the recipients were defined, then the copied job will get an exact copy of the recipient list from the original job. It will not retrieve data anew, even if the source used by the original job has changed. If the data should be retrieved anew, run through the definition again and force the retrieval. For example, if the recipients of the original job were from a database retrieval, click on the **Click here to refresh the data from the database** link on the Recipients Details screen to renew the data retrieval.

5.4.1 Options

The first screen that opens in the Define Recipients wizard is the Options screen. Select the **Use Recipients Definition from Job** option, and then select the job from the drop-down menu. All jobs that have had a recipients definition successfully saved will appear in the selection list. Click **[Next ->]** to proceed.

Figure 5-14 Options for Recipients Defined from a Previous Job

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Options

Select the type of Recipients to use for the job.

Use existing recipients

- Send to a Recipient Target Group
- Send to an Existing LISTSERV List
- Determine Recipients Based on Reaction to the Job:
 - Select -- (There are no jobs available to base recipients on.)
- Use Recipients Definition from Job:
 - 060827A - Test Job

Define recipients

- Upload a Recipients Text File
- Select Recipients from a Database
- Let LISTSERV Select Recipients from a Database

5.4.2 Source

The settings of the previous job will determine which Source screen is presented. It is possible to make changes in the selections available on the Source screen, or leave the selections the same as the previous job. Click **[Next ->]** to continue.

5.4.3 Source Details

The Source Details screen will be dependent on the type of recipient definition that was copied. It is possible to make changes in the selections available on the Source Details screen, or leave the selections the same as the previous job. Click **[Next ->]** to continue.

5.4.4 Recipients Details

The Recipients Details screen will be dependent on the type of recipient definition that was copied. Some recipient definitions do not use a Recipients Details screen. It is possible to make changes in the selections available on the Recipients Details screen, or leave the selections the same as the previous job. Click **[Next ->]** to continue.

5.4.5 Summary

The Summary screen will be dependent on the type of recipient definition that was copied.

5.5 Upload a Recipients Text File

Recipients can be added to LISTSERV Maestro by uploading a text file. Text files can be formatted as plain text with the extension `.TXT` or as a comma separated values file with the extension `.CSV`. For information on how to format text files, see Appendix C: [About Comma Separated Format Recipient Files](#).

5.5.1 Options

The first screen that opens in the Define Recipients wizard is the Options screen. Select the **Upload a Recipients Text File** option, located in the **Define recipients** section. The text file may contain columns of data with or without a header row. The system administrator may limit the availability of this option or the size of the uploaded file.

Figure 5-15 The Options Screen for Uploaded Text File

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Options

Select the type of Recipients to use for the job.

Use existing recipients

- Send to a Recipient Target Group
- Send to an Existing LISTSERV List
- Determine Recipients Based on Reaction to the Job:
 - Select -- (There are no jobs available to base recipients on.)
- Use Recipients Definition from Job:
 - Select --

Define recipients

- Upload a Recipients Text File
- Select Recipients from a Database
- Let LISTSERV Select Recipients from a Database

5.5.2 Source

The Source screen that opens contains two options: **Define recipients now** and **Load recipients just before sending from a server file**.

Define recipients now creates a static list of recipients at the moment of definition that will not change unless re-defined. **Load recipients just before sending from a server file** is a “just-in-time” recipient definition, which means that the text file will be reloaded just before sending, allowing changes to be made to the file between recipients definition and sending, and those changes will be reflected in the actual list of recipients used for the mailing.

By selecting the **Define recipients now** option, the **Upload a recipients file** link is enabled. Click this 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 B: [Email and International Character Sets](#).

Figure 5-16 The Source Screen for an Uploaded Text File - Define Recipients

The screenshot displays the 'Define Recipients' web interface. The 'Source' tab is selected, showing options for defining the recipients file. The 'Define recipients now' option is selected, and the 'Upload a recipients file' link is highlighted. Below this, there are fields for 'File Name' and 'File Encoding' (set to 'West European, ISO-1'). A note states: 'Note: The given file name and path must be a valid path on the server running LISTSERV Maestro.'

An 'Upload a File' dialog box is overlaid on the interface. It prompts the user to 'Select the text file containing the recipients.' and provides instructions: 'Click Upload to replace the current recipients file with the new file. Click Cancel to keep the currently saved recipients file.' The dialog shows the 'File Name' as 'D:\L-Soft\maestro\mail_job_files\test_list.csv' and the 'Encoding' as 'West European, ISO-1'. The 'Browse...' button is highlighted, and the 'Upload' button is also highlighted.

Below the dialog box, the 'Define Recipients' interface is shown again, but now the 'Load recipients just before sending from a server file' option is selected. The 'Source File' field is populated with 'test_list.csv' and the 'Upload Date/Time' is 'Jan. 30, 2004 10:29:13 AM'. The 'Upload a different file' link is now visible, and the 'Upload' button from the dialog is highlighted.

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.

Selecting the **Load recipients just before sending from a server file** option requires the full path and name of the file that contains the recipients to be entered in the text box provided. The recipients from this file will be uploaded into LISTSERV Maestro just

before the message is sent. The file must be on a valid path on the server running LISTSERV Maestro (specifically, the LUI component).

Any recipients file residing on a server must be added to a list of permissible files in the HUB. This list of permissible files is controlled by the system administrator and is necessary to maintain server security. If the file is not on this list, an error message will be displayed on the Source screen. If the file is not available at the moment of sending, the job will fail. Click **[Next ->]** to continue.



Tip: The **Load recipients just before sending from a server file** option is especially useful if the text file is created automatically by an external process, such as extracting from a different data source.


5.5.3 Source Details

When a text file is uploaded, LISTSERV Maestro will try to determine how the columns of data are separated, and how each column or field of data is labeled (header) on the Source Details screen.

Figure 5-17 The Source Details Screen for an Uploaded Text File

Define Recipients

Options Source **Source Details** Recipients Details Summary

Cancel <- Back Next -> 

Parse Recipients

The uploaded source file needs to be interpreted correctly before being usable as a recipient list. The preview below shows the result of the parsing performed using the settings specified on this page.

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 encoding and separator/quote 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	DOB
Anna@maestro-demo.lsoft.com	Anna	Anchor	03/17/1972
Bob@maestro-demo.lsoft.com	Bob	Bouchard	03/31/1981
Chuck@maestro-demo.lsoft.com	Chuck	Cho	7/15/1983
Darren@maestro-demo.lsoft.com	Darren	Donagel	6/8/1960
Evelyn@maestro-demo.lsoft.com	Evelyn	Eavensong	03/17/1950
Frank@maestro-demo.lsoft.com	Frank	Fortuna	2/10/1964
Gina@maestro-demo.lsoft.com	Gina	Gallino	04/10/1982
Hilda@maestro-demo.lsoft.com	Hilda	Hines	2/7/1972
Ines@maestro-demo.lsoft.com	Ines	Ito	1/13/1974
jani@lsoft.com	Jani	Kumpula	01/05/1975

Refresh Preview

In order to send out an email job, LISTSERV Maestro must correctly interpret which column contains the name of the recipient and which column contains the email address of the recipient. Other fields may be included and will appear in the **Preview** section located on the lower half of the screen.

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

5.5.3.1 Parse Recipients Manually

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

Use the **Specify encoding and separator/quote manually** link when the delimiter (separator character) or the quote character is used in some of the data fields. For example, if the NAME field contained Tom "the cool cat" Jones as an entry, and double quotes was 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 5-18 Source Details for an Uploaded Text File – Specify Details Manually Section

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.

In addition to interpreting the separator character and the quote character, LISTSERV Maestro will select the encoding used to create the text file. If the original data file was created with a specific character set, such as Greek characters, the file encoding will have to be changed to match that character set. Use the drop-down menu to select the encoding for the file if it is different from the default. For more information on encoding, see Appendix B: [Email and International Character Sets](#).

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.

5.5.3.2 Header Row

Headers are special rows in tables. Headers are 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 be given 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.

System generated headers and headers uploaded from a file can be edited to be more meaningful if they will be used for mail merge and tracking on the Recipients Details screen. Editing headers within LISTSERV Maestro will in no way change the original file.

Click **[Next]** to continue.

5.5.4 Recipients 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 desired. The Recipients Details screen is split into three sections to accommodate these steps.

5.5.4.1 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 can be used in the email message to create personalized content. These columns can then also be used to identify recipients for more detailed tracking reports. For more information on using mail merging, see Section 6.6 [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 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.

Once a selection has been made for **Usage of Recipient's Data**, the selections for **Recipient Identification Columns** and **Header Definition** will change to reflect what is available for each choice.

5.5.4.2 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 menu to select the **Email Column**. If the job is sent as bulk email, with no mail merging, it is necessary to type in a "To:" address that will be used in the header of the message for all recipients. Optionally, type in a name for the "To:" address. All messages will be sent using this address and this name, no personalization is possible.

Figure 5-19 Recipients Details for Uploaded File without Additional Recipient Data

Define Recipients

Options Source Source Details **Recipients Details** Summary

Cancel <- Back Next ->

Recipients Details

The system now knows how to separate the recipients file into columns. 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 recipient's e-mail address and name:

E-mail Column: -- Select --
Name Column: -- Select -- (optional)

Header Definition

EMAIL	FNAME	LNAME	DOB
Anna@maestro-demo.lsoft.com	Anna	Anchor	03/17/1972
Bob@maestro-demo.lsoft.com	Bob	Bouchard	03/31/1981
Chuck@maestro-demo.lsoft.com	Chuck	Cho	7/15/1983
Darren@maestro-demo.lsoft.com	Darren	Donagel	6/8/1960
Evelyn@maestro-demo.lsoft.com	Evelyn	Eavensong	03/17/1950
Frank@maestro-demo.lsoft.com	Frank	Fortuna	2/10/1964
Gina@maestro-demo.lsoft.com	Gina	Gallino	04/10/1982
Hilda@maestro-demo.lsoft.com	Hilda	Hines	2/7/1972
Ines@maestro-demo.lsoft.com	Ines	Ito	1/13/1974
jani@lsoft.com	Jani	Kumpula	01/05/1975



Tip: It is common practice to use a generic email address with a matching generic name for the organization sending the bulk mail job in the "To:" **Address** and **Name** fields. An example of this might be "info@xyzcorp.com" as the address and "Your XYZ Team" as the name. Be sure to use an authentic email address in the "To:" **Address** field to avoid any bounces that could result from recipients using "Reply to all" in response to the message.

For jobs that are sent as mail merge jobs, an additional drop-down menu is available to select the **Name Column**. Selecting the **Name Column** is optional, but it can be used to make the message more personalized.

Figure 5-20 Recipients Details for Uploaded text File with Additional Recipient Data

Define Recipients

Options
Source
Source Details
Recipients Details
Summary

Cancel
<- Back
Next ->

Recipients Details

The system now knows how to separate the recipients file into columns. 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 recipient's e-mail address and enter the name and address that will appear in the "To:" header.

E-mail Column: -- Select --

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

Address:

Name: (optional)

Header Definition

EMAIL	FNAME	LNAME	DOB
Anna@maestro-demo.lsoft.com	Anna	Anchor	03/17/1972
Bob@maestro-demo.lsoft.com	Bob	Bouchard	03/31/1981
Chuck@maestro-demo.lsoft.com	Chuck	Cho	7/15/1983
Darren@maestro-demo.lsoft.com	Darren	Donagel	6/8/1960
Evelyn@maestro-demo.lsoft.com	Evelyn	Eavensong	03/17/1950
Frank@maestro-demo.lsoft.com	Frank	Fortuna	2/10/1964
Gina@maestro-demo.lsoft.com	Gina	Gallino	04/10/1982
Hilda@maestro-demo.lsoft.com	Hilda	Hines	2/7/1972
Ines@maestro-demo.lsoft.com	Ines	Ito	1/13/1974
jani@lsoft.com	Jani	Kumpula	01/05/1975

5.5.4.3 Header Definition


When the **Use additional recipient data for mail merging and tracking** option is selected, it becomes possible to edit the headers of the file. Editing the headers does not change the original uploaded file. However, editing does allow the user to create meaningful headers that can be used to merge recipient data into each message, making each message personalized. The name of the header becomes the name of the mail merge place holder in the message so it is important to select names that are meaningful to the users who are assembling the message content. See Section 6.6.1 [Merge Fields](#) for more information.

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, remember to specify the **Email Column** and the **Name Column** using the drop-down menus.

5.5.5 Summary

The Summary page of the Define Recipients wizard shows a summary of the recipient list selections for the job. LISTSERV Maestro will validate the recipient list data file, checking for errors in the email addresses that would prevent the email from being delivered. From this screen, it is possible to download the validated recipient list and the list containing recipients who have been rejected. If available, a sample of the recipient list will appear at the bottom of the screen.

Figure 5-21 The Summary Screen for an Uploaded Text File

Define Recipients


Options
Source
Source Details
Recipients Details
Summary

Cancel
<- Back
Finish

Summary

A summary of the recipients information. Click the Finish button to save this as a new recipients definition for your job.

Recipients File

Source File Name: subscribers-bday-dataset.txt
Upload Date/Time: Aug. 10, 2006

Special Purpose Columns

E-mail Column: EMAIL
Name Column: <not defined>
Usage of Recipients Data: Used for mail merging and tracking

Validation Results

Valid recipients (will be used for delivery): 38 [download](#)
Recipients with errors (ignored during delivery): 0 [download](#)

Duplicate Elimination

Selected Duplicate Elimination: Do not remove duplicates

Recipient Sample

EMAIL	FNAME	LNAME	DOB
Anna@maestro-demo.lsoft.com	Anna	Anchor	03/17/1972
Bob@maestro-demo.lsoft.com	Bob	Bouchard	03/31/1981
Chuck@maestro-demo.lsoft.com	Chuck	Cho	7/15/1983
Darren@maestro-demo.lsoft.com	Darren	Donagel	6/8/1960
Evelyn@maestro-demo.lsoft.com	Evelyn	Eavensong	03/17/1950
Frank@maestro-demo.lsoft.com	Frank	Fortuna	2/10/1964
Gina@maestro-demo.lsoft.com	Gina	Gallino	04/10/1982
Hilda@maestro-demo.lsoft.com	Hilda	Hines	2/7/1972
Ines@maestro-demo.lsoft.com	Ines	Ito	1/13/1974
jani@lsoft.com	Jani	Kumpula	01/05/1975

5.5.5.1 Duplicate Elimination

LISTSERV Maestro can eliminate duplicate recipients from the Summary screen. Click on the **[Define Duplicate Elimination]** button to initiate this function. Duplicates can be removed based on one or more selected criteria. To select more than one criterion for removing duplicates, hold down the **SHIFT** key or the **CTRL** key and click on the columns desired. Click **[OK]** to remove duplicates and return to the Summary screen.



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 (i.e. a customer ID number), it is possible to avoid sending multiple messages to the same person with different email addresses. Conversely, 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 5-22 Elimination of Duplicate Recipients Screen

Elimination of Duplicate Recipients

To avoid unwanted 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
 DOB

Recipient Sample

EMAIL	FNAME	LNAME	DOB
Anna@maestro-demo.lsoft.com	Anna	Anchor	03/17/1972
Bob@maestro-demo.lsoft.com	Bob	Bouchard	03/31/1981
Chuck@maestro-demo.lsoft.com	Chuck	Cho	7/15/1983
Darren@maestro-demo.lsoft.com	Darren	Donagel	6/8/1960
Evelyn@maestro-demo.lsoft.com	Evelyn	Eavensong	03/17/1950
Frank@maestro-demo.lsoft.com	Frank	Fortuna	2/10/1964
Gina@maestro-demo.lsoft.com	Gina	Gallino	04/10/1982
Hilda@maestro-demo.lsoft.com	Hilda	Hines	2/7/1972
Ines@maestro-demo.lsoft.com	Ines	Ito	1/13/1974
jani@lsoft.com	Jani	Kumpula	01/05/1975

From the Define Recipients Summary screen, click **[Finish]** to save all settings and return to the Job Details screen, the Summary Diagram, or the Workflow Diagram. The recipient definition can always be edited by selecting the **Edit** link from the Summary Diagram or clicking on the Define Recipients icon from the Workflow Diagram.

5.6 Selecting Recipients from a Database

Choosing the **Select Recipients from a Database** option allows LISTSERV Maestro to make a direct query to a database using SQL (Structured Query Language). The system communicates with a database over a network using database drivers and plugins. The database must be accessible to LISTSERV Maestro over the network and some configuration is required by the system administrator for the connection to succeed.

5.6.1 Options

The first screen that opens in the Define Recipients wizard is the Options screen. Select the **Select Recipients from a Database** option, located in the Define Recipients section. Click **[Next ->]** to continue.

5.6.2 Source

LISTSERV Maestro has the ability to communicate directly with a database over a network. This is achieved by using database “plugins”. Database plugins are available from L-Soft and should be installed by the system administrator. To make a connection to a database, select the appropriate plugin for the database from the drop-down list provided on the Source screen. If there is any uncertainty about the plugin selection, contact the system administrator, the database administrator, or see the LISTSERV Maestro Administrator’s Manual.

Figure 5-23 Source for Select Database Plugin

Once the database plugin has been selected, a longer Source screen opens requiring additional information. The information is required by LISTSERV Maestro in order to be able to communicate with the database. Different databases require different connection information, so the fields that appear on the Source screen will be different depending on the type of database being accessed. If there is any question about the information required, contact the data administrator or the system administrator.

This longer version of the Source screen will automatically open (skipping the shorter version) if the new job is copied from a previous job with the same settings, or if the user returns to the Source screen from another link in the Define Recipients wizard. The wizard does not have to be completed in order to keep the plugin selected.

Figure 5-24 Source Screen for Define Database Connection

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Source

Information about the recipients source in a database.

Database Connection

Database Plugin: MySQL Driver Database Plugin

Database Name:

MySQL User Name:

Password:

Database Host Name:

TCP/IP Port:

SQL Statement

Add a SELECT statement here. Contact your data administrator for help creating a SQL statement.

The recipients will be retrieved: Now Just before sending

Contact your system administrator or data administrator for help with these fields.

Enter the SQL statement (query) in the **SQL Statement** text box. Depending on the database, variations in SQL syntax may need to be considered, especially if the query returns with an error.

Below the **SQL Statement** text box are options that determine when to execute the query against the database. Retrieving recipients **Now** means building a complete recipient list by querying the database while still in the Define Recipients wizard. The recipients will be gathered from the database and saved when the wizard is completed by clicking the **Summary** link. Any changes in the database between the time the wizard is completed and the time the mail is sent will not be reflected.

Retrieving recipients **Just before sending** means that the database will be queried for the complete recipient list just before the mail is sent for delivery. Any changes in the database that occur between the time the Define Recipients wizard was completed and the time the mail is scheduled for delivery will be reflected. Click [**Next ->**] to continue.

5.6.3 Source Details

There are no Source Details for recipients retrieved directly from a database by LISTSERV Maestro.

5.6.4 Recipients Details

On the Recipients Details screen, the SQL statement is automatically executed to test its validity. An Operation in Process screen will appear until the operation is completed. Once completed, a preview of 10 recipients will be displayed. An error message will appear if there are any problems with the SQL statement or connection to the database. If recipients will be retrieved **now**, the SQL statement will be re-sent to the database when entering the Summary screen in order to build the full recipient list. If recipients will be retrieved **just before sending**, the SQL statement will be re-sent to the database right before the scheduled sending time.

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 desired. The Recipients Details screen is split into three sections to accommodate these steps.

5.6.4.1 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 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 Section 6.6 [Merge Fields and Conditional Blocks](#).

Figure 5-25 Recipients Details for LISTSERV Maestro Selects from a Database with Additional Recipient Data

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Recipients Details

The system now knows how to separate the recipients file into columns.
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:

Name Column: (optional)

Header Definition


Name	Model_num	City	State
Zoe Zimmerman	9595	Baltimore	MD
Yvette Yosel	8787	Hartford	CT
Xavier Xero	5454	New York	NY
Wilfred Wonderly	9595	New York	NY
Vanna VonSchedule	8787	Lansing	MI
Ursula Underhill	5454	Albany	NY
Toby Tuttle	5454	Rockville	MD
Seth Simpson	9595	Buffalo	NY

If the **Ignore additional recipient data and send job as bulk email** option is selected, any additional columns 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.

Figure 5-26 Recipients Details for LISTSERV Maestro Selects from a Database without Additional Recipient Data

Define Recipients

Options Source Source Details **Recipients Details** Summary

Cancel <- Back Next -> 

Recipients Details

The system now knows how to separate the recipients file into columns.
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:

“To:” header information that will be used for all recipients:

Address:

Name: (optional)

Header Definition

NAME	EMAIL	MODEL_NUM	CITY	STATE
Zoe Zimmerman	zoe@server.company.com	9595	Baltimore	MD
Yvette Yosel	yvette@server.company.com	8787	Hartford	CT
Xavier Xero	Xavier@server.company.com	5454	New York	NY
Wilfred Wonderly	Wilfred@server.company.com	9595	New York	NY
Vanna VonSchedule	Vanna@server.company.com	8787	Lansing	MI
Ursula Underhill	Ursula@server.company.com	5454	Albany	NY

Once a selection has been made for **Usage of Recipient’s Data**, the selections for **Recipient Identification Columns** and **Header Definition** will change to reflect what is available for each choice.

5.6.4.2 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 menu to select the **Email Column**. In the case of a mail merge job, use the drop-down menu to select the **Name Column** as well. Selecting the **Name Column** is optional, but it makes a more personalized message possible.

If the job is sent as bulk email, with no mail merging, it is necessary to type in a “To:” address that will be used in the header of the message for all recipients. Optionally, type in a name for the “To:” address. All messages will be sent using this address and this name, no personalization is possible.



Tip: It is common practice to use a generic email address with a matching generic name for the organization sending the bulk mail job in the “To:” **Address** and **Name** fields. An example of this might be “info@xyzcorp.com” as the address and “Your XYZ Team” as the name. Be sure to use an authentic email address in the “To:” **Address** field to avoid any bounces that could result from recipients using “Reply to all” in response to the message.

5.6.4.3 Header Definition

Headers are specially defined rows in databases. Headers are used by database tables to label the columns of data so that the system and the user can correctly identify the columns. If additional recipient data is selected to be used for mail merging and tracking, it is possible to edit the existing headers. Editing the headers does not change the original database table. It does allow the user to create meaningful headers that can be used to merge recipient data into each message, making each message personalized. The name of the header becomes the name of the mail merge place holder in the message so it is important to select names that are meaningful to the users who are assembling the message content. See Section 6.6.1 [Merge Fields](#) for more information. If the message is being sent as bulk email, it is not possible to change the headers.



Tip: It is also possible to change the header name directly in the SQL statement used to retrieve the data by making use of the “AS” clause of the SQL SELECT statement. For example, the following SQL statement selecting data from an Excel spreadsheet using ODBC will result in 3 columns called CUSTID, EMAIL, and FULLNAME, derived from 4 columns in the spreadsheet called ID, EMAIL, FNAME, and LNAME:

```
select ID AS CUSTID, EMAIL, FNAME+' '+LNAME AS FULLNAME
from [Demo-recipients$]
```

5.6.5 Summary

The Summary screen lists all the selections made in the Define Recipients wizard. From here, it is possible to use the [**<** Back] button to re-enter the wizard and make changes. LISTSERV Maestro will validate the recipient list selected from the database, checking for errors in the email addresses that would prevent the email from being delivered. From this screen, it is possible to download the validated recipient list and the list containing recipients who have been rejected. If available, a sample of the recipient list will appear at the bottom of the screen.



Tips: Although initially it may take some assistance from the system administrator or data administrator, selecting recipients from a database is a much faster method of defining recipients for a job when compared to uploading a text file. Because recipient data comes directly from a database, it becomes unnecessary to export the data, upload a large text file, and parse the file, therefore saving time and system resources.

To re-use SQL statements or build parameters into SQL statements, making them more flexible, consider creating and using recipient target groups. See Section 5.1 [Send to a Recipient Target Group](#) for more information on using recipient target groups, and see the Data Administrator’s Manual for how to create recipient target groups.

Figure 5-27 Define Recipient Summary

Summary

Options Source Source Details Recipients Details Summary

Cancel <- Back Finish

Summary

A summary of the recipients information. Click the Finish button to save this as a new recipients definition for your job.

Special Purpose Columns

E-mail Column: EMAIL_ADDRESS
 Name Column: F_NAME
 Usage of Recipients Data: Used for mail merging and tracking

Validation Results

Execute Date/Time: May 26, 2004 04:04:02 PM
 Valid recipients (will be used for delivery): 102 [download](#)
 Recipients with errors (ignored during delivery): 0 [download](#)

Duplicate Elimination

Selected Duplicate Elimination: Do not remove duplicates

Recipient Sample

F_NAME	L_NAME	EMAIL_ADDRESS	MODEL_NUM	PET
Zoe	Zimmerman	zoe@maestro-demo.lsoft.com	9595	dog
Yvette	Yosel	yvette@maestro-demo.lsoft.com	8787	cat
Xavier	Xero	Xavier@maestro-demo.lsoft.com	5454	bird
Wilfred	Wonderly	Wilfred@maestro-demo.lsoft.com	9595	none
Vanna	VonSchedule	Vanna@maestro-demo.lsoft.com	8787	cat
Ursula	Underhill	Ursula@maestro-demo.lsoft.com	5454	none
Toby	Tuttle	Toby@maestro-demo.lsoft.com	5454	dog
Seth	Simpson	Seth@maestro-demo.lsoft.com	9595	none
Ron	Remmington	Ron@maestro-demo.lsoft.com	9595	none
Quod	Quartermaster	Quod@maestro-demo.lsoft.com	5454	none

5.6.5.1 Duplicate Elimination

LISTSERV Maestro can eliminate duplicate recipients from the Summary screen. Click on the **[Define Duplicate Elimination]** button to initiate this function. Duplicates can be removed based on one or more selected criteria. To select more than one criterion for removing duplicates, hold down the **SHIFT** key or the **CTRL** key and click on the columns desired.



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. Similarly, 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.

From the Define Recipients Summary screen, click **[Finish]** to save all settings and return to the Job Details screen, the Summary diagram, or the Workflow diagram. The recipients can always be edited by selecting the **Edit** link from the Summary diagram or clicking on the **Define Recipients** icon from the Workflow diagram.

5.7 Letting LISTSERV Select Recipients from a Database

The **Let LISTSERV Select Recipients from a Database** option relies on a pre-existing configuration of LISTSERV connected to a database or databases, wherein LISTSERV acts as the communicator between the database(s) and LISTSERV Maestro. This option may only be used if LISTSERV has been set up to work with a database. The site administrator should consult the LISTSERV Developer's Manual for details.

5.7.1 Options

The first screen that opens in the Define Recipients wizard is the Options screen. Select the **Let LISTSERV Select Recipients from a Database** option, located in the **Define recipients** section. Click **[Next ->]** to continue.

5.7.2 Source

If LISTSERV is connected to multiple databases, then enter the "server name" defined in LISTSERV's configuration in the **Database Server** field on the Source screen. Enter the SQL statement selecting the recipients in the **SQL Statement** text box. Click **[Next ->]** to continue.

Figure 5-28 Define Recipients from LISTSERV Connected Database

Define Recipients

Options Source Source Details Recipients Details Summary

Cancel <- Back Next ->

Recipients Source: Let LISTSERV select recipients from a database

Specify the SQL Statement that will be executed by LISTSERV to retrieve the recipients for the e-mail job.

Database Server: (optional, leave empty to use the default database)

SQL Statement: (executed by LISTSERV)

5.7.3 Source Details

There are no Source Details for recipients selected from a database by LISTSERV.

5.7.4 Recipients Details

Because LISTSERV is communicating directly with the database, LISTSERV Maestro does not have any information about what data is contained in the database or how it is arranged. As a result, there is no preview of the columns being used by the database. In order to give LISTSERV Maestro the information it needs to send the job, it is necessary to know the exact names of the columns of data in the database. This information can be obtained from the LISTSERV system administrator or from the database administrator.

Enter the name of the email column in the **Email Column** text box. This is the minimum amount of information needed to send a job. Optionally, enter the name of the recipients column in the **Name Column** text box.

If mail merging is going to be used in the message, enter the names for the columns of data that will be used as merged fields in the **Merge Columns** text box, one name per row (see Figure 4-34). In order to function correctly, the names of the columns entered here must be the exact names used in the database.

Figure 5-29 Recipient Details for LISTSERV Selects Recipients from a Database

Define Recipients

Options Source Source Details **Recipients Details** Summary

Cancel <- Back Next ->

Recipients Details

Specify the names of the recipient identification and additional merge columns.

Recipient Identification Columns

Supply the names of the columns that identify the recipients e-mail address and name:

E-mail Column:

Name Column: (optional)

Additional Merge Columns

The e-mail column will be available as a merge field with the name **"*TO"**, the name column (if any) as a merge field with the name defined above.

Enter the names of the additional columns that will be used for mail merging (one per row).

Merge Columns:
 (optional)

5.7.5 Summary

The Summary screen lists all the selections made in the Define Recipients wizard. The sample recipient list will not show for a LISTSERV selected database because LISTSERV Maestro has no direct connection to the database and cannot obtain that information. Any problems with the query statement or the column names will not be detectable until a delivery test is run, so be sure and test thoroughly.

From here it is possible to use the [**<- Back**] button to re-enter the wizard and make changes. Click [**Finish**] to save the recipients definition and return to the Workflow diagram.

Figure 5-30 Summary for *LISTSERV Selects Recipients from a Database*



The screenshot shows a software window titled "Define Recipients" with a red title bar. At the top, there is a navigation bar with tabs: "Options", "Source", "Source Details", "Recipients Details", and "Summary". The "Summary" tab is selected. Below the tabs are three buttons: "Cancel", "<- Back", and "Finish". On the right side of the window, there is an icon of an eye looking at a computer screen. The main content area is titled "Summary" and contains the following text:

Summary of the recipients information. Click the Finish button to save this as a new recipients definition for the job.

LISTSERV SQL Select Details

Database Server:	<default>
SQL Statement: (executed by LISTSERV)	select * from mae_recipients
E-mail Column:	EMAIL_ADDRESS
Name Column:	F_NAME
Additional Mail Merge Columns:	MODEL_NUM MODEL_NAME

Section 6 Defining and Editing the Message for an Email Job

The next phase of creating a new email job is defining the message of the email to be sent to the recipient list. LISTSERV Maestro will copy content from a previously defined email job, or original content can be uploaded or entered as plain text, as HTML or a combination. Special “Drop-In Content” elements in the form of text, links, files, or a database can be added to the message. It is possible to include attachments to messages as well as select the language character set used to encode the message.

Figure 6-1 The Define Message Screen

Define Message
Define the Subject and the Body of the message.

Copy Message from Another Job OK Cancel

Drop-In content is **disabled** for this job. [Change](#)

Subject:

Body: Plain Text HTML

Plain Text Attachments

Upload Plain Text Show Merge Fields

Language: Mail will be sent with language charset for [West European \(Latin 1 charset ISO-8859-1\)](#).

6.1 Drop-In Content

Drop-in content is similar to merging fields, except that the same content is merged into the email message for all recipients. For more information on merging fields, see Section 6.6 [Merge Fields and Conditional Blocks](#). Drop-ins can be used to create pre-defined content parts that can then be inserted into any message. For example, a drop-in content

element could be created with a company header and added to all the outgoing email messages simply by including the name of the drop-in element in the content. For more information about creating drop-in content elements, see Section 15.2 [Creating and Managing Drop-In Content Elements](#).

Drop-in content must first be enabled before it can be used in a message. The Define Message screen will display a green **enabled** if drop-in content can be used. A red **disabled** will appear if drop-in content is not available. Click on the **Change** link to toggle between enabled and disabled.

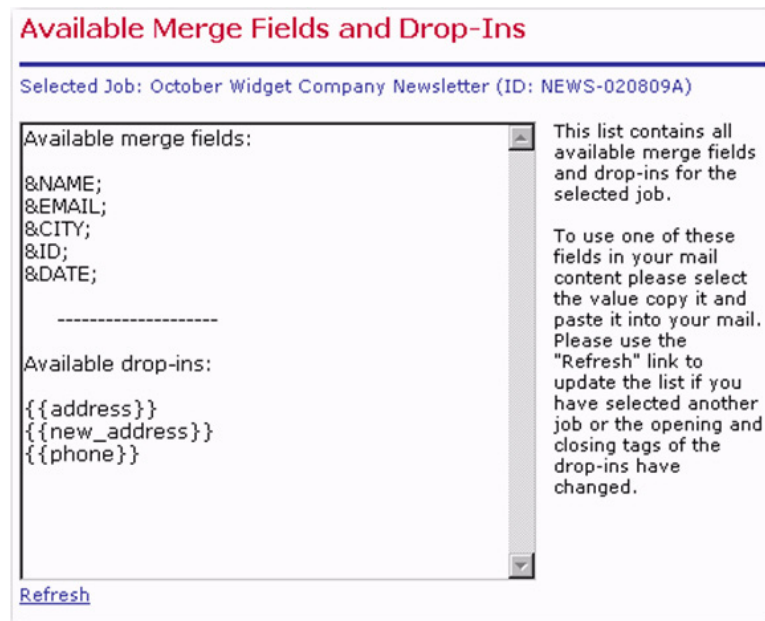
LISTSERV Maestro recognizes drop-in elements if they appear in the message enclosed by specially defined tags. The tags surround the name of the drop-in content element, creating a “drop-in placeholder.” This placeholder will be replaced by actual content at the time the message is sent. It is possible to see what the drop-in will look like within the context of the message by clicking any of the preview tabs, Text Preview, HTML Preview, or AOL Preview.

Figure 6-2 Drop-In Content Settings

The default setting for drop-in content tags are double open and closed curly brackets “{{” and “}}”. An example of a drop-in content placeholder using the default settings would be `{{company_address}}`. It is possible to change the open and closed tags to other characters, but the characters must not appear in the actual name of the drop-in content element itself or anywhere else in the text. For instance, if the name of the drop-in were “dec_header”, then in the default mode the drop-in would appear as `{{dec_header}}`. It would not be possible to change the open or closed tag to an underscore “_” because it appears in the name of the drop-in element. Conversely, if the actual message contains the text “{{” or “}}”, then it will be necessary to select different tags to use for placeholders.

To include a drop-in content element in a message, simply type the drop-in element's name (with the exact spelling and case) and surround it with the opening and the closing tags that have been defined. For a list of available drop-ins, click the **Show Merge Fields and Drop-Ins** link at the bottom of the text box on the HTML Code, AOL Code, or Text screen. Copy and paste the name of the drop-in into the message to ensure the correct name and tags. To define a new drop-in content element, click on the **User Settings** icon and then select the **Drop-In Content Elements** link.

Figure 6-3 The Available Merge Fields and Drop-Ins Screen



6.2 Creating Text Messages

To create a plain text message with LISTSERV Maestro, select the **Plain Text** option. Then, type in the **Plain Text** text box, or click **[Upload Plain Text]** to upload a text file. If drop-in content has been enabled, the Plain Text Preview tab will appear. Click on this tab to see what the drop-in content elements look like within the body of the message.



Tip: Uploading a file composed in a word processing program can be beneficial because it is possible to use spelling and grammar checkers. Just be sure to save the file as text, not in the word processor format. Click **[OK]** when finished composing or uploading the message.



Important: In order to track links inside of text messages, it is necessary to enclose the URL within quotation marks (“http://www.lsoft.com”). These quotation marks will be removed from the recipients’ copy of the message, and serve only to let the system know that there is a trackable link in the message.

6.3 Creating HTML Messages

There are several ways to compose HTML messages in LISTSERV Maestro:

- Upload an HTML file from a local drive.
- Copy and paste HTML source code from another application.
- Type in HTML source code.

HTML messages can be created locally in any HTML editing program and uploaded to LISTSERV Maestro.

In order for any links to be tracked in an HTML message, they must be enclosed within quotation marks. Most HTML editors will do this automatically, but it is possible to create

a link without quotation marks that will be read in Internet Explorer (this browser is very forgiving of HTML coding errors). If in doubt, or if there is trouble selecting a tracking definition for a seemingly good link, double check the HTML coding of the links. An example of correct coding appears below:

```
<a href="http://www.lsoft.com">Link text goes here</a>
```

Omitting the quotation marks would result in incompatible coding for LISTSERV Maestro tracking.



Important: In order to upload HTML files into LISTSERV Maestro, it is necessary to have the Microsoft® Java Virtual Machine (MS JVM) or Sun Microsystem's The Java Virtual Machine (JVM™) installed. This ensures that any accompanying image files for backgrounds, banners, icons, diagrams, and pictures will be automatically uploaded with the source code. Most Windows systems manufactured before 2003 already have MS JVM installed. If a system does not, download The Java Virtual Machine from <http://java.sun.com/getjava/index.html>.

1. Click **[Upload HTML]** from the Define Message screen.
2. The first time a file is uploaded after the Java Virtual Machine is installed, a Security Warning screen will appear, asking for permission to use the L-Soft applet to upload HTML. If **Always trust content from L-Soft Germany GmbH** is checked, then the Security Warning screen will not re-appear for future uploads. If this option is not checked, then it will be necessary to grant permission to use the applet every time HTML files are uploaded in a new browser session.
3. Grant permission to install and run HTML Upload Applet (for the first time only). Check **Always trust content from L-Soft Germany GmbH** to prevent the dialog box from re-appearing. Click **[Yes]** to continue.
4. Browse a local drive for the file, select the file to upload, and then click **[OK]**. If there are any image files that are linked remotely or embedded from local files, then a screen will appear listing each and asking whether to proceed with the upload. Click **[Yes]**. The HTML message will then appear in the HTML box.
5. Review the Load Properties, and then click **[Yes]** to continue.
6. Review the Load Results, and then click **[Yes]** to continue.

The LISTSERV Maestro applet will also check to ensure internal and external references to linked or embedded image files are valid. Linked files are not sent with the message; embedded files are sent with the message. One advantage of using linked files is that the message will be smaller. However, a live Internet connection is necessary to view linked files. If the image server is down, they will not be visible. In addition, some firewalls strip HTML messages that contain links to outside sources thus rendering the image invisible.

Embedded files, on the other hand, will be visible without a live Internet connection and if the image server is down. They will make the message larger, but they will not, in most cases, be stripped from the message by a firewall. Consider the use of images, linked or embedded, carefully to avoid complications for the recipients.

Any invalid links will be counted as errors and will be reported in the Load Results dialog box. If **[Yes]** is clicked, then LISTSERV Maestro will continue uploading the HTML file even if it contains link errors. The error report is only a warning to remind the user that there are currently problems, but the upload is not suspended. The reason that uploads are not halted when the HTML contains errors is that the linked files simply may not be

available yet. Sometimes, referenced web sites are under development or are being updated as the email message is being created. Once the linked site is complete, the message will be valid and can be sent out.



Tip: Make clicking each link for linked files a part of the testing procedure and don't approve the test until all of the links are working correctly. For more information on testing an email job, see Section 9.1 [Delivery Testing for a Job](#).

Table 6-1 Advantages and Disadvantages of Linked and Embedded Files

	Advantages	Disadvantages
Linked Files	<p>Smaller message size.</p> <p>Mail servers will most likely not refuse a small message.</p> <p>Drop-in content can be used.</p>	<p>Recipients must have a live Internet connection.</p> <p>Some firewalls strip HTML content linking to outside sources.</p> <p>Some email clients refuse to show linked files.</p> <p>Image server must be available.</p>
Embedded Files	<p>No image server needed.</p> <p>Firewall will not strip content.</p> <p>Visible without a live Internet connection.</p> <p>Drop-in content can be used.</p>	<p>Large message size.</p> <p>Some mail servers may refuse or delete large messages.</p>

6.3.1 Alternative Text for HTML Messages

To add a plain text alternative to an HTML message, follow these steps:

1. Select the **HTML with Alternatives** option on the Define Message screen.
2. Check **Text Format**. This activates the Text Preview and Text tabs.
3. Click on the Text tab to add the alternative text message. The message can be uploaded, pasted, or typed directly into the box.
4. Click the Text Preview tab to see what the message looks like to recipients. Any drop-in content elements will be automatically added into the body of the text message.



Notes: Any trackable links in the alternative text message must be enclosed within quotation marks the same way as the trackable plain text message links are enclosed. Merge fields and drop-in content can be used in this format as described in Sections 6.1 [Drop-In Content](#) and 6.6 [Merge Fields and Conditional Blocks](#).

A second check box for an AOL alternative may appear on the same line as the text alternative check box. In most instances, this is an obsolete setting, but more information on formatting LISTSERV Maestro content for older versions of AOL mail clients can be found in Appendix E: [LISTSERV Maestro and AOL](#).

6.3.2 Conditional Content

In the event that recipient data is available that somehow determines the format each recipient prefers to receive, then that data can be used to send the preferred format to each recipient, all within the same job. This determination is based upon a conditional statement run against the recipient data. The advantage of using conditional content is that it's possible to prepare a single job for recipients who prefer HTML and those who prefer plain text, respecting each recipient's choices as well as saving time and reducing the chance for errors while sending multiple jobs.

In order to use the Conditional Content feature, it must first be enabled. To enable Conditional Content, click on the **Change** link that appears directly under the tabs of the text box on the Define Message screen when **HTML with Alternatives** is selected. The Conditional Content Settings screen opens. Select the **Enable conditional content** option.

Once enabled, it is necessary to type in the condition that determines which recipients receive which type of mail. LISTSERV Maestro uses the standard LISTSERV syntax to create the condition. See Section 17 [Using Conditional Blocks](#) or more information on constructing conditions. The condition needs to include at least one merge field from the recipient data so that the condition acts like a variable whose true/false result is different for those recipients receiving each of the different message formats.

Figure 6-4 The Conditional Content Settings Screen

- **HTML content with plain text alternative** – one condition needs to be specified for the HTML content.
 - If a recipient fulfills the condition, the full HTML email including the plain text alternative is delivered to that recipient.
 - If the recipient does not fulfill the condition, a simple plain text email is delivered instead, containing only the plain text alternative.

If attachments are present, then LISTSERV Maestro adds the attachments to each of the messages, without applying conditions.

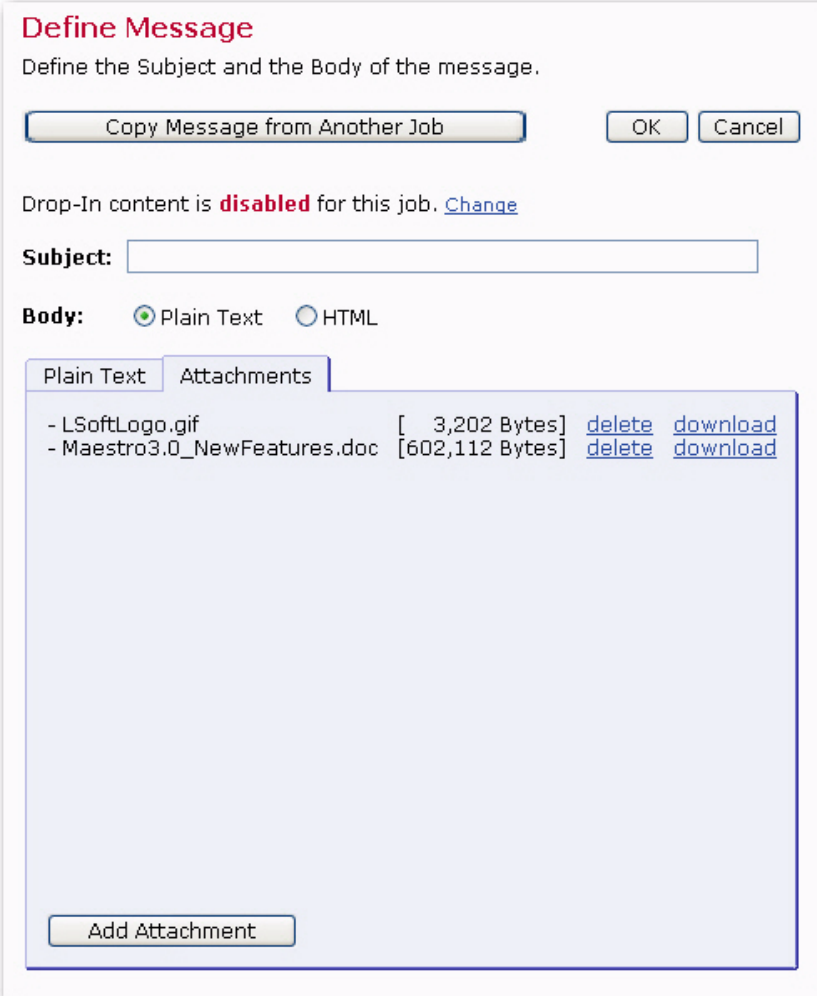
6.4 Adding Attachments

Any type of file can be included as an attachment to an email message. There is no limit to the number of files that can be attached to a message, but there may be a limit to the size of each attachment set by the system administrator. Large attachments or numerous attachments can slow down the delivery of the message and use up bandwidth.

Recipients with slower connections may have a negative reaction to the message if they have to download large or numerous attachments. Consider using a link to the information instead of an attachment. That way, processing time is faster, less bandwidth is used, and the link can be tracked.

To attach a file to a message, click the Attachments tab on the Define Message screen. Click **[Add Attachment]** to browse for a file from a local drive. When content from one job is copied to another job, attachments are copied as part of the message content

Figure 6-5 Define Message Attachments



The screenshot shows the 'Define Message' dialog box. At the top, it says 'Define the Subject and the Body of the message.' Below this is a button labeled 'Copy Message from Another Job' and two buttons labeled 'OK' and 'Cancel'. A message states 'Drop-In content is **disabled** for this job. [Change](#)'. There is a 'Subject:' label followed by an empty text input field. Below that, the 'Body:' section has two radio buttons: 'Plain Text' (which is selected) and 'HTML'. The 'Attachments' tab is active, showing a list of two files: '- LSoftLogo.gif [3,202 Bytes] [delete](#) [download](#)' and '- Maestro3.0_NewFeatures.doc [602,112 Bytes] [delete](#) [download](#)'. At the bottom of the dialog is an 'Add Attachment' button.

To delete an attachment, click the **delete** link next that particular attachment. To download an attachment to a local drive, click the **download** link next to that particular attachment.

6.5 Setting the Language Character Set

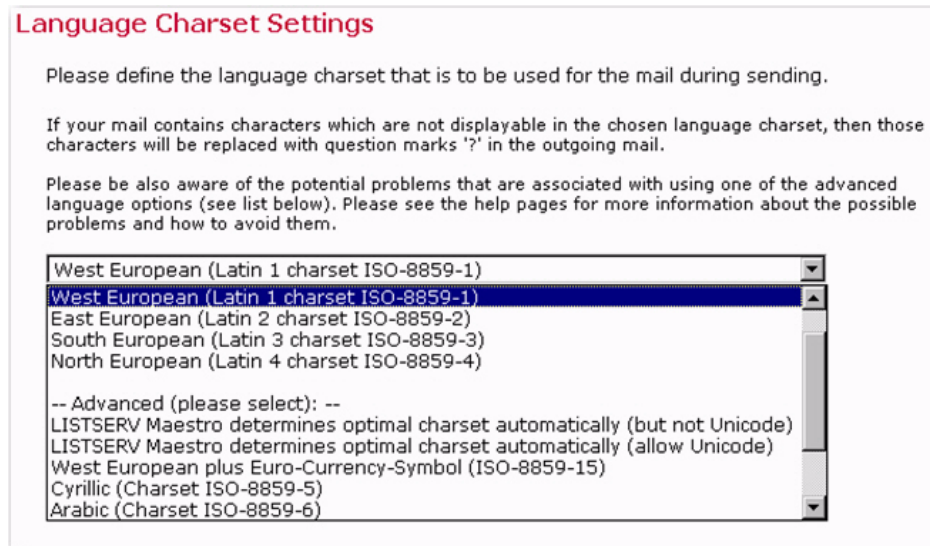
A character set (also called charset, character encoding, code page, or character page) is a table that matches numbers (the digital information sent by computers over the Internet) to letters, or more precisely, characters. Due to the nature of digital information and email (all data is reduced to numeric code) there is a finite number of “positions” in this table to correspond to letters and other symbols of a language. Therefore, different charsets have been developed to correspond to the different letters and symbols for different languages.

A charset will not translate one language to another; it only encodes data to match positions in the table to specific characters. For example, in the charset ISO-8859-1 (matching an alphabet suitable for West-European languages), the position number 196 represents the umlaut Ä. The same position, 196, using the charset ISO-8859-7 (the Greek alphabet), matches the Greek letter. As a result, the same position number in the table will result in different characters being displayed, depending on the charset used for the encoding. For more information on this subject, see Appendix B [Email and International Character Sets](#).

LISTSERV Maestro defaults to the ISO-8859-1 (Latin 1) character set for encoding email messages unless a different default setting has been preset by the system administrator. LISTSERV Maestro supports other charsets, and if users are given the right to use other character sets, an active link will appear at the end of the **Language: Mail will be sent with language charset for...** sentence at the bottom of the Define Message screen. The link will be different depending on whether a different selection has previously been made. The default link is **West European (Latin 1 charset ISO-8859-1)**.

To choose a different charset, click the active link. The Language Charset Settings screen will open. Select a charset from the drop-down menu and click **[OK]**.

Figure 6-6 Language Charset Settings



Tip: If LISTSERV Maestro is being used to send mail to recipients in a single language environment, either with plain English or with one of the common West European languages, the safest choice for a character set (charset) is always ISO-8859-1 (Latin 1) charset. It contains all 26 common alphabetic characters (both in upper and

lower-case), all the common punctuation characters and the more common special characters like '@', '+', '*', and others. In addition, it contains the characters with diacritics required for many West European languages, such as 'ö', 'å', 'ç' and others.

It is not always necessary or possible to change the charset for email messages. Using other charsets can become quite complex, especially when merged data is involved. Each charset has advantages and disadvantages that are described in more detail in the online help and in Appendix B [Email and International Character Sets](#).

6.6 Merge Fields and Conditional Blocks

LISTSERV provides the ability to customize mail messages for each recipient by merging in values uploaded with the recipient data or conditionally including blocks of text based on the preferences indicated in the recipient data. These values and preferences are taken from columns that are present in the recipient data.

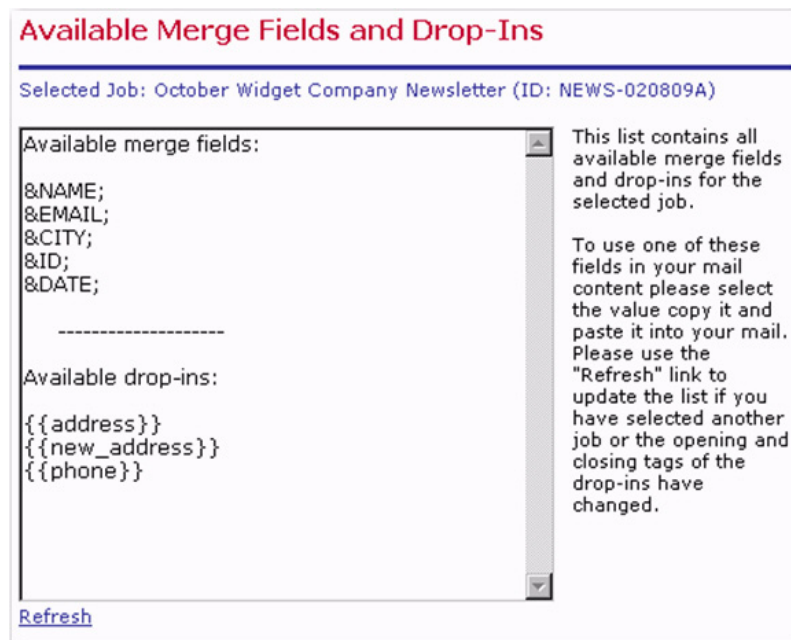
6.6.1 Merge Fields

To merge a field into the message, simply enter the field name (or header name) used in the recipient definition and precede it with an ampersand("&") and follow it with a semi-colon(";").

If the recipients data is derived from a traditional LISERSV list not connected to a database, then the only merge substitution fields available are &*TO; for the email address and &*NAME; for the name.

For a list of available merge fields, click the [Show Merge Fields and Drop-Ins](#) link at the bottom of the text box on the HTML Code, the AOL Code, or the Text tab of the Define Message screen. Copy and paste the name of the merged field into the message to ensure the correct name and formatting.

Figure 6-7 Available Merge Fields and Drop-Ins



The following example demonstrates how overdue book notices can be customized using specific recipient data in the form of the fields EMAIL, NAME, IDNUM, BRANCH, BOOK1, BOOK2, BOOK3. A text message merging the fields might look like this:

Figure 6-8 Merge Fields Example

```

Dear &NAME;,

The following book(s), borrowed using library ID card #&IDNUM;, are
overdue:

&BOOK1;
&BOOK2;
&BOOK3;

Please return them to the library at &BRANCH; as soon as possible.

Sincerely,
Your Librarian
*****

Note: This email was sent to &EMAIL; --if you wish to change the email
settings for library ID &IDNUM;, please visit "http://library.example.com/
mylibrary"
*****

```

In an HTML message, the HTML Code would be altered to include the merge fields, being careful to respect the resulting HTML source code. In an HTML message with alternative text or alternative AOL, remember to put the merge fields in both the HTML Code and the alternative messages.

6.6.2 Conditional Blocks

Conditional blocks act much the same way that merge fields do in that their use is dependent upon the recipient data available in the mail job. Well thought-out use of conditional blocks can also save time and resources by allowing one job to contain different content for different recipients that would otherwise have to be sent in multiple jobs.

Conditional blocks are sections of text that are inserted into a message based on a conditional statement. If the condition is "true", a particular section of text will be inserted into the message. If the condition is "false", the text will not be inserted. An "ELSE" clause

can be included as part of the conditional statement so a different section of text will be inserted into the message when the condition is “false”. For more information on coding conditional blocks, see Section 17 [Using Conditional Blocks](#).

If conditional blocks are used in an HTML message, first create the basic HTML message, then go into the HTML Code and correctly insert the conditional statements, making sure to maintain proper HTML syntax once the directives are followed. The HTML Preview page will now look incorrect because the directives are interpreted as part of the HTML source code.



Important: Test all possible conditional values in the testing stage (see Section 9.1 [Delivery Testing for a Job](#)) to make sure that the HTML code works correctly in all cases.

Figure 6-9 Conditional Block Example

```
. * If BOOK2 is blank, then use the singular phrasing
.BB &BOOK2 = ""
The following book, borrowed using library ID card #&IDNUM;,
is overdue:
.ELSE
The following books, borrowed using library ID card #&IDNUM;,
are overdue:
.EB

&BOOK1;
. * To avoid extra blank lines, we only include the lines for
. * other books if they are not blank.
.BB &BOOK2 ^= ""
&BOOK2;
.EB
.BB &BOOK3 ^= ""
&BOOK3;
.EB
```

Mail-merge substitutions and conditional blocks are explained in more detail in the *LISTSERV Developer's Guide*.

6.7 Using Merged Parameters within URLs

URL parameters are specially constructed parts of a web address (URL) that allow a single URL to initiate various specific operations by passing particular instructions and data to the web server. Parameters are text based instructions and data that are passed to a web server, which passes them on to a script (for example, a Java, Perl, C/C++, or a UNIX shell script). The script then executes the corresponding parameter as instructed by the URL, and passes the results back to the web server. The web server then returns the results to the client. In essence, parameters can be used to select a certain page or part of a page to display, or tell the server which page to display to a specific user or type of user.

A URL-parameter is a pair such as "name=value" that appears after the path-part of the URL, separated from the path by a question mark "?", similar to the example below:

```
http://host.domain/path?param=value
```

If there are several parameters in one URL, then the individual parameters are separated by ampersand characters "&":

```
http://host.domain/path?param1=value1&param2=value2
```

URL-parameters have many uses and, when it comes to mailings, they come in two general types:

- **Constant URL-parameters** – Parameters that are the same for all URL visitors. A typical use of a constant parameter is to select a certain page, or part of a page. The following imaginary URL would tell the server to show the "electronics" page and the 15th item on that page:

```
http://host.domain/path?page=electronics&item=15
```

- **Individual URL-parameters** – Parameters that are different for each individual visitor. A typical use of an individual parameter is to tell the server about the identity of the visitor. The following imaginary URL would tell the server that the user with the ID "usr15" is visiting the page. The URL also contains a constant parameter that tells the server that it is supposed to show the "home" page:

```
http://host.domain/path?visitorID=usr15&page=home
```

Different visitors would have different values of the "visitorID" parameter. For example, the following URL would tell the server that this time the visitor has the ID "usr217":

```
http://host.domain/path?visitorID=usr217&page=home
```

LISTSERV Maestro allows the user to track URLs with or without parameters as well as URLs with constant or individual parameters. Since URLs with individual parameters need to have a different value for the parameter for each recipient, writing the text of the message could pose a significant challenge.

This challenge is overcome by using field merging, where it is possible, to create unique URL parameters based on the fields of a database. For example, assume there is a merge field named "ID" for each recipient that contains the visitor ID of that recipient. The sample URL would be written as:

```
http://host.domain/path?visitorID=&ID;&page=home
```

Let us dissect the different parts of this example:

The URL begins as usual with the protocol header, the host name and the URL-path:

```
http://host.domain/path?visitorID=&ID;&page=home
```

The question mark follows next, signaling the end of the path-part and the beginning of the parameter-part:

```
http://host.domain/path?visitorID=&ID;&page=home
```

The first parameter is the parameter “visitorID” with the value “&ID;”:

```
http://host.domain/path?visitorID=&ID;&page=home
```

Between the first and the second parameter is the ampersand as a separator:

```
http://host.domain/path?visitorID=&ID;&page=home
```

The second parameter is the parameter “page” with the value “home”:

```
http://host.domain/path?visitorID=&ID;&page=home
```

The second part of the first parameter “visitorID=&ID;” uses the LISTSERV Maestro convention of denoting mail merge fields. Its value is not an actual user ID, but instead is the name of the merge field “ID”, with the preceding ampersand and the trailing semicolon (the format always used in LISTSERV Maestro to mark mail merge fields).

Although the ampersand usually has the reserved function of separating two parameters (like the second ampersand right before the “page” parameter), when it appears to denote the merge field “&ID;” it is acting as a token that will be replaced by the corresponding value of the recipient *before* the mail is sent out. Therefore, this string will not be present in the final email that appears to the recipient. Instead, it will have been replaced by the merge value for that recipient.

If the URL from above were sent to two recipients, where one recipient has an ID merge value of “usr15” and the other has a value of “usr317”, each would receive an email message with *different* URLs, like this:

```
http://host.domain/path?visitorID=usr15&page=home
```

-OR-

```
http://host.domain/path?visitorID=usr317&page=home
```

By employing LISTSERV Maestro’s mail merging features, it is possible to insert URLs that contain constant and individual parameters for each recipient into email messages. If these URLs are marked for tracking, then LISTSERV Maestro is able to track all of them. As a result, if a URL that contains a merged parameter is selected for tracking, LISTSERV Maestro will count all clicks of all recipients on this URL, and each recipient will be directed to the actual URL using his or her own individual parameter.

For example, the imaginary URL below is selected for tracking:

```
http://host.domain/path?visitorID=&ID;&page=home
```

In the email messages that are sent out, the URL is replaced by a special tracking URL that points to the server running the Maestro Tracker component. This allows LISTSERV Maestro to count each click on the URL and then redirect to the actual target URL. The user with the ID “usr15” would have the URL in the mail that looks something like this:

```
http://maestro.domain/trk/click?ref=z4bx39x&visitorID=usr15&page=home
```

Each user that clicks on this tracking URL will be counted and will be redirected to the actual target URL, using the URL-parameters for that user. For example, the server at “host.domain” will receive the correct “visitorID=usr15” and “page=home” parameters (for other recipients, the “visitorID” would have different values).

6.7.1 URL-encoding of Parameters

URL-parameters may only contain characters that are safe to use in a URL. Some characters are not safe to use, other characters have a reserved meaning (for example, the ampersand “&”, which has the special meaning of separating two parameters). Therefore, all characters that are not valid for use in a URL parameter value must be “URL-encoded”. URL encoding is a standard that encodes unsafe characters into safe characters.

When using field merging in URL parameters, there are two options to ensure that all parameters are URL-safe:

- Make sure that the values of all merge fields that are used (of all recipients) are actually URL-safe. For example, if all recipient IDs only contain alphanumeric characters, then the ID values are already URL-safe because alphanumeric characters are, by definition, URL-safe. It is important to know how recipient IDs are generated by a registration script, for example, in order to know if they are indeed URL-safe.
- If the possibility exists that not all merge values are URL safe, then use the special LISTSERV function “&*URLENCODE ()” to make them so. Simply enclose the merge field in the URL within the parenthesis of this function. For example, if there were any doubt that the ID merge field’s values were URL safe, then the sample URL could be written like this:

```
http://host.domain/path?visitorID=&*URLENCODE (&ID;) &page=home
```

The function “&*URLENCODE (&ID;)” tells LISTSERV to retrieve the value of the “&ID;” merge field, apply the “&*URLENCODE ()” function to it, and then merge in the result in place of the whole “&*URLENCODE (&ID;)” string.



Important: The parameter name “ref” is a reserved name that is used by LISTSERV Maestro to transfer the tracking information to the Maestro Tracker component (seen in the example above). Therefore, “ref” cannot be used in any parameters if there are also merge fields in the same URL. If a URL appeared as:

```
http://host.domain/path?ref=&ID;
```

The tracking URL generated from it (for the user with ID “usr15”) would look something like this:

```
http://maestro.domain/trk/click?ref=z4bx39x&ref=usr15
```

This URL contains two parameters with the name “ref”. One comes from the original URL, while LISTSERV Maestro added the other. These two parameters with the same name would confuse the Maestro Tracker component. Therefore, a parameter called “ref” must never be used if there are merge fields used in the URL.

If merge fields are not being used in the parameter list of the URL, then LISTSERV Maestro replaces the whole URL with the tracking URL, including the parameters. For example, the following URL with three constant parameters (no merge fields used):

```
http://host.domain/path?param1=value1&param2=value2&param3=value3
```

will be fully replaced by LISTSERV Maestro with a tracking URL similar to this:

```
http://maestro.domain/trk/click?ref=z4bx39x&
```

Since the parameters are also replaced by the tracking URL, it does not matter if the parameter list contains a parameter called "ref" or not. However, this is only true if no merge field is used in the parameter list, meaning that there are only constant parameters.

Section 7 Tracking

The ability to track information about email jobs is a powerful resource for understanding how recipients respond to messages, when messages are accessed, and what types of recipients are actually seeing messages. By understanding the types of recipients who are opening messages, when they are opening them and whether they are clicking on links contained in them, senders can precisely tailor future messages to specific recipients. Recipients who are genuinely interested in the information contained in a message are much more likely to open and interact with the message. Senders who understand their recipients' needs and interests and target messages appropriately, will experience higher levels of user satisfaction and enhance their own reputation.



Important: Tracking and recording recipient and user information has ethical and legal implications. L-Soft expects that each user will utilize the software responsibly. Responsible use of the software includes, but is not limited to, observation of all laws and legal requirements that apply to use of the software and specifically privacy concerns of the recipients. It is the full responsibility of the user to be apprised of all relevant ethical and legal implications regarding use of the software.

LISTSERV Maestro can track a variety of different information about recipients and how they interact with a sent message. Tracking statistics reports are available in a number of formats. Tracking data can also be downloaded so that it can be used in other statistical and reporting software packages. With a special Microsoft® Excel Add-In, downloaded statistics can be easily imported to generate tables and graphs in Excel. For more information, see Section 13.11 [Using the Excel Add-In](#).



Note: It is not necessary for tracking to be enabled to send out an email job.



Tip: Let recipients know that they are being tracked and how tracking information is being used by providing a statement in the company or institution's privacy policy. Post the policy on the web and provide users and recipients the URL for reference.

7.1 Defining Tracking

There are five basic steps to define tracking for a single email job that are reflected in the screens that make up the Tracking Definition wizard. These steps are:

- **On/Off** – Turn tracking on or off. If tracking is switched off for a job, the only other screen that will appear is the Summary screen.
- **Tracking Details** – Select the type of tracking event (open-up or click-through) and define the URLs within the message to track.
- **Type** – Select the type of tracking to use (i.e. personal, anonymous, unique, or blind).
- **Type Details** – For anonymous tracking, select the columns that are anonymous and which are used for identifying purposes.
- **Summary** – Displays a summary of the tracking selections for the job.

7.2 Switching Tracking On

To begin defining tracking for an email job, click on the **Define Tracking** icon from either the Workflow or Summary Diagrams on the Job Details screen. The Tracking On/Off screen opens. Select the **Yes, Enable tracking for this job** option, and then click the **[Next ->]** button.

Figure 7-1 Turn Tracking On or Off

Tracking Definition

On/Off | **Tracking Details** | Type | Type Details | Summary

Cancel | <- Back | Next ->

Tracking On / Off

Yes, enable tracking for this job

No, do not track this job

7.3 Tracking Details

The Tracking Details screen lets you determine the type(s) of recipient behavior to track. LISTSERV Maestro will track two different types of recipient interaction with a message – Standard Tracking and Drop-In Tracking. If both types of tracking are available, then the Tracking Details screen will contain two tabs – the Standard Tracking tab and the Drop-In Tracking tab. If only one type of tracking is available, then only that type of tracking will be shown on the Tracking Details screen.

If the content of the message is HTML or if there is at least one trackable link in the message, then the Standard Tracking tab will be displayed. There are two types of Standard Tracking available:

- **Open-Up Tracking** – LISTSERV Maestro will register when an email message is opened by its recipient, and will log each event, together with date, time, and recipient information (who opened the email). Open-up tracking is only available for HTML messages. Some email clients can be configured to block open-up tracking; therefore, open-up tracking cannot provide an exact count of open-ups, but can give you a lower estimate. In other words, if a job has a 50% open-up rate, then this indicates that at least 50% of the messages were opened, but it's probably more.
- **Click-Through Tracking** – LISTSERV Maestro will register each time a recipient clicks on a link in the message and will log each event, together with date, time, and recipient information (who clicked the link). To specify which links to track, click **[Define Tracking URLs]**.

The **Track All Links** shortcut will automatically register all links in the message for tracking. The **[Next ->]** button will become active and it is possible to continue to the next screen in the wizard. This shortcut will not assign link aliases, a means to name links for easier identification in reports. See Section 7.3.2 [About Link Aliases](#) for more information.

Use the **[Define Tracking URLs]** button to select links for tracking and to assign aliases. Once links are registered, another shortcut, **Remove All**, will appear. Clicking this link will un-register all links from tracking. See Section 7.3.1 [Defining Tracking URLs](#) for more information.

Figure 7-2 Standard Tracking Details

The screenshot shows the 'Tracking Definition' wizard. The 'Tracking Details' tab is selected. It features two sub-tabs: 'Standard Tracking' and 'Drop-In Tracking', both of which are checked. Under the 'Open-Up Tracking' section, there is an unchecked checkbox labeled 'Yes, enable open-up tracking for this job'. The 'Click-Through Tracking' section displays the text 'The following URLs from the mail body are currently registered for tracking:' above a table with columns 'Alias' and 'URL'. The table is currently empty, with the text 'No Links registered for tracking' displayed below it. At the bottom of the window, there are two buttons: 'Define Tracking URLs' and 'Track All Links'.

If drop-ins are enabled in the content of the message and if the content contains at least one user-defined drop-in (not a system drop-in), then the Drop-In Tracking tab will be displayed, letting you track any trackable links that may appear in the content of the drop-ins.


Select **No** if you do not want to track links that appear in the drop-in content. Select **Yes** to track all trackable links that appear in the drop-in content. If you selected **Yes**, then you can also define if a link alias will be assigned to these links. If you choose to assign an alias, then you have the choice between a user-defined alias and using the name of the drop-in as the alias. To assign an alias, select **Automatically assign an alias to all tracked links in the drop-ins**. To define a user-defined alias, select **Use the following alias**, and then enter the alias name in the text box. To use the name of the drop-in as the alias name, then select **Use the drop-in's name as the alias for all tracked links in each drop-in**.

Figure 7-3 Drop-In Tracking

The screenshot shows the 'Tracking Definition' wizard with the 'Tracking Details' tab selected. The 'Drop-In Tracking' sub-tab is active, showing options for tracking links in drop-ins. The 'Yes' option is selected, and the 'Automatically assign an alias' checkbox is also checked. The 'Use the following alias' option is selected, with an empty text box for the alias name.

Tracking Definition

On/Off | **Tracking Details** | Type | Type Details | Summary

Cancel | <- Back | Next -> | 

Tracking Details

Standard Tracking ✓ | Drop-In Tracking ✓

Drop-In Tracking

The message content contains drop-ins. Please define how any trackable links that may appear in the content of these drop-ins shall be tracked:

No, do not track any links in the drop-ins.

Yes, track all trackable links in the drop-ins.

Automatically assign an **alias** to all tracked links in the drop-ins:

Use the following alias:

Use the drop-in's name as the alias for all tracked links in each drop-in.

Once you finished defining the type(s) of recipient behavior to track, click **[Next]** to continue.

7.3.1 Defining Tracking URLs

This page defines the links in the email message that are to be tracked. LISTSERV Maestro is able to track all Internet links that have a URL starting with the "http://" or the "https://" protocol. LISTSERV Maestro is able to track image map links as well as form submission links. The page is divided into four separate frames:

- **Top Frame** – Contains several general options, links, and buttons:
- **Highlight tracked links** – Select this option button to highlight tracked links. (Due to the nature of image maps, links selected for tracking within them will not be highlighted.)
- **Do not highlight tracked links** – Select this option button to turn highlighting tracked links off.
- **Show HTML page** – Click this link to show the HTML message in the center frame.
- **Show alternative text** – Click this link to show the alternative text of a message in the center frame.
- **OK** – Click this button to save all the tracking selections and return to the Tracking Details screen.
- **Cancel** – Click this button to discard any tracking selections and return to the Tracking Definition wizard.

- **Main Center Frame** – Displays the body of the email message. All trackable links in the message body (either text links or image links) are clickable. When a link is clicked, it will appear in the bottom frame. If the URL is clicked from the bottom frame, a separate browser window will open to that URL. This is a good way to check the validity of URLs in the message. If the body is composed of plain text, (or the alternative text of an HTML message) then all links enclosed in quotation marks and starting with “http://” or “https://” are clickable.
- **Right Center Frame** – Contains the **Track all Links** link, a fast way to select all links for tracking. Records each selected link to be tracked and an alias if one has been defined. Edit an alias or remove a tracked link by clicking **Select Link**.
- **Bottom Frame** – Shows the details of the selected link and allows the user to define whether the link will be tracked or not. If the links will be tracked, aliases can be defined to help distinguish different links that go to the same URL from one another. The buttons in the bottom frame change depending on previous selections.

Figure 7-4 Click-Through Tracking Definition

LISTSERV Maestro Tracking Definition

Define the links in the message body to be tracked.

Click on a link in the body of the message in the frame below to display the details about the link in the bottom frame. Next, use the controls in the bottom frame to define the tracking details for the selected link.

Highlight tracked links Do not highlight tracked links

Switch between displaying HTML and Text Alternative in the center frame

[Show HTML Page](#)
[Show Text Alternative](#)

OK Cancel Click OK to save tracking definitions

Tracked links are highlighted in yellow

Your Monthly Newsletter from Widget Company

Dear &FULLNAME;,

Thank you for your continued interest in the Widget Company. It is our pleasure to announce the new product line for Fall of 2004. You will be delighted with all the new features and ease of use. To get a sneak peek, visit www.widgets.com. To place an advance order, point your browser to www.order_widgets_now.com

Recall Update

Alias Definition:

Alias for link to URL <http://www.widgets.com/order.htm> The link will open a new browser window to the destination URL

Define New Alias: Define a new alias

Use Existing Alias: -- Please Select -- Use an existing alias

Remove Alias OK Cancel Click OK to save alias definition

Track all Links

Currently Tracked Links	
html-home	http://www.widgets.com/home.htm Select Link (Main Body)
html-sneak	http://www.widgets.com/sneak.htm Select Link (Main Body)
text-sneak	http://www.widgets.com/sneak.htm Select Link (Text Alt.)
text-order	http://www.widgets.com/order.htm Select Link (Text Alt.)

Click Select Link to select a URL and edit its definition in the bottom frame

To track a link:

1. Click on the link in the message in the main center frame. If the link is a form submission, click on the **[Submit]** button of the form. The link will appear in the bottom frame.
2. Click **[Track with Alias]** or **[Track without Alias]**.

3. For tracking with an alias, enter an alias in the **Define New Alias** text box or select an existing alias from the drop-down menu. Click **[OK]** to save the alias definition. The new definition will appear in the right frame.
4. Tracking links will appear in the right frame. It is possible to add or change an alias by clicking **Select Link** under the URL and then following step three.
5. To edit or remove a tracked link, click **Select Link** under the URL in the right frame, and then click the **[Edit Alias]** or **[Do not track this Link]** button in the bottom frame.
6. Once the tracking links have been chosen and aliases defined, click **[OK]** in the top frame to continue. A summary of the tracking details will be presented. From this screen, you can re-edit the tracking definitions by clicking **[Define Tracking URLs]**, remove any of the links by clicking the **Remove** link adjacent to each URL, or remove all the links by clicking the **Remove All** link at the bottom of the listing. Click **[Next ->]** to continue.



Tip: Selecting the **Highlight tracked links** option will display all links that are currently marked for tracking on a bright yellow background in the body of the message. This makes it easier to tell which links have already been selected for tracking and which have not. Images that are links will be shown with a bright yellow frame when they are selected for tracking. Since this frame makes the images a bit larger, it may impact the overall page layout. Switch off the link highlighting to restore the original layout.

7.3.2 About Link Aliases

A link alias gives each tracked link a special name that distinguishes it from other links, even if they go to the same URL. This becomes significant when viewing tracking data, making it possible to discern tracking events by alias name instead of just the target URL.

Assigning aliases depends, in part, on what is being measured and compared in tracking reports. Aliases can be assigned to individuate URLs that go to the same source, or to group URLs that go to different sources together under one name. Aliases are also helpful when reading tracking reports. In a tracking report, each tracked link is labeled with its URL. Many times URLs, even when different from each other, are not significant to those viewing reports. By assigning an alias, the tracked link is labeled with meaningful text as well as the URL.

Aliases are optional. When aliases for tracked links are not defined, LISTSERV Maestro will only be able to find the URL of the link in the tracking data. This may be adequate if each URL appears only once in the email message, or if there is no need to track which of several instances were clicked. If the same URL appears in several links in the message, it will not be possible to know which of the links was actually clicked without using aliases.

For example, a message may have both an image link and a textual link, both of which link to a company homepage. When looking at the tracking data, the company might like to know if more people click on the image link or on the text link. To get this information, mark both links for tracking and give them different aliases. LISTSERV Maestro will then be able to report which of the links was clicked when reviewing the tracking data.

Other examples include finding out if links at the top of a message are clicked more often than those at the bottom, or if animated images motivated more people to click on a link when compared with smaller, more conservative images. When aliases are used to group links with different target URLs together, larger comparisons can be made. For example, all image links in a message can be given the one alias and all text links in a message can be given another if the purpose of tracking is to determine whether people click on image links or text links more often.

7.4 Type of Tracking

LISTSERV Maestro supports four different levels of tracking information about email recipients. Set the tracking type on the Tracking Type screen of the Tracking Definition wizard. Each type of tracking will yield different data sets based on the recipient list and any database information available to the system. However, not all types of tracking are available for all types of recipient definitions. Choose the level of tracking desired based on the kinds of information already in the system and the permission received from recipients, keeping within the boundaries of what is legally allowable in the user's jurisdiction.



Note: The tracking types available for use vary per user or group. The system administrator has the ability to limit what type of tracking each user or group is able to perform while tracking a LISYSERV Maestro email job. For more information, see the Administrator's Manual.

- **Personal Tracking** – Records open-up and click-through events traceable to the individual who triggered them. Very specific information can be gathered about an individual's interaction with a message such as how many times a link has been clicked. This data can be augmented with information from the database the recipient data was extracted from. Personal tracking is available:
 - For recipients uploaded from a text file when the **Use additional recipient data for mail merging and tracking** option is selected on the Recipients Details screen of the Define Recipients wizard.
 - For recipients selected from a database by LISYSERV Maestro when the **Use additional recipient data for mail merging and tracking** option is selected on the Recipients Details screen of the Define Recipients wizard.
 - For recipients defined by a LISYSERV list and the **special list message** option is selected on the Source screen of the Define Recipients wizard.
 - For recipients defined by a database selected by LISYSERV.
 - For recipients defined as **Based on Reaction to a Previous Job**, which is selected on the Options screen of the Define Recipients wizard.
 - For recipients defined by a LISYSERV list with the **standard list message** option selected on the Source screen of the Define Recipients wizard and **mail-merge** selected for the LISYSERV list.
 - For target groups based on any of the above.

When personal tracking is used, LISTSERV Maestro creates a profile for each individual mail recipient and stores this information in the system database. The creation of this profile takes place during the delivery of the mail, as the job is being transferred to LISTSERV. With a large recipient list, the additional work of creating profile entries in the database will make the transfer to LISTSERV noticeably slower. If general statistics are required, without the need to trace events back to individuals, use unique tracking instead because the processing time is much faster.

- **Anonymous Tracking** – A unique ID is assigned to each recipient that cannot be followed back to identifying information about the individual recipient, but that is associated with non-identifying demographic information, such as age, gender, or zip (postal) code. It is the responsibility of the user to analyze the data and determine what is and what is not identifying data.

For example, zip codes are commonly used for anonymous demographic analysis. However, if the data contains one zip code that corresponds to just one recipient, the zip code becomes identifying data for that recipient and is no longer an anonymous field. In this instance, the input data could be changed so that sparsely populated zip codes are all lumped together into an “other” category for the purposes of tracking, and then the zip code would remain anonymous. Anonymous tracking is available:

- For recipients uploaded as a text file and the **Use additional recipient data for mail merging and tracking** option is selected on the Recipients Details screen of the Define Recipients wizard.
- For recipients selected from a database by LISTSERV Maestro and the **Use additional recipient data for mail merging and tracking** option is selected on the Recipients Details screen of the Define Recipients wizard.
- For recipients defined as **Based on Reaction to a Previous Job**, which is selected on the Options screen of the Define Recipients wizard, as long as the **Use additional recipient data for mail merging and tracking option** is selected on the Recipients Details screen of the Define Recipients wizard.
- For target groups based on any of the above.

When anonymous tracking is used, LISTSERV Maestro creates a profile for each individual mail recipient and stores this information in the system database. The creation of this profile takes place during the delivery of the mail, as the job is being transferred to LISTSERV. With a large recipient list, the additional work of creating profile entries in the database will make the transfer to LISTSERV noticeably slower. If general statistics are required, without the need to correlate events with demographics, use unique tracking instead because the processing time is much faster.

- **Unique Tracking** – Records the number of times open-up and click-through events happen to unique recipients but is not associated with individual users or other identifying data. Unique tracking is available:

- For recipients uploaded as a text file and the **Use additional recipient data for mail merging and tracking** option is selected on the Recipients Details screen of the Define Recipients wizard.
- For recipients selected from a database by LISTSERV Maestro and the **Use additional recipient data for mail merging and tracking** option is selected on the Recipients Details screen of the Define Recipients wizard.
- For recipients defined by a LISTSERV list with the **special list message** option selected on the Source screen of the Define Recipients wizard.
- For recipients retrieved from by a database by LISTSERV.
- For recipients defined as **Based on Reaction to a Previous Job**, which is selected on the Options screen of the Define Recipients wizard, as long as the **Use additional recipient data for mail merging and tracking** option is selected on the Recipients Details screen of the Define Recipients wizard.
- For recipients defined by a LISTSERV list with the **standard list message** option selected on the Source screen of the Define Recipients wizard and **mail-merge** selected for the LISTSERV list.
- For target groups based on any of the above.
- **Blind Tracking** – Collects unspecific tracking data, recording only the number of times open-up and click-through events occur. Blind tracking cannot discern between a single person clicking a link 100 times and 100 people each clicking a link once. The total count will be 100 events in both instances. Therefore, all blind tracking events are considered “non-unique.” This has specific implications for the Sum of Events report types. See Section 9.2 [Running Test Reports](#) and Section 13.1 [Creating Reports](#) for more details. Blind tracking is always available for every recipient type.

The following table summarizes the types of tracking available based on the way the recipients are defined.

Table 7-1 Types of Tracking Available Based on Recipient Definition

Recipients defined from:	Types of tracking available:			
	Blind	Unique	Anonymous	Personal
LISTSERV Maestro Dataset				
HRL	•	•	•	•
HLL with Mail-Merge	•	•		•
HLL without Mail-Merge	•			
Uploaded text file				
with non-identifying fields	•	•	•	•
with only identifiable fields	•	•		•

Database Connected to LISTSERV Maestro with non-identifying fields with only identifying fields	• •	• •	•	• •
LISTSERV list Standard list message with Mail-Merge ^a Standard list message without Mail-Merge Special list message	• • •	• •		• •
LISTSERV connected database	•	•		•
Based on a previous job	•	•	•	•

a. List Header Includes the keyword Mail-Merge=Yes.

7.5 Type Details

If **Personal Tracking** or **Anonymous Tracking** is selected, the Type Details screen appears. For personal tracking, the Tracking Type Details screen is used to select a value that is unique for each recipient. For anonymous tracking, the Tracking Type Details screen is used to separate columns containing identifying information, such as a name or telephone number, from columns containing anonymous information, such as age, gender, or city.


There are three versions of the Tracking Type Details screen:

- This version is for personal tracking when the recipients are defined from a text file, from a LISTSERV Maestro selected database, or a target group based on either one.

Figure 7-5 Tracking Type Details

Tracking Definition

On/Off [Tracking Details](#) [Type](#) [Type Details](#) [Summary](#)

Cancel <- Back Next -> 

Tracking Type Details

Personal Tracking with recipients from a target group

Select the column from the recipient list that contains the recipient ID. The recipient ID must be a value that is unique for all recipients on the list.

ID Column:

RECIPIENT_ID	F_NAME	L_NAME	ADDRESS1	ADDRESS2	CITY	STATE	POSTAL_CODE	COUNTRY	PHONE	EMAIL_ADDRESS
0001z	Zoe	Zimmerman	7801 Bucknell Terrace	Apt 5A	Baltimore	MD	21205	US	410-555-1212	zoe@maestro-demo.lsoft.com
0002y	Yvette	Yosel	6 Manchester Place		Hartford	CT	6445	US	860-633-2471	yvette@maestro-demo.lsoft.com
0003x	Xavier	Xero	903 Fairway Avenue		New York	NY	10012	US	201-555-4444	Xavier@maestro-demo.lsoft.com
0004w	Wilfred	Wonderly	1550 Ownens Glen Rd		New York	NY	10020	US	201-999-6666	Wilfred@maestro-demo.lsoft.com
0005v	Vanna	VonSchedule	1004 Robroy Dr	#456	Lansing	MI	48906	US	517-330-4567	Vanna@maestro-demo.lsoft.com
0006u	Ursula	Underhill	7 Crossgates Circle	# 32	Albany	NY	12208	US	501-244-9080	Ursula@maestro-demo.lsoft.com
0007t	Toby	Tuttle	709 Westmore Ave		Rockville	MD	20847	US	301-440-9970	Toby@maestro-demo.lsoft.com
0008s	Seth	Simpson	108 South Brook Lane		Buffalo	NY	14201	US	716-885-6345	Seth@maestro-demo.lsoft.com
0009r	Ron	Remmington	13398 Treadway Road		New Haven	CT	6703	US	203-443-0711	Ron@maestro-demo.lsoft.com
0010q	Quod	Quartermaster	3501 Nicholson Terrace		Fairbanks	AK	99702	US	907-882-1116	Quod@maestro-demo.lsoft.com

Select the column from the recipient list that contains the recipient ID using the drop-down menu. The recipient ID must be a value that is unique for all recipients on the list. This means that the value can never be repeated for any other recipient and is never empty for any recipient. A customer number, registration number, or other unique identifier in the data works well for this purpose. Click **[Next ->]** to continue.

- This version is for personal tracking when recipients are defined from a database selected by LISTSERV, by a LISTSERV list with the **Special list message** option selected, or by a LISTSERV list with the **standard list message** and **mail-merge** options selected.

Figure 7-6 Personal Tracking Type Details

The screenshot shows a web-based interface titled "Tracking Definition". At the top, there are tabs for "On/Off", "Tracking Details", "Type", "Type Details", and "Summary". Below the tabs are "Cancel", "<- Back", and "Next ->" buttons. A small icon of a person is visible on the right. The main content area is titled "Tracking Type Details" and contains the text: "Personal Tracking with recipient list from a LISTSERV database". Below this, it says: "Select the column from the recipient list that contains the recipient ID. The recipient ID must be a value that is unique for all recipients on the list." There is a label "ID Column:" followed by a dropdown menu. The dropdown menu is open, showing the following options: "-- Select --", "-- Select --", "EMAIL", "NAME", "RECIPIENT_ID" (which is highlighted in blue), "CITY", "STATE", "COUNTRY", and "ZIP".

Click the **ID Column** drop-down menu, and then select the column that contains the unique recipient ID. Click **[Next ->]** to continue.

- This version is for when anonymous tracking is selected. Anonymous tracking is independent of recipient type, but columns have to be selected as either anonymous or identifying. Identifying columns contain information about individual recipients than can be used to identify them, such as name and telephone number. Using identifying columns in recipients' profiles creates profiles that are not anonymous, and could violate recipients' privacy. Anonymous columns, on the other hand, contain information about individual recipients that cannot be used to identify them, such as gender, age, or city. Using anonymous columns creates recipient profiles that will not identify individual recipients. See Section 13.9 [Recipients Details Reports](#) for more information on running reports from anonymous tracking jobs and downloading demographic information.

Figure 7-7 Anonymous Tracking Type Details

Tracking Definition

On/Off Tracking Details Type Type Details Summary

Cancel <- Back Next ->

Tracking Type Details

Anonymous Tracking

Anonymous tracking creates and saves a profile of each recipient from column data that cannot be used to identify the recipient.

Select which of the columns are anonymous and which are identifying (like name, phone number or address).

Anonymous Columns: STATE
MODEL_NO
MODEL_NAME

Identifying Columns: EMAIL
NAME
FIRSTNAME
PRICE

Click on an item in one of the boxes to select it. Next, click on an arrow to move the item from one column to the other.

Sample from the recipient list:

EMAIL	NAME	FIRSTNAME	STATE	MODEL_NO	MODEL_NAME	PRICE
Xavier@maestro-demo.lsoft.com	Xavier Xero	Xavier	NY	5454	Clean Air Machine	29.99
Ursula@maestro-demo.lsoft.com	Ursula Underhill	Ursula	NY	5454	Clean Air Machine	29.99
Toby@maestro-demo.lsoft.com	Toby Tuttle	Toby	MD	5454	Clean Air Machine	29.99
Quod@maestro-demo.lsoft.com	Quod Quartermaster	Quod	AK	5454	Clean Air Machine	29.99
Lisa@maestro-demo.lsoft.com	Lisa Lopez	Lisa	FL	5454	Clean Air Machine	29.99
Evelyn@maestro-demo.lsoft.com	Evelyn Eavensong	Evelyn	CA	5454	Clean Air Machine	29.99
Darren@maestro-demo.lsoft.com	Darren Donagel	Darren	FL	5454	Clean Air Machine	29.99
Tobi@maestro-demo.lsoft.com	Tobias Lutz	Tobias	TX	5454	Clean Air Machine	29.99
Sing@maestro-demo.lsoft.com	Linda Sing	Linda	NY	5454	Clean Air Machine	29.99
Xavier@maestro-demo.lsoft.com	Xavier Xero	Xavier	NY	5454	Clean Air Machine	29.99

Once you've selected your Tracking Type Details, click **[Next ->]** to continue.

7.6 Summary


A summary of the tracking behavior will be presented. Click **[<-Back]** to return to an earlier screen to change selections. Click **[Finish]** to return to the Job Details screen, the Workflow diagram, or the Summary diagram.

Figure 7-8 Tracking Definition Summary

Tracking Definition

On/Off [Tracking Details](#) [Type](#) [Type Details](#) [Summary](#)

Cancel <- Back Finish



Tracking Summary

You have specified the following e-mail tracking behavior:

Tracking Type

The tracking type "**unique**" is used.

Open-Up Tracking

Open-Up Tracking is **ON**.

Drop-In Tracking

All trackable links appearing in drop-ins are **tracked** (each link with the name of the drop-in it appears in as the link alias).

Click-Through Tracking

Click-Through Tracking has been enabled for the following URLs:

Alias	URL
<No Alias>	http://papaya.ease.lsoft.com:8081 (Main Body)
<No Alias>	http://papaya.ease.lsoft.com:8081/myfreetkit.html (Main Body)

Section 8 Sender and Delivery Options

Defining the sender of an email job can take place at any point in the process of creating or editing a job. It is necessary, however, to have sender information added to a job before delivery testing so that authorization to deliver the message can take place.

8.1 Define Sender

Enter sender information from the Job Details screen by clicking on the **Define Sender** icon in the Workflow diagram or the **Edit** link in the Sender section of the Summary diagram. Enter the sender information by loading a saved sender profile or typing in new information.

Figure 8-1 Edit Sender Information Screen

8.1.1 Using Merge Fields in the Sender Information

It is possible to use merge fields when entering sender information in the **Email Address**, **Sender Name**, and **Reply-To Address** text boxes, allowing you to create personalized values for each recipient. Merge field values are limited to those provided in the recipients' definition and must follow the standard format (i.e. the field name preceded by an ampersand "&" and followed by a semi-colon ";").



Important: It is critically important that the sender and reply-to addresses resolve into authentic Internet email addresses when the merge fields have been replaced with corresponding data. Failing to provide a valid working email address violates the law in certain countries. It will also disable the reply functionality of the email,

hurting the reputation of the sender. The user must verify that merged addresses are valid; LISTSERV Maestro cannot accomplish this.

See Section 6.6 [Merge Fields and Conditional Blocks](#) for more information on using merged fields. See the online help for examples of using this feature to personalize sender information.

8.1.2 Bounce Handling

Bounced email (email that is not accepted by the receiving mail server) can be handled automatically by LISTSERV or sent to another address supplied by the sender. If LISTSERV handles bounces, bounce details can be downloaded on the Job Summary screen. Bounces can also be retrieved from a file called `NOLIST-jobname.changelog`, located in LISTSERV's main directory.

If bounced mail is being sent to another address and not processed by LISTSERV, make sure that the address is a valid email address. Be aware that bounced mail not handled by LISTSERV will not be available for reporting purposes or for easy download. It will have to be collected from the other mailbox and processed accordingly.

Select either **Handle bounced messages automatically** or **Send bounced messages to**. If **Send bounced messages** is selected, then enter the address where you want the bounced messages to be sent.

8.1.3 DomainKeys Settings

LISTSERV Maestro allows you to use DomainKeys signatures to authenticate that the messages (sent for a specific email job) do 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.

If the administrator has enabled users or groups to have the ability to change the default DomainKeys signature settings, then the settings in the **DomainKeys Settings** section will be active and you will be able to set the DomainKeys signature setting for each individual job.

If you want the email messages for this particular job to contain a DomainKey signature, then select the **Yes, sign messages** option. If you do not want the email messages for this particular job to contain a DomainKey signature, then select the **No, don't sign messages** option.



Note: LISTSERV Maestro interacts with LISTSERV to determine if the supplied sender address is supported by one of the DomainKeys that were deployed to the LISTSERV host when DomainKeys were configured by the administrator. This check is performed at several stages during the life cycle of an email job, one of which is while defining a sender. The sender definition settings of an email job are only accepted as valid if either DomainKeys signatures are switched off (by selecting the **No, don't sign messages** option or clicking on the **Click to disable**

link) or if the check succeeds at the LISTSERV host that is configured for the account. If the email address is not accepted as valid, then an error message appears. If this happens, contact your administrator for assistance.

8.1.4 Advanced Sender Information Settings

Advanced Sender Information Settings are disabled by default. Click the corresponding link to enable the advanced settings. Once enabled, the advanced settings can be disabled by clicking the disable link. Advanced Sender Information Settings allows user defined mail headers to be added to the end of the header part of the mail. These headers follow the X-Header convention as described in RFC822. The X-Headers will appear just before the actual mail content, and will appear in the order that they are entered on the screen.

To add an X-Header to a mail job, enter the name of the header, which must include the leading "X-" in to the **X-Header-Name** column. Enter the text for the header in the **X-Header-Text** column. Rows where both the name and text are empty are ignored. To remove a header, click the corresponding **Clear Row** link. Click **Add Row** to add additional headers.

8.1.5 Profiles

If the system administrator has granted permission, it is possible to save any new sender information as a profile for future use. All saved sender profiles are available to all members of a group. The only required field is the sender's email address, but including the sender name makes the message more personalized. Include a reply-to address if replies are an option for recipients and if the reply-to address is different from the sender's email address. Click the **Save as Profile** link once all the information is entered. The Save Sender as New Profile screen opens. Enter a title for the profile and click **[OK]**. This saved profile will then be available in the **Load from Profile** drop-down menu.

Figure 8-2 The Save Sender as New Profile Screen

8.2 Scheduling Delivery of a Job

LISTSERV Maestro allows the user to send out an approved email job immediately on approval or schedule a job for future sending. Jobs can be scheduled to be delivered once or to repeat automatically over programmed intervals. Scheduling the delivery of a

message can take place at any time during the creation of the email job; however, final delivery is still subject to delivery testing and delivery authorization.

To schedule the delivery of an email job, click on the **Delivery Settings** icon on the Workflow diagram or the **Edit** link in the **Delivery** section of the Summary diagram.

8.2.1 Scheduling Information for Normal Jobs

The Delivery Settings screen opens with selections to schedule the delivery of a normal job that will be delivered once and not repeat. This is the default delivery scheduling format for LISTSERV Maestro.

Select the **Deliver immediately when authorized** or **Deliver at the following time** option. If the job is scheduled for a future delivery date and time, enter the date and time in the edit boxes using the format displayed adjacent to each box. The date and time entered are dependent on the time zone selected from the drop-down selection box at the bottom of the screen. Local time is relative to the workstation accessing the job, and not the server running LISTSERV Maestro.

Figure 8-3 The Delivery Settings Screen



Note: Time entered in the **Time** field uses the “24 hour” format. For example, 08:00 would be 8 am and 20:00 would be 8 pm. See Appendix A: [24 Hour Clock Time Conversion Table](#) for a table on converting from AM and PM times to their 24 hour equivalents.

Click **[OK]** to continue. Jobs scheduled for future sending will be available in the Ongoing Jobs list. It is possible to revoke the send authorization of a job up until the delivery time. This moves the job back into the Open Jobs list, for further editing. If a job is changed, test messages must be resent, and final approval will have to occur again before the job can be re-authorized.

8.2.2 Advanced Scheduling Options

In addition to the basic scheduling options described in Section 7.4.1, there are also advanced options available for defining the delivery schedule. The advanced options are disabled by default. The **Click to enable** link expands the Delivery Settings screen. If you want to disable the advanced options later, use the **Click to disable** link that appears when the advanced options screen is exposed. The advanced options are enabled or disabled on a per job basis.

Figure 8-4 The Delivery Setting Screen with the Advanced Scheduling Options

Delivery Settings

Supply Delivery Information

Deliver immediately when authorized

Deliver at the following time

Date: [mm/dd/yyyy]

Time: [hh:mm]

Advanced Scheduling Options

Deliver only once. Do not auto-repeat.
(If the system is down at the scheduled delivery time, delivery will commence immediately after the next system restart.)

Auto-repeat delivery of this job.
(If the system is down at a given delivery time, no delivery will happen at that time. After system restart, delivery will commence at the next delivery time according to the repeat schedule, or the job will fail if the delivery threshold time has been reached.)

Delay interval between repeated deliveries: Days

Repeat until stopped manually.

Repeat until the following threshold time

Date: [mm/dd/yyyy]

Time: [hh:mm]

Advanced scheduling options are enabled. [Click to disable.](#)

Time zone to be applied to the dates and times specified above:

Note: Daylight saving time is taken into account automatically.

The advanced options available are:

- **Deliver only once. Do not auto-repeat** – With this option, the job will be delivered only once, at the delivery time specified in the basic options at the top of the screen. This is the default setting for delivery. It is also used when the advanced delivery options are disabled.
- **Auto-repeat delivery of this job** – With this option, the job will start an auto-repeat sequence upon delivery. The job will be delivered for the first time at the time specified in the basic options. Once the job has been delivered, an exact copy of it

will automatically be created and authorized for delivery, with a delivery time that is scheduled at a given interval after the first delivery.

Once this copy of the job has been delivered, another copy will be created and authorized, again with a scheduled delivery time that is offset from the previous delivery by the same interval, and so on, until the defined auto-repeat end-condition is met.

If this option is chosen, a delay interval must be supplied between each repeated delivery of a copy of the original job by entering a positive value into the **Delay interval between repeated deliveries** field and choosing an appropriate time unit from the selection list. Choose between **Hours**, **Days**, **Weeks**, and **Months**. An end condition must be entered to stop the auto-repeat sequence. Select one of these options:

- **Repeat until stopped manually** – After each delivery, a new auto-repeat copy will always be created and authorized. This can only be stopped manually by selecting the latest copy, located in the Ongoing Jobs list awaiting delivery, and revoking its delivery authorization.
- **Repeat until the following threshold time** – With this option, specify the threshold date and time to stop the auto-repeat sequence. After each delivery, a new auto-repeat copy is created and authorized only if its designated delivery time (the time of the previous delivery plus the specified interval) is not later than the date and time specified here.

8.2.3 About Auto-Repeat Jobs

Auto-repeat jobs are made up of a sequence of identical jobs based on the first job created in the series and scheduled to be delivered at regular programmable intervals. Various settings control the auto-repeat sequence, and these sequences can be used in many ways.

8.2.3.1 Specifying the Delivery Time

The delivery time of auto-repeat jobs is defined using the following rules:

- The first job in the auto-repeat sequence will be delivered at the date and time specified in the basic options of the Schedule Delivery screen.
- Each subsequent copy of the original job will then be delivered a certain amount of time after the previous delivery, which is defined in the **Delay interval between repeated deliveries** advanced option.

Here are some examples:

- If **Deliver immediately when authorized** is specified and a repeat interval of 12 hours is used for the first job, and that job is authorized at 9:15h, then the initial job would be delivered at 9:15h, the first copy would be delivered at 21:15h, the second copy at 9:15h of the next day, and so on.
- If **Deliver at 12:00h** is specified and a repeat interval of 24 hours is used (or for the same effect 1 day), then one delivery each day, at 12:00h, would occur.
- If **Deliver at 10:20h on 11/24/2004** is specified (which happens to be a Wednesday) and a repeat interval of 2 weeks is used, then this would cause a copy of the job to

be delivered at 10:20h of the Wednesday of every second week after the initial delivery.

- If **Deliver at 12:00h on 1/1/2005** is specified and a repeat interval of 3 months is used, a delivery on the first of each of the months of January, April, July and October would occur, resulting in one mailing at the beginning of each quarter.

8.2.3.2 Auto-Repeat Jobs with Dynamic Recipients or Dynamic Content

Auto-Repeat delivery is particularly useful together with dynamic recipient lists and/or dynamic content. Dynamic recipient lists are the "just-in-time" variants of recipients defined by a target group, text upload, a select from a database, as well as standard LISTSERV lists or recipients selected from a database by LISTSERV. What all these recipient types have in common is that the actual list of recipients a job will be mailed to is determined "just-in-time" at the moment prior to delivery. If such a job auto-repeats itself, each repeated copy may be mailed to a different list of recipients.

Dynamic content is content that uses drop-ins to pull content into the message "just-in-time" before delivery. Different content can be used with auto-repeat jobs to mail constantly changing content to a list of recipients without editing the other parts of a job. Examples of these types of jobs are provided below:

8.2.3.3 Dynamic Recipients Example

A bank or credit union could employ dynamic recipient lists for sending a generic "Your account balance is negative" warning message on the first of each month to only those recipients who have a negative account balance on that day.

To set up such an auto-repeat job, create a job with static content telling the recipients that their account balance is negative (possibly using the balance value as a merge field pulled from the customer database). Use a recipient definition that is "just-in-time" and that selects exactly those recipients from the database where the account balance is negative. Next, schedule this job to be delivered at a certain hour of the first day of the next month, with a repeat interval of one month. After the initial authorization of that first job, the mail would automatically go out at the set hour of the first of each month, to only the recipients with a negative account balance.

8.2.3.4 Dynamic Content Example

A weather report service could employ dynamic content to automatically mail the daily weather forecast to all subscribers on their list. To set up this type of auto-repeat job, create a job with content that uses a drop-in that pulls the text of the daily forecast from a suitable source (for example from a web server). Next, schedule this job to be delivered at a certain hour of the next day, with a repeat interval of one day. Before setting the hour of delivery, check to make sure that the source of the weather forecast drop-in is updated before the hour of the delivery time. After the initial authorization of that first job, the mail would automatically go out at the scheduled hour each day, with a different forecast (as pulled from the web server source by the drop-in) each day.

8.2.3.5 Auto-Repeat Jobs and Delivery Failures

If delivery of an auto-repeat job fails for any reason, the failure is handled differently than with normal jobs. A failed auto-repeat job is marked failed as usual, only it is automatically closed and transferred into the list of delivered jobs, just as if it had been manually closed as a failed normal job. If the end-condition for the auto-repeat has not yet been met, a new copy is created and authorized for delivery after the corresponding delay interval,

just as if the delivery of the previous job had not failed. See Section 11.2 [Auto-Repeat Jobs and Delivery Failures](#) for more information on delivery failures.



Important: "No recipients found" is a valid reason for a delivery failure. However, in the context of auto-repeat jobs, this may actually be an acceptable state if there are no recipients that fit the conditions of the job. In the [Dynamic Recipients Example](#), a message was supposed to be delivered to all recipients with a negative account balance on the first of each month. If in a given month there are no recipients with a negative account balance, no mail would be sent out for that month, and the job instance for that month would fail with "No recipients found" as the reason for failure. In this case, the failure should be interpreted as a valid state because there simply were no recipients to deliver mail to on that day. The auto-repeat sequence would continue with another copy for the next month, so if any recipients have a negative balance on the first of the next month, they would then get the reminder mail.

8.2.3.6 Auto-Repeat Jobs and System Shutdown

Auto-repeat jobs are treated differently than normal jobs during a system shutdown. For a normal job, if the system is down at the scheduled delivery time, the job will be delivered immediately when the system is started the next time. The system will recognize that the delivery time of the job has passed while the system was down and will immediately start the delivery to "make up" for the lost time.

If the system is down at the scheduled delivery time of an auto-repeat job, the system will recognize that the delivery time of the job has passed while the system was down. Instead of starting delivery immediately, the job will be re-scheduled to the next available "delivery slot" of the auto-repeat sequence it belongs to. The job will remain in the Ongoing Jobs list as "authorized for delivery", but now with a new delivery time that occurs after the system startup. If there is no such delivery slot available because the end-condition for the auto-repeat has already been met, (the threshold time has passed) the job will be marked as failed with a corresponding error message and will immediately be transferred to the list of delivered jobs (as explained in Section 11.2 [Auto-Repeat Jobs and Delivery Failures](#)).

For example:

If a job is scheduled to be delivered at 8:00, with an auto-repeat delay interval of 12 hours (the job is supposed to repeat itself at 8:00 and 20:00 of each day), but the system is down at that time, then during the next system startup, the job will be re-scheduled from 8:00 to 20:00. Or if the next system startup occurs after 20:00 of that day, the job will be re-scheduled to 8:00 of the next day, or even 20:00 of the next day, if necessary, and so on until a delivery time is found that occurs after the system startup. During the whole process, the job will not fail and no new job copies are created. The system simply takes the job that should have been delivered earlier and re-schedules it for the next available delivery time. If the job was supposed to stop auto-repeating at a time that has passed before the system startup, then the system will not find a "next available delivery time" for re-scheduling. In that case, the job will fail with a message to that effect.

Section 9 Testing and Authorizing Delivery

It is critically important to test an email job thoroughly before sending it, especially if it is a large job being distributed to many recipients or a message containing a large amount of data. Large jobs take up a lot of server time and space and affect many email hosts and individual recipients. Sending out a less than perfect message can create a very negative reaction among recipients and damage an institution's credibility and reputation. As a safeguard, LISTSERV Maestro will not allow an email job to be authorized before a test of the job has been sent out and approved. Any changes to contents, recipients, or sender require a new test to make sure that the changes were effective.

9.1 Delivery Testing for a Job

To test an email job, click on the **Delivery Test** icon on the Workflow diagram or the **Test** link in the **Test Status** section of the Summary diagram.

Figure 9-1 The Delivery Test Screen

Delivery Test

Specify Delivery Test Recipients

E-mail Column: **EMAIL**
 Name Column: **FNAME**

Subject:

Test line: (This text will be added to each test message)

Add Row	EMAIL	FNAME	LNAME	DOB
Clear Row	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
Clear Row	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
Clear Row	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>

Advanced Options:

- [Copy recipients and test line from another job.](#)
- [Upload delivery test recipients from a text file.](#)
- [Download delivery test recipients.](#)

LISTSERV Maestro allows the user to use a previously entered group of test recipients, upload and download test recipient lists, or type in test recipient names and addresses. The test interface displays a table for entering test data. Each row represents a test recipient. The columns displayed depend on the columns defined in the recipient definition stage of the job.

Valid Internet email addresses are necessary for all the fields in the column that is specified as the email column. The test messages will be sent to these addresses. The same address may be used in more than one row.

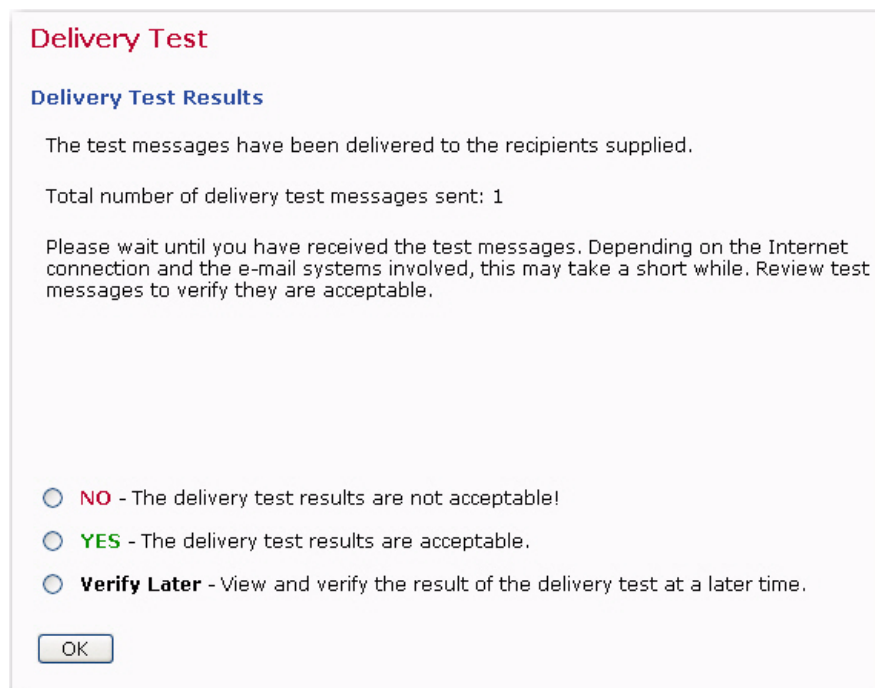
The subject line for a test message can be changed. Changing the test subject line will not affect the subject line of the final message. The optional test line allows the user to enter a line of text that will appear above the body of the message when it is delivered. Use this to recognize test messages and different versions of test messages. If nothing is entered into the optional test line box, then no text is added to the test messages. A test line will never be added to a final email job.

Click **[Send Delivery Test Messages]** to continue. Click **[Save & Close]** to save the test recipient data but not send the test message. Once the messages have been sent, review the results. It is usually a good idea to include the job owner and any team members in the test recipient list so test results can be viewed firsthand.

If the test results were not acceptable, select the **No** option and then click **[OK]**. This will prevent the job from being approved for delivery and allow any necessary changes to be made by bringing up the Job Details screen.

If the test results were acceptable, select the **Yes** option and then click **[OK]**. This will allow the job to be authorized for delivery.

Figure 9-2 Delivery Test Results



If you want to view and verify the delivery test results later, select the **Verify Later** option and click **[OK]**. If this option is selected, the job can not yet be approved for delivery. The next time the **Delivery Test** icon or link is clicked from the Job Details screen, the user will be returned to the Delivery Test screen. To approve the pending test, click the **Go directly to the validation page, without another delivery test** link under the **Advanced Options** section to return to the Validation screen of the test that was saved for later verification. Click the **Yes** option and then click **[OK]** to proceed.



Tips: It is useful to have a good understanding of the actual recipient data when putting together a test. If the message contains merged fields, then study those fields in the actual data: what are the shortest and longest instances of those fields? Are those

fields ever empty? Next, make sure to send tests that have values of the shortest and longest lengths, and empty fields if appropriate, to make sure that the message layout looks correct in all cases. It is sometimes necessary to change the layout or use conditional blocks to accommodate special cases. If using conditional blocks, make sure that the test cases exercise every possible condition, being especially cautious about the formatting when working with HTML messages.

Send test messages to email accounts running different email clients. A message that looks fine in one client may look messy or unreadable in another.

The recommended method for testing mailings that have the recipients defined from a LISTSERV list and are being sent a standard list message is to create a clone of that list within LISTSERV (such as TEST-listname). Make sure that the entire list configuration is exactly duplicated, including customized templates (especially the top and bottom banners, if these are defined). Subscribe only the test recipients to the test list. On the Delivery Test screen, enter the full address of the test list as the sole test address.

It is important to test every facet of an email job including bounce settings. To test bounce settings, send a test message to an undefined address. Look at the bounce report if LISTSERV is handling bounces and download the address to make sure it corresponds to the one used in testing. If bounces are being sent to another address, go to that address and examine the bounced message.

Remember to also test both the `From:` address and the `Reply-To:` address (if the latter is specified). To test the `From:` address and the `Reply-To:` addresses try replying to both from the test message and examine the results.

9.2 Running Test Reports

Once a test message containing tracked data has been delivered and the test recipients have opened the message and clicked on tracked links, then the Test Reports tab, available from the Job Details screen, becomes active. Click on the tab to open up a definition page to generate a “quick report” on the test message data. Quick Reports are predefined report types that create a temporary report based on the selected report settings and the active email job.

First, select the report type by clicking the corresponding option button. Three different report types are available depending on the type of tracking you selected:

- **Event distribution over time** – Produces a simple line graph showing the number of responses over time. Time is plotted on the x-axis of the chart and events are charted on the y-axis.
- **Sum of events** – Produces a bar graph showing the number of recipients who clicked on each URL and/or opened up the message. The length of each bar shows the number of events.
- Two types can be chosen for the report – **Sum of unique events** or **Sum of all events**. **Sum of unique events** records only a single event of each type for each recipient. This chart will register “0” (zero) events if blind tracking has been selected

for the tracking type during the tracking definition because blind tracking cannot count any event as unique. **Sum of all events** counts all events triggered for each recipient.

- **Event details** – Displays a table that lists the report type, lists the time period of the report, allows for the selection of encoding for downloading the data, and allows for the selection of the time zone to reference the downloaded data. Click the **download** link to download the raw data to a local drive. Raw data can be used in Microsoft® Excel or third party statistical analysis software to create detailed reports. Event detail reports are available for personal, anonymous, unique, and blind tracking jobs.

Figure 9-3 Test Reports

Job Details

Workflow Summary Test Reports

Define what kind of report you want to view for the selected job:

Report Type:

- Event distribution over time
- Sum of events
- Event details

Show Report Over:

- Open-Up events
- Click-Through events (all links bundled)
- Click-Through events (all links separate)
- Open-Up events and Click-Through events (all links bundled)
- Open-Up events and Click-Through events (all links separate)

Additional Statistics:

- Number of Sent Messages
- Number of Unbounced Messages
- Number of Bounced Messages

OK

Next, select the source data for the report type. Each data source will create a line or bar on the chart. There are up to five choices depending on the type of message (Plain Text or HTML), as well as the tracking events defined in the message:

- **Open-Up events** – This option charts all the open-up events for a job. It is only available for HTML messages.
- **Click-Through events (all links bundled)** – This option bundles all click-through events together into one variable charted on the report. For example, if three links were being tracked in a message, they would appear as one line or bar on the chart.
- **Click-Through events (all links separate)** – This option creates separate variables for each click-through event that is tracked. For example, if three links were being tracked in a message, each of the three links would appear as a separate line or bar on the chart.
- **Open-Up and Click-Through events (all links bundled)** – This option puts all the open-up events into one variable and all the click-through events into a second variable charted on the report. It is only available for HTML messages.
- **Open-Up and Click-Through events (all links separate)** – This option creates separate variables for the open-up and each of the click-through events. It is only available for HTML messages.





Other data sources can be added to the chart by selecting any or all of the **Additional Statistics** option buttons. These additional data sources can provide comparison data in the chart so that it is possible to see the total number of messages sent in relation to the number of open-up events that occurred, for example. Three **Additional Statistics** options are available:

- **Number of Sent Messages** – Adds the number of messages that were sent to LISTSERV as a constant reference value in the report.
- **Number of Unbounced Messages** – Adds the number of unbounced messages as a constant reference in the report. This value shows the number of messages that were sent and not detected as bounces by LISTSERV. This option is only available if LISTSERV handles bounces automatically (selected during the sender definition).
- **Number of Bounced Messages** – Adds the number of bounced messages as a constant value in the report. This value shows the number of messages that were sent but were detected as bounces by LISTSERV. This value can go up over time as new bounces are received by LISTSERV. This option is only available if LISTSERV handles bounces automatically (selected during the sender definition).

Make your selections, and then click **[OK]** to continue. A temporary report with the settings selected will be generated and displayed on the screen. This report will not be saved (it can always be run again from the Test Reports tab).

Located at the bottom right side of the test report are four icons. Each icon opens a page with different functions and options. The currently selected icon will be highlighted with a blue border. Unavailable icons will appear grayed out. These icons appear on all test reports, quick reports, and regular report pages.

Table 9-1 Test Report Icons

	View Report – Displays the currently selected report with the latest report options.
	Download Report – Opens the Download Report Result screen. From here it is possible to download report data in a zipped text file.
	Change Results Settings – Opens the Change View Settings for Report screen. From here it is possible to change how the results are displayed and downloaded.
	Edit Report / Create Report – Opens the Define Report screen. For delivery tests, it is not possible to save a quick report; therefore, this icon is disabled (grayed out).

For more information on Quick Reports, see Section 12.5 [Completed Jobs Reports](#). For more information on creating and editing reports, see Section 13 [Tracking Statistics and Reports](#).

9.3 Authorizing a Job for Delivery

In order for an email job to be delivered, final authorization is required. After all previous requirements have been met – define recipients, define message, define tracking, define sender, delivery test, and delivery settings – a job may be authorized for delivery. The job owner always has permission to authorize a job, as do any other team members that have been granted permission.

To authorize an email job delivery, click on the **Authorize Delivery** icon on the Workflow Diagram or click the **[Authorize Delivery]** button at the top of the Summary Diagram. The Authorize Delivery screen opens.

The Job Summary section lists all the selections that make up the email job. Above the **[Authorize Delivery Now]** and **[Cancel]** buttons is a message that summarizes the selections made for the delivery. If this is an auto-repeat job, the auto-repeat sequence time delay will be listed as well as other notes on the screen. Normal jobs will have a shorter message summarizing the delivery schedule.

The **Details** link in the **Content** section will display a copy of the message, alternative text, attachments, and tracking information. The message can be downloaded to a local file as well. The **Details** link in the **Recipients** section displays information regarding the recipients for the email job.

The **Sender** section lists all the selection you made while defining the sender's information. If DomainKey signing is enabled, then LISTSERV Maestro interacts with LISTSERV to determine if the supplied sender address is supported by one of the DomainKeys that were deployed to the LISTSERV host when DomainKeys was configured. If the email job is configured for future delivery, then there is a considerable time window during which the administrator may opt to change the DomainKeys settings

at the LISTSERV host. Therefore, if DomainKeys have been disabled during this time window, then the email job delivery will fail with an appropriate error message.

Clicking **[Authorize Delivery Now]** will do exactly that, and the job will be sent immediately or at the scheduled day and time. Clicking **[Cancel]** will go back to the Job Details screen so that any part of the job may be edited, or the job can be deleted.

Figure 9-4 Authorizing Delivery

Authorize Delivery

Review the job summary to verify that the job settings are correct.

If you authorize the delivery of the job, the job will be sent: Aug. 27, 2006 08:00 AM

The job will also start a new auto-repeat sequence and will automatically authorize and deliver a copy of itself **every 1 months** after the first delivery, **until Sep. 30, 2006 08:00 AM**.

Note: The job is defined to be an auto-repeat job but contains neither dynamic just-in-time recipients nor dynamic drop-in content. Therefore, each auto-repeat instance of the job will deliver exactly the same mail content to exactly the same list of recipients. Please make sure that this is the intended behavior before authorizing the job for delivery.

Job Summary

Sender	
E-mail Address:	htaylor@lsoft.com
Sender Name:	
Reply-To Address:	
Bounce Handling:	<handled by LISTSERV>
Recipients	
Recipients Type:	List uploaded as a text file
Number of Recipients:	38
Recipients Data Usage:	Used for mail merging and tracking
Content	
Subject:	Test Message
Mail Type:	Plain Details
List of Attachments:	- LSoftLogo.gif [3,202 Bytes] - Maestro3.0_NewFeatures.doc [602,112 Bytes]
Tracking	
Tracking is:	OFF

Recipients Sample

EMAIL	FNAME	LNAME	DOB
Anna@maestro-demo.lsoft.com	Anna	Anchor	03/17/1972
Bob@maestro-demo.lsoft.com	Bob	Bouchard	03/31/1981
Chuck@maestro-demo.lsoft.com	Chuck	Cho	7/15/1983

If a job is authorized for delivery at a future date and time, delivery authorization may be revoked by going to the Open Jobs screen and selecting the job. For more information, see Section 10 [Open Jobs](#).

The scheduled delivery time shown on this screen is always displayed relative to the local time of the user. If a job is scheduled for a time zone different from the user's local time, then the time displayed in the Job Summary may appear incorrect. For example, if the user enters the time 10:00 with time zone GMT as the scheduled delivery time, but the

user's location is not in the GMT time zone, the delivery time displayed on the Authorize Delivery screen will be different from the 10:00 time selected. This is because the user's local time is in a different time zone than the scheduled delivery time. When converted to absolute time, the delivery time will be correct. Time zone differences between the local time and the delivery time may even show an "incorrect" day. If the user sets the scheduled delivery time to 0:30 at GMT on the first of January, the time will appear as 23:30 on the 31st of December on this screen if the local time zone is one hour behind GMT.

9.3.1 Re-authorizing Auto-Repeat Jobs

Any auto-repeat job currently on the Open Jobs screen awaiting its scheduled delivery time can have its delivery authorization revoked just like a normal job. If authorization is revoked, the job will be put back into the Resume Jobs list, where it can be edited again.

If a job is re-authorized for future delivery, the job may have its standing changed in respect to the auto-repeat sequence it was part of before the authorization was revoked. Here are the possible standings:

- **The job is the first job of an auto-repeat sequence** – This means that no delivery has taken place for this job because it was the first job of the sequence and was already revoked before its scheduled delivery time. When re-authorized, the job will simply continue to be the first (and still only) job of the same auto-repeat sequence it belonged to before.
- **The job is not the first job of the auto-repeat sequence but has not been changed since the delivery authorization was revoked** – This means that this job is already an automatically created copy that is part of an auto-repeat sequence. The delivery authorization of this job was revoked, but the job has not changed since then. When re-authorized, the job can continue as part of the same auto-repeat sequence, or it can start a new auto-repeat sequence. This choice will have to be made on the Authorize Delivery screen.
- **The job is not the first job of the auto-repeat sequence and has been changed since the delivery authorization was revoked** – This means that this job is already an automatically created copy that is part of an auto-repeat sequence. The delivery authorization of this job was revoked and then it was changed in some way. When re-authorized, the job will create a new auto-repeat sequence and it will no longer be part of the sequence it belonged to before the delivery authorization was revoked. This happens because the job is no longer an exact copy of the previous jobs in its original sequence. Instead, it will be the first (and still only) job of a new auto-repeat sequence.



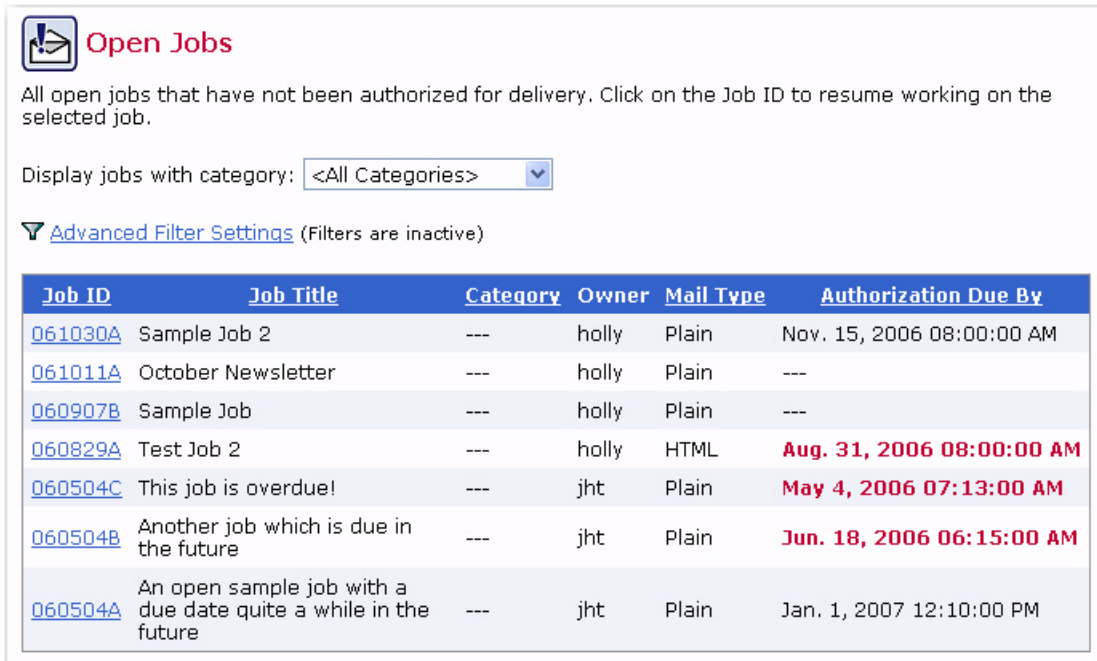
Note: A job is defined as **changed since authorization was revoked** if the recipients definition, content definition, tracking definition, or sender definition of the job has changed since the delivery authorization was revoked. If these four parts remained unchanged, the job is interpreted as unchanged. Changes on the Delivery Test or Delivery Settings screens are not interpreted as changes to the job.

Section 10 Open Jobs

The Open Jobs screen is a repository of email jobs that have been started, assigned a Job Title and Job ID, and that can be edited. These jobs have not been authorized for delivery. To access this screen, perform one of the following actions:

- From the Toolbar, click **Mail Job > Open Jobs**.
- From the Dashboard, click the **Open Jobs** link located in the **Currently in the System** section.


Figure 10-1 The Open Jobs Screen



Open Jobs

All open jobs that have not been authorized for delivery. Click on the Job ID to resume working on the selected job.

Display jobs with category:

 [Advanced Filter Settings](#) (Filters are inactive)

Job ID	Job Title	Category	Owner	Mail Type	Authorization Due By
061030A	Sample Job 2	---	holly	Plain	Nov. 15, 2006 08:00:00 AM
061011A	October Newsletter	---	holly	Plain	---
060907B	Sample Job	---	holly	Plain	---
060829A	Test Job 2	---	holly	HTML	Aug. 31, 2006 08:00:00 AM
060504C	This job is overdue!	---	jht	Plain	May 4, 2006 07:13:00 AM
060504B	Another job which is due in the future	---	jht	Plain	Jun. 18, 2006 06:15:00 AM
060504A	An open sample job with a due date quite a while in the future	---	jht	Plain	Jan. 1, 2007 12:10:00 PM

On the Open Jobs screen, each job is listed with its Job ID, Job Title, Owner, Mail Type (plain or HTML), and **Authorization Due By** date.

From this screen, you can:



- **Display jobs in a specific category** – Click the **Display jobs with category** drop-down menu and select the category of jobs you want to view in the list.
- **Sort the job listing** – The column headers in the table are links that, when clicked, will sort the jobs in ascending (one click) or descending (two clicks) order. Each subsequent click will reverse the sort order.



Note: It is not possible to sort the table using the **Owner** column.

- **View the details for any job** – Click on the Job ID to open the Job Details screen, which is where you can edit or view various parts of the job.

10.1 Advanced Filter Settings



The Opens Jobs: Advanced Filter Settings screen lets you activate and define an advanced filter for the Open Jobs list. To access this screen, click on the **Advanced Filter Settings** link on the Open Jobs screen.

Figure 10-2 Advanced Filter Settings for the Open Jobs Screen

Open Jobs: Advanced Filter Settings

Define filter settings to restrict the displayed list of open jobs that have not been authorized for delivery.

Filters are inactive (All jobs that have not been authorized for delivery will be displayed.)
 Filters are active (Only jobs that have not been authorized for delivery and match the following filters will be displayed.)

Job ID starts with:

Job Title contains:

Authorization Due By: From to [mm/dd/yyyy hh:mm]

Owner:

Mail Type:

Leave a filter empty or select "<Ignore>" to ignore it for filtering.
For a range filter with "From" and "to", leave both fields empty to ignore it. Leave empty only one field to define a range with only the given lower or upper bound.

Select if the current filter will be **active** or **inactive**.

If the filter is set to **active**, then only jobs that fulfill the filter condition will be displayed in the list. Define the active filter condition as follows:

- **Job ID starts with or Full Job ID starts with** – Enter a text string that is used as a "starts with" filter for the job ID. Only jobs where the job-ID (or the full job-ID, including the ID-prefix) starts with the given text will be included. Whether or not the job-ID or the full job-ID will be used for filtering is determined by your preference setting for job-ID prefix. If the prefix is included in the job list, then this filter will be applied to the full job-ID, including the prefix (as it is displayed in the job list). If the job-ID prefix is not included in the job list, then this filter will only apply to the bare job-ID, without the prefix. Leave this field empty if you do not want to filter over the job ID.
- **Job Title contains** – Enter a text string that is used as a "contains" filter for the job title. Only jobs where the job title contains the given text string (case sensitive) will be included. Leave empty if you do not want to filter over the job title.
- **Authorization Due By** – Enter a **From** and/or a **To** date and time (in the displayed format) to define a time range filter. If only a **From** date/time is entered, then only jobs where the "authorization due by" date/time is the given date/time or later will be included. If only a **To** date/time is entered, then only jobs where the "authorization due by" date/time is the given date/time or earlier will be included. If both a **From** and **To** date/time is entered, then only jobs where the "authorization due by" date/time is between the two given borders (including the borders themselves) will be

included. Leave empty if you do not want to filter over the "authorization due by" date/time.



Note: If this filter is specified (i.e. is not empty), then any jobs without an "authorization due by" date/time will always be excluded.

- **Owner** – If applicable, select an owner from the drop-down menu. Only jobs with the matching owner will be included.
- **Mail Type** – Select one of the mail types (**HTML** or **Plain**) to define a mail type filter. Only jobs with the matching mail type will be included. Select Ignore if you do not want to filter over the mail type.



Note: If you define any filter settings and later set the filter to "inactive", then the filter settings will still be remembered, which means you can easily activate them again at a later time.

Click **[OK]** to submit any changes or **[Cancel]** to exit without submitting your changes.

10.2 Multiple Job Actions



From the Open Jobs screen, you can also perform certain actions on several jobs at once by using the Multiple Job Actions feature. This feature is normally disabled. To enable it, click **Mail Job > Multiple Job Actions > Enable Multiple Job Actions**. The Open Jobs screen will refresh and each job will have a checkbox next to it. In addition, the **Mail Job** menu will show additional entries that can be performed on several jobs at once.

To manipulate several jobs at once, check all jobs that you want to edit and then select the desired option from **Multiple Job Actions** submenu (located on the **Mail Job** menu). These options include:

- **Edit Category of All Selected Jobs** – Opens the Edit Category of All Selected Jobs screen. Select or define the category that you want to assign to the selected jobs.
- **Edit Team Collaboration of All Selected Jobs** – Opens the Edit Team Collaboration of All Selected Jobs screen. Grant (**yes**), revoke (**no**), or keep as is (**keep**) the team collaboration permissions for the selected jobs. You can also load the permissions from a specific job and then apply these permissions to the selected jobs.
- **Delete All Selected Jobs** – Deletes the selected jobs.
- **Select All** – Selects all of the jobs in the list.
- **Unselect All** – Unselects all of the jobs in the list.
- **Disable Multiple Job Actions** – disables the feature and hides the additional checkboxes.



Note: Once the Multiple Job Actions feature is enabled, then it will be enabled on all other job list screens (i.e. the Ongoing Jobs Screen and the Completed Jobs Screen) until you disable it again.

Figure 10-3 Multiple Job Actions for the Open Jobs Screen

The screenshot shows the LISTSERV Maestro 3.0 interface. The top navigation bar includes 'Mail Job', 'Report', 'Recipient Warehouse', 'Utility', 'LISTSERV', and 'Back To'. On the right, there are 'Preferences' and 'Logout' links. A left sidebar contains a tree view with 'New...', 'Open Jobs', 'Ongoing Jobs', and 'Completed Jobs'. The 'Open Jobs' folder is selected, and a context menu is open over it, listing actions: 'Edit Category Of All Selected Jobs...', 'Edit Team Collaboration Of All Selected Jobs...', 'Delete All Selected Jobs...', 'Select All', 'Unselect All', and 'Disable Multiple Job Actions'. Below the menu, a table of jobs is visible. A message above the table states: 'You have not been authorized for delivery. Click on the Job ID to resume working on the selected'.

Job ID	Subject	Author	Mail Type	Authorization Due By
<input type="checkbox"/> 061030A	Sam...		Plain	Nov. 15, 2006 08:00:00 AM
<input type="checkbox"/> 061011A	October Newsletter	holly	Plain	---
<input type="checkbox"/> 060907B	Sample Job	holly	Plain	---
<input type="checkbox"/> 060829A	Test Job 2	holly	HTML	Aug. 31, 2006 08:00:00 AM
<input type="checkbox"/> 060504C	This job is overdue!	jht	Plain	May 4, 2006 07:13:00 AM
<input type="checkbox"/> 060504B	Another job which is due in the future	jht	Plain	Jun. 18, 2006 06:15:00 AM
<input type="checkbox"/> 060504A	An open sample job with a due date quite a while in the future	jht	Plain	Jan. 1, 2007 12:10:00 PM

Section 11 Ongoing Jobs

The Ongoing Jobs screen is a repository of email jobs that have been authorized for delivery. To access this screen, perform one of the following actions:

- From the Toolbar, click **Mail Job > Ongoing Jobs**.
- From the Dashboard, click the **Ongoing Jobs** link located in the **Currently in the System** section.

Figure 11-1 The Ongoing Jobs Screen



Ongoing Jobs

All jobs that have been authorized for delivery for your account.

It contains jobs that:


-  are authorized and scheduled for future processing
-  are currently being processed
-  were processed previously but failed to succeed

Click on the Job ID to see details about the selected job.

Job ID	Job Title	Owner	Mail Type	Date/Time of Sending	State
060827A	Test Job	holly	Plain	Sep. 27, 2006 08:00:00 AM	
060428F	Job for next year...	jht	Plain	Dec. 31, 2006 07:00:00 PM	
060428E	Another long-time scheduled job	jht	Plain	May 7, 2007 03:08:00 AM	
060428G	Wonder when this job will go out???	jht	Plain	Jul. 7, 2007 02:07:00 AM	
060428D	This job is scheduled for a long time off...	jht	Plain	Oct. 18, 2007 09:05:00 AM	

On the Ongoing Jobs screen, each job is listed with its Job ID, Job Title, Owner, Mail Type (plain or HTML), Date/Time of Sending, and State.

From this screen, you can:

-  **Display jobs in a specific category** – Click the **Display jobs with category** drop-down menu and select the category of jobs you want to view in the list.
- **Sort the job listing** – The column headers in the table are links that, when clicked, will sort the jobs in ascending (one click) or descending (two clicks) order. Each subsequent click will reverse the sort order.



Note: It is not possible to sort the table using the Owner column.

- **View the details for any job** – Click on the Job ID to open the Ongoing Job Details screen, which is where you can edit or view various parts of the job.

Jobs on the Ongoing Jobs screen exist in three states, represented by different icons:



- A **clock** icon represents jobs that are authorized for delivery and awaiting a future delivery time. Click on a specific job ID to open the Ongoing Job Details screen for a particular job. It is possible to rescind the delivery authorization status by clicking on

the **[Revoke Send Authorization]** button. Click the **View** link adjacent to each of the job details to review the selections. Once the authorization has been revoked, it is possible to edit the job details from the Workflow or Summary Diagrams. Depending on what steps are edited, other steps may have to be revisited and delivery authorization will have to be given again.



- A **yellow arrows** icon represents jobs that are currently being processed. It is possible to click on the ID of such a job very soon after it begins delivery if the user is quick enough or if the job is large and sending takes a longer time. The Ongoing Job Details screen appears with a **[Stop Sending]** button. Clicking this button while sending is still in process, will abort the delivery. The job will then be listed in the “failed” state.



- A **red X** icon represents jobs that have failed to be sent. Failed jobs can be the result of a bad connection, network problems, or server problems. Click the ID of such a job to open the Ongoing Job Details screen. Three buttons appear, **[Re-Open Job]**, **[Close Job]**, and **[Retry Sending]**. Click **[Re-Open Job]** to re-open the job for editing. Click **[Close Job]** to close the job as “failed” and put it in the Completed Jobs list. Click **[Retry Sending]** to immediately restart the sending of the failed job.

Figure 11-2 The Ongoing Job Details Screen

Ongoing Job Details

Click on the Detail Links for more information about the related property.

Job 	
Job ID:	060827A
Job Title:	Test Job
State:	Authorized for Delivery
Recipients View	
Recipient List Type:	Recipients uploaded as a text file
Number of Recipients:	38
Recipients Data Usage:	Used for mail merging and tracking
Content View	
Subject:	Test Message
Mail Type:	Plain
List of Attachments:	- LSoftLogo.gif [3,202 Byte] - Maestro3.0_NewFeatures.doc [602,112 Byte]
Tracking View	
Tracking is:	OFF
Sender View	
E-mail Address:	htaylor@lsoft.com
Sender Name:	
Reply-To Address:	
Bounce Address:	Handle bounced messages automatically
DomainKeys Signing:	No <DomainKeys signing is not used>



Tip: Use **[Retry Sending]** if the reason for the failure was a temporary one, (for example, the LISTSERV server being down) so that the job can be delivered once the temporary reason is gone.



Important: If a job contains a virus, and virus protection is enabled in LISTSERV, then it will fail during delivery. It will be rejected by LISTSERV. The job will remain on the Outgoing Jobs screen in the "failed" state. The reason for the failure (a message about the detected virus) will be visible when clicking on the job to view the job details. From there, the job can either be re-opened to change the content (to get rid of the virus) and sent again, or closed and remain in the list as a failed job.

11.1 Advanced Filter Settings



The Ongoing Jobs: Advanced Filter Settings screen lets you activate and define an advanced filter for the Ongoing Jobs list. To access this screen, click on the **Advanced Filter Settings** link on the Ongoing Jobs screen.

Select if the current filter will be **active** or **inactive**.

If the filter is set to **active**, then only jobs that fulfill the filter condition will be displayed in the list. Define the active filter condition as follows:

- **Job ID starts with or Full Job ID starts with** – Enter a text string that is used as a "starts with" filter for the job ID. Only jobs where the job-ID (or the full job-ID, including the ID-prefix) starts with the given text will be included. Whether or not the job-ID or the full job-ID will be used for filtering is determined by your preference setting for job-ID prefix. If the prefix is included in the job list, then this filter will be applied to the full job-ID, including the prefix (as it is displayed in the job list). If the job-ID prefix is not included in the job list, then this filter will only apply to the bare job-ID, without the prefix. Leave this field empty if you do not want to filter over the job ID.
- **Job Title contains** – Enter a text string that is used as a "contains" filter for the job title. Only jobs where the job title contains the given text string (case sensitive) will be included. Leave empty if you do not want to filter over the job title.
- **Date/Time of Sending** – Enter a **From** and/or a **To** date and time (in the displayed format) to define a time range filter. If only a **From** date/time is entered, then only jobs where the date/time is the given date/time or later will be included. If only a **To** date/time is entered, then only jobs where the date/time is the given date/time or earlier will be included. If both a **From** and **To** date/time is entered, then only jobs where the sent date/time is between the two given borders (including the borders themselves) will be included. Leave empty if you do not want to filter over the date/time.
- **Job State** – Select one of the jobs states (**Authorized**, **Being Processed**, or **Failed**) to define a job state filter. Only jobs with the matching job state will be included. Select **<Ignore>** if you do not want to filter over the job state.
- **Owner** – If applicable, select an owner from the drop-down menu. Only jobs with the matching owner will be included. Select **<Ignore>** if you do not want to filter over the owner.

- **Mail Type** – Select one of the mail types (**HTML** or **Plain**) to define a mail type filter. Only jobs with the matching mail type will be included. Select **<Ignore>** if you do not want to filter over the mail type.

Figure 11-3 Advanced Filter Settings

Ongoing Jobs: Advanced Filter Settings

Define filter settings to restrict the displayed list of jobs that have been authorized for delivery.

Filters are inactive (All jobs that have been authorized for delivery will be displayed.)
 Filters are active (Only jobs that have been authorized for delivery and match the following filters will be displayed.)

Job ID starts with:

Job Title contains:

Date/Time of Sending: From to [mm/dd/yyyy hh:mm]

Job State:

Owner:

Mail Type:

Leave a filter empty or select "<Ignore>" to ignore it for filtering.
For a range filter with "From" and "to", leave both fields empty to ignore it. Leave empty only one field to define a range with only the given lower or upper bound.



Note: If you define any filter settings and later set the filter to "inactive", then the filter settings will still be remembered, which means you can easily activate them again at a later time.

Click **[OK]** to submit any changes or **[Cancel]** to exit without submitting your changes.

11.2 Auto-Repeat Jobs and Delivery Failures

If delivery of an auto-repeat job fails for any reason, the failure is handled differently than with normal jobs. A normal job that fails remains on the Ongoing Jobs screen and is marked as failed. From there, the job can be closed, transferring it to the list of delivered jobs. Alternatively, delivery can be retried, or the job can be re-opened for editing. A failed auto-repeat job is marked failed as usual, but it is automatically closed and transferred to the list of delivered jobs, just as if it had been manually closed as a failed normal job. If the end-condition for the auto-repeat has not yet been met, a new copy is created and authorized for delivery after the corresponding delay interval, just as if the delivery of the previous job had not failed.

As a result, if at a given delivery time some condition that causes failure exists (perhaps outside of LISTSERV Maestro such as the inaccessibility of a database), then only this auto-repeat instance will fail. The next auto-repeat instance will be created and authorized normally, and will proceed to be delivered at its scheduled delivery time. If the condition that caused the first failure still exists at the next interval, the delivery of the next copy will fail as well. However, the copy after that (if there is one) may have a chance to get through if conditions change, and so on.

11.3 Multiple Job Actions



From the Ongoing Jobs screen, you can also perform certain actions on several jobs at once by using the Multiple Job Actions feature. This feature is normally disabled. To enable it, click **Mail Job > Multiple Job Actions > Enable Multiple Job Actions**. The Ongoing Jobs screen will refresh and each job will have a checkbox next to it. In addition, the **Mail Job** menu will show additional entries that can be performed on several jobs at once.

To manipulate several jobs at once, check all jobs that you want to edit and then select the desired option from **Multiple Job Actions** submenu (located on the **Mail Job** menu). These options include:

- **Edit Category of All Selected Jobs** – Opens the Edit Category of All Selected Jobs screen. Select or define the category that you want to assign to the selected jobs.
- **Select All** – Selects all of the jobs in the list.
- **Unselect All** – Unselects all of the jobs in the list.
- **Disable Multiple Job Actions** – disables the feature and hides the additional checkboxes.



Note: Once the Multiple Job Actions feature is enabled, then it will be enabled on all other job list screens (i.e. the Open Jobs Screen and the Completed Jobs Screen) until you disable it again.

Figure 11-4 Multiple Job Actions for the Ongoing Jobs Screen

The screenshot shows the LISTSERV Maestro 3.0 interface. The 'Mail Job' menu is open, and the 'Multiple Job Actions' submenu is displayed. The submenu options are: 'Edit Category Of All Selected Jobs...', 'Select All', 'Unselect All', and 'Disable Multiple Job Actions'. Below the menu, there is a dropdown for 'Display jobs with category: <No Category>' and a link for 'Advanced Filter Settings (Filters are inactive)'. A table of jobs is visible at the bottom.

Job ID	Job Title	Owner	Mail Type	Date/Time of Sending	State
<input type="checkbox"/> 060428F	Job for next year...	jht	Plain	Dec. 31, 2006 07:00:00 PM	🕒
<input type="checkbox"/> 060428E	Another long-time scheduled job	jht	Plain	May 7, 2007 03:08:00 AM	🕒
<input type="checkbox"/> 060428G	Wonder when this job will go out???	jht	Plain	Jul. 7, 2007 02:07:00 AM	🕒
<input type="checkbox"/> 060428D	This job is scheduled for a long time off...	jht	Plain	Oct. 18, 2007 09:05:00 AM	🕒

Section 12 Completed Jobs

The Completed Jobs Screen contains a list of all email jobs that have attempted delivery and the present state they are in, either processed successfully or failed during delivery. To access this screen, perform one of the following actions:

- From the Toolbar, click **Mail Job > Completed Jobs**.
- From the Dashboard, click the **Completed Jobs** link located in the **Currently in the System** section.

Figure 12-1 The Completed Jobs Screen



Completed Jobs

All previously completed jobs for your account.

Jobs that:

- ✓ were processed successfully
- ✗ were processed previously and failed during delivery

Click on the Job ID to open a job.

Job ID	Job Title	Recipients	Owner	Mail Type	Date/Time of Delivery	State
060810D	Test Job	38	holly	Plain	Aug. 27, 2006 08:00:00 AM	✓
060428C	And a third nice job...	3	jht	Plain	Apr. 28, 2006 09:14:52 AM	✓
060428B	A second test job by Johannes	10000	jht	Plain	Apr. 28, 2006 09:11:22 AM	✓
060428A	This is a test job by Johannes to illustrate some features	100	jht	Plain	Apr. 28, 2006 09:09:19 AM	✓

From this screen, you can:



- **Display jobs in a specific category** – Click the **Display jobs with category** drop-down menu and select the category of jobs you want to view in the list.
- **Sort the job listing** – The column headers in the table are links that, when clicked, will sort the jobs in ascending (one click) or descending (two clicks) order. Each subsequent click will reverse the sort order.



Note: It is not possible to sort the table using the Owner column.

- **View the details for any job** – Click on the Job ID to open the Completed Job Details screen, which is where you can edit or view various parts of the job.



Jobs that were successfully processed by LISTSERV Maestro are represented by a green checkmark.



Jobs that fail to be processed are represented by a red x. This means that LISTSERV Maestro was unable to send the job to LISTSERV.



Important: A job might be processed successfully but still fail to be delivered. The processing state only describes the success or failure of the act of transferring the job to LISTSERV. If, for some reason, LISTSERV fails to actually deliver the job, then no message(s) will be sent and the job will be listed in the successful state.

12.1 Advanced Filter Settings



The Completed Jobs: Advanced Filter Settings screen lets you activate and define an advanced filter for the Completed Jobs list. To access this screen, click on the **Advanced Filter Settings** link on the Completed Jobs screen.

Select if the current filter will be **active** or **inactive**.

If the filter is set to **active**, then only jobs that fulfill the filter condition will be displayed in the list. Define the active filter condition as follows:

- **Job ID starts with or Full Job ID starts with** – Enter a text string that is used as a "starts with" filter for the job ID. Only jobs where the job-ID (or the full job-ID, including the ID-prefix) starts with the given text will be included. Whether or not the job-ID or the full job-ID will be used for filtering is determined by your preference setting for job-ID prefix. If the prefix is included in the job list, then this filter will be applied to the full job-ID, including the prefix (as it is displayed in the job list). If the job-ID prefix is not included, then this filter will only apply to the bare job-ID, without the prefix. Leave this field empty if you do not want to filter over the job ID.
- **Job Title contains** – Enter a text string that is used as a "contains" filter for the job title. Only jobs where the job title contains the given text string (case sensitive) will be included. Leave empty if you do not want to filter over the job title.
- **Date/Time of Sending** – Enter a **From** and/or a **To** date and time (in the displayed format) to define a time range filter. If only a **From** date/time is entered, then only jobs where the date/time is the given date/time or later will be included. If only a **To** date/time is entered, then only jobs where the date/time is the given date/time or earlier will be included. If both a **From** and **To** date/time is entered, then only jobs where the sent date/time is between the two given borders (including the borders themselves) will be included. Leave empty if you do not want to filter over the date/time.
- **Recipients Count Range** – Enter a **From** and/or a **To** range to define a number range filter. If only a **From** number is entered, then only jobs where the number of recipients is the given number or higher will be included. If only a **To** number is entered, then only jobs where the number of recipients is the given number or lower will be included. If both a **From** and **To** number is entered, then only jobs where the number of recipients is between the two given borders (including the borders themselves) will be included. Leave empty if you do not want to filter over the number of recipients.
- **Job State** – Select one of the jobs states (**OK** or **Failed**) to define a job state filter. Only jobs with the matching job state will be included. Select **<Ignore>** if you do not want to filter over the job state.
- **Owner** – If applicable, select an owner from the drop-down menu. Only jobs with the matching owner will be included. Select **<Ignore>** if you do not want to filter over the owner.
- **Mail Type** – Select one of the mail types (**HTML** or **Plain**) to define a mail type filter. Only jobs with the matching mail type will be included. Select **<Ignore>** if you do not want to filter over the mail type.

Figure 12-2 Advanced Filter Settings

Completed Jobs: Advanced Filter Settings
Define filter settings to restrict the displayed list of jobs that have been completed.

Filters are inactive (All jobs that have been completed will be displayed.)
 Filters are active (Only jobs that have been completed and match the following filters will be displayed.)

Job ID starts with:

Job Title contains:

Date/Time of Sending: From to [mm/dd/yyyy hh:mm]

Recipients Count Range: From to

Job State:

Owner:

Mail Type:

Leave a filter empty or select "<Ignore>" to ignore it for filtering.
For a range filter with "From" and "to", leave both fields empty to ignore it. Leave empty only one field to define a range with only the given lower or upper bound.

OK Cancel



Note: If you define any filter settings and later set the filter to "inactive", then the filter settings will still be remembered, which means you can easily activate them again at a later time.

12.2 Auto-Repeat Sequences in the Delivered Jobs List



Only the first job of an auto-repeat sequence is normally shown in the list of completed jobs. This is to avoid making the list overly long, filled with many jobs with the same job title, but with different Job IDs and delivery times. The first job of a sequence is marked by the **Sequence** icon.

By clicking on the **Sequence** icon, the sequence expands and displays all jobs in that sequence. From there, select any of these jobs by clicking on its ID. To hide the sequence jobs, simply click on the **Sequence** icon again or click on the icon of a different sequence, which will expand that other sequence and hide the sequence that was previously expanded. Only one sequence can be shown at a time.



Note: A job might be processed successfully but still fail to be delivered. The processing state only describes the success or failure of the act of transferring the job to LISTSERV. If LISTSERV fails to deliver the job, no messages will be sent, but the job will still be in the "successful" state inside of LISTSERV Maestro. For example, if a job is sent to a LISTSERV list with the **Standard list submit** option, and using a sender address that is not authorized to post to the list, then the job will be successful, but LISTSERV sends an error message to the non-authorized email address, and no messages to recipients are actually delivered.



Tip: If a user suspects that a job that is shown as "successful" was actually never sent – for example, because recipients report that they never got the message – then the

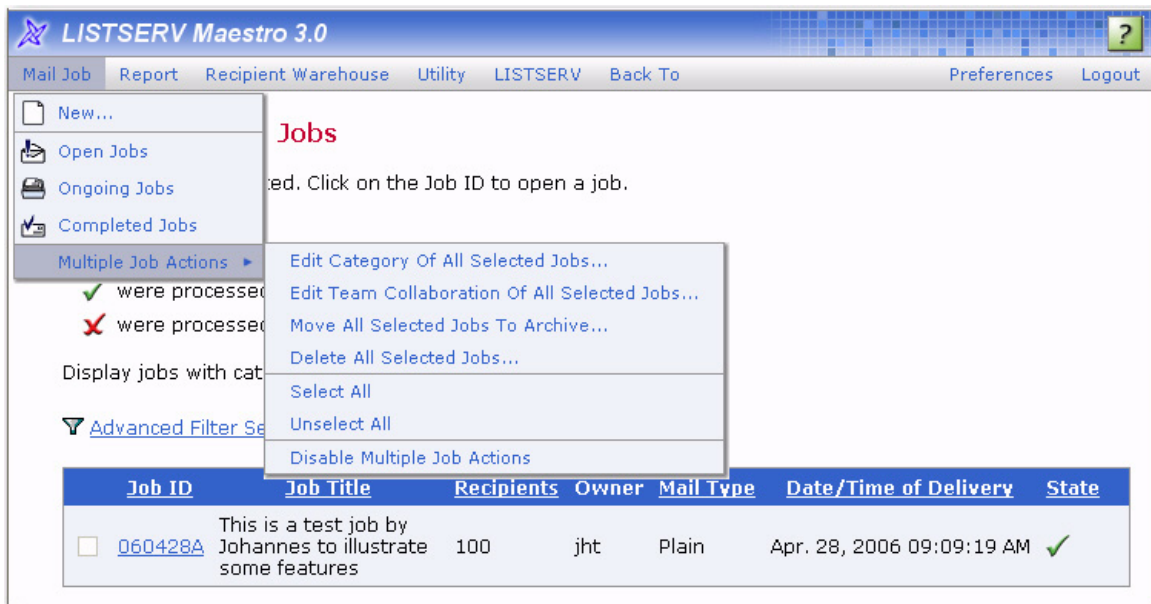
system administrator should check the LISTSERV logs to find out what happened to the job.

12.3 Multiple Job Actions



From the Completed Jobs screen, you can also perform certain actions on several jobs at once by using the Multiple Job Actions feature. This feature is normally disabled. To enable it, click **Mail Job > Multiple Job Actions > Enable Multiple Job Actions**. The Completed Jobs screen will refresh and each job will have a checkbox next to it. In addition, the **Mail Job** menu will show additional entries that can be performed on several jobs at once.

Figure 12-3 Multiple Job Actions for the Ongoing Jobs Screen



To manipulate several jobs at once, check all jobs that you want to edit and then select the desired option from **Multiple Job Actions** submenu (located on the **Mail Job** menu). These options include:

- **Edit Category of All Selected Jobs** – Opens the Edit Category of All Selected Jobs screen. Select or define the category that you want to assign to the selected jobs.
- **Edit Team Collaboration of All Selected Jobs** – Opens the Edit Team Collaboration of All Selected Jobs screen. Grant (**yes**), revoke (**no**), or keep as is (**keep**) the team collaboration permissions for the selected jobs. You can also load the permissions from a specific job and then apply these permissions to the selected jobs.
- **Move All Selected Jobs to Archive** – Opens the Move Selected Jobs to Archive screen. Click [**Move to Archive**] to move the selected jobs to the archive. Archived jobs will no longer be viewed from within LISTSERV Maestro until they are imported by the administrator.
- **Delete All Selected Jobs** – Deletes the selected jobs.
- **Select All** – Selects all of the jobs in the list.

- **Unselect All** – Unselects all of the jobs in the list.
- **Disable Multiple Job Actions** – disables the feature and hides the additional checkboxes.



Note: Once the Multiple Job Actions feature is enabled, then it will be enabled on all other job list screens (i.e. the Open Jobs Screen and the Ongoing Jobs Screen) until you disable it again.

12.4 Completed Jobs Summary

The Summary tab of the Completed Job Details screen displays information about the completed job. Click on the **View** link adjacent to a section to see more information on that particular section. Two additional links are available here – **Update bounce count** and **View bounce details** (See Section 12.4.1 [View Bounce Details](#) for more information).

Figure 12-4 Completed Jobs Summary

Completed Job Details

Summary
Reports

Click on the Detail Links to get more information about the related property.

Job ✓

Job ID: **060810D**

Job Title: Test Job

Send Date: Aug. 27, 2006 08:00:00 AM

State: **Delivery has succeeded**

Sent to: 38 recipients

Bounces: Bounces count not yet updated
[Update bounces count](#) [View bounce details](#)

Recipients View

Recipient List Type: List uploaded as a text file

Number of Recipients: 38

Recipients Data Usage: Used for mail merging and tracking

Content View

Subject: Test Message

Mail Type: Plain

List of Attachments: - LSoftLogo.gif [3,202 Byte]
 - Maestro3.0_NewFeatures.doc [602,112 Byte]

Tracking View

Tracking is: **OFF**

Sender View

E-mail Address: htaylor@lsoft.com

Sender Name:

Reply-To Address:

Bounce Address: Handle bounced messages automatically

DomainKeys Signing: **No** <DomainKeys signing is not used>

12.4.1 View Bounce Details

From the Summary tab of the Completed Job Details screen, it is possible to update the bounce count and generate a graphical representation of the number and type of bounces for the job. Click on the [View bounce details](#) link to open the Bounce Details screen.

The Bounce Details report is comprised of color-coded bars that represent the number and type of bounces. The top bar displays the total number of all bounces. The bars below represent the total number of bounces divided into different bounce types. Bounce types are based on RFC error codes that define the characteristics of why the message bounced. The codes are documented in RFC 1893 "*Enhanced Mail System Status Codes*".

LISTSERV Maestro groups bounces into types based on the codes specified in this RFC. The group types LISTSERV Maestro uses are:

- **Unknown delivery errors** (RFC 1893 4.0.x and 5.0.x).
All otherwise unspecified errors.
- **Address related errors** (RFC 1893 4.1.x and 5.1.x).
Includes errors like "Unknown user at host" or "Unknown host".
- **Recipient mailbox related errors** (RFC 1893 4.2.x and 5.2.x).
Includes errors like "Recipients mailbox full", "Mailbox disabled" or "Mail too large".
- **Mail system related errors** (RFC 1893 4.3.x and 5.3.x).
Includes errors like "Mail system full" or "Message too big for system".
- **Network related errors** (RFC 1893 4.4.x and 5.4.x).
Includes routing errors and errors like "No answer from host" or "Bad connection".
- **Mail protocol related errors** (RFC 1893 4.5.x and 5.5.x).
Errors on the mail protocol level.
- **Message content related errors** (RFC 1893 4.6. x and 5.6.x).
Includes errors like "Conversion failed" or "Conversion not supported".
- **Security or policy related errors** (RFC 1893 4.7.x and 5.7.x).
Errors for security or mail system policy reasons, like "Delivery not authorized".

For more information on RFCs, see Appendix D: [Email Related RFCs](#).

Use the check box adjacent to each bar to select it for download. Use the drop-down menu to download only those email addresses that bounced, or the email addresses with the delivery failure information included.

12.5 Completed Jobs Reports

On the Completed Job Details screen, click the Reports tab to generate a quick report on the current job (as long as tracking has been switched on for the job in question). Quick reports are predefined report types that create a temporary report based on the selected report settings and the active email job.

Figure 12-5 Completed Jobs Quick Reports

Completed Job Details

Summary Reports

Define what kind of report you want to view for the selected job:

Report Type:

Event distribution over time

Sum of events

Event details

Show Report Over:

Open-Up events

Click-Through events (all links bundled)

Click-Through events (all links separate)

Open-Up events and Click-Through events (all links bundled)

Open-Up events and Click-Through events (all links separate)

Additional Statistics:

Number of Sent Messages

Number of Unbounced Messages

Number of Bounced Messages

OK

Creating a quick report is a multi-step process.

- First, select the type of report to create. LISTSERV Maestro can produce four basic types of reports depending on the type of recipients and recipient data used in the job:

Event distribution over time – This report type produces a simple line graph showing the number of responses over time. Time is plotted on the x-axis of the chart and event statistics are charted on the y-axis. For more information on event distribution reports, see Section 13.7 [Event Distribution Report](#).

Sum of events – This report type produces a bar graph that shows the number of recipients who clicked on each URL and/or opened up the email message. The length of each bar shows the number of events.

Two types of sum can be chosen for the report – **Sum of unique events** or **Sum of all events**. **Sum of unique events** plots only a single event of each type for each recipient. This *report* will register “0” (zero) events if blind tracking has been selected for the tracking type during the tracking definition because blind tracking cannot count any event as unique. **Sum of all events** counts all events triggered for each

recipient and is available for blind tracking. For more information on sum of events reports, see Section 13.8 [Sum of Events Report](#).

Recipient Details – The Recipient Details report is only available for personal or anonymously tracked jobs because this report type is linked to recipient profile data. This report type displays a multi-frame table that lists each data source and the profile field columns from the recipients definition. Select the data from the top frame in the table by clicking the **Select** link. In the lower frame, click **Select All** to choose all the columns, or **Edit** to re-order and/or remove columns. Select the file encoding from the drop-down menu. The data will then be ready to download in the form of a ZIP archive file. Click the **[Download]** button to begin downloading the raw data to a local drive. Raw data can be used in Microsoft® Excel or other statistical software to create detailed reports. For more information on Recipient Details reports, see Section 13.9 [Recipients Details Reports](#).

Event Details – The Event Details report is available for personal, unique, anonymous, and blind tracking jobs. This report displays a table that lists the report type, lists the time period of the report, allows for the selection of encoding for downloading the data, and allows for the selection of the time zone to reference the downloaded data. Click the **download** link to download the raw data to a local drive. Raw data can be used in Microsoft Excel or third-party *statistical* analysis software to create detailed reports. For more information on event details reports, see Section 13.10 [Event Details Report](#).

- Next, select the source data for the report type. There are five choices depending on the type of message and the tracking selected for the job:

Open-Up events – This option charts all the open-up events for a job. It is only available for HTML messages.

Click-Through events (all links bundled) – This option bundles all click-through events together into one variable charted on the report.

Click-Through events (all links separate) – This option creates separate variables for each click-through event that is tracked.

Open-Up and Click-Through events (all links bundled) – This option bundles all the open-up events into one variable and all the click-through events into a second variable charted on the report. This only available for HTML messages.

Open-Up and Click-Through events (all links separate) – This option creates separate variables for each of the open-up and click-through events. This type of data source is only available for HTML messages.

- Other data sources can be added to the chart by selecting any or all of the options in the **Additional Statistics** section. These additional data sources can provide comparison data in the chart so that it is possible to see the total number of messages sent in relation to the number of open-up events that occurred, for example. Three **Additional Statistics** options are available:

Number of Sent Messages – Adds the number of messages that were sent to *LISTSERV* as a constant reference value in the report.





Number of Unbounced Messages – Adds the number of unbounced messages as a constant reference in the report. This value shows the number of messages that were sent and not detected as bounces by LISTSERV. This value can go down over time as LISTSERV receives more bounces. This option is only available if LISTSERV handles bounces automatically (selected during the sender definition).

Number of Bounced Messages – Adds the number of bounced messages as a constant value in the report. This value shows the number of messages that were sent but were detected as bounces by LISTSERV. This value can go up over time as LISTSERV receives more bounces. Bounces usually stop coming in after about 5 days. This option is only available if LISTSERV handles bounces automatically (selected during the sender definition).

- If the job is part of an auto-repeat sequence, and the report should total all of the data over all of the jobs run in the sequence so far, then check the **Include all auto-repeat instances of this job in the report** option. Uncheck this option to generate a report for a single run.
- Once you've selected a report type, a source data type, and any additional statistics using the option buttons. Click **[OK]** to continue. A report will be generated based on your selections. For a more detailed report or to edit the report, click the **Go to the edit page of this report** link.

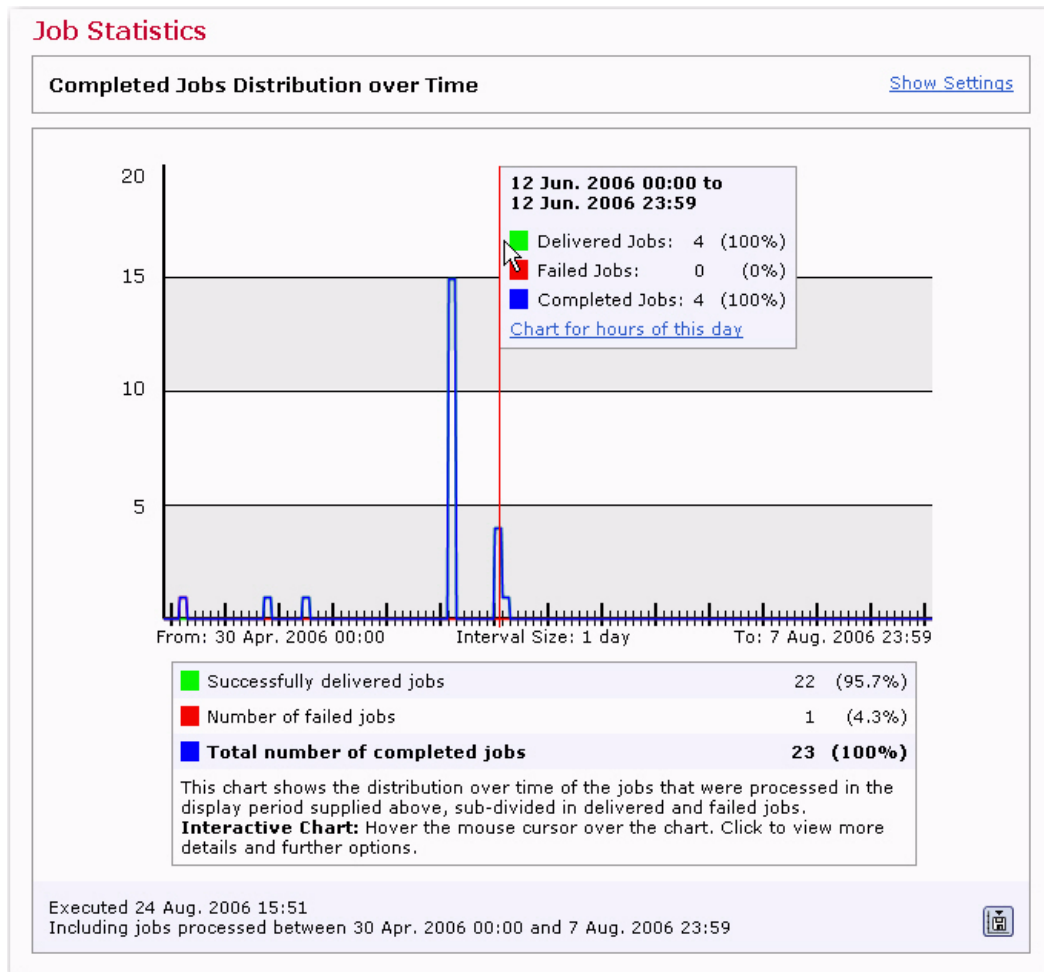
Located at the bottom right side of the Delivered Jobs report are four icons. Each icon opens a screen with different functions and options. The currently selected icon will be highlighted with a blue border. Icons that are unavailable will appear grayed out. These icons appear on all test report, quick report, and regular report pages.

Table 5 Delivered Jobs Report Icons

	View Report – Displays the currently selected report with the latest report options.
	Download Report – Opens the Download Report Result screen. From here it is possible to download report data in a zipped text file.
	Change Results Settings – Opens the Change View Settings for Report screen. From here it is possible to change how the results are displayed and downloaded.
	Edit Report / Create Report – Opens the Define Report screen. For delivery tests, it is not possible to save a quick report; therefore, this icon is disabled (grayed out).

For more information on creating and editing reports, see Section 13 [Tracking Statistics and Reports](#).

Figure 12-6 Line Chart Report of Events Distributed Over Time



Tip: When you scroll over the data in the report, a small gray box will display the time period. To display even more information, click on this box. The information in the gray box is expanded and displays links for generating reports based on that particular time period.

To save a quick report as a regular report, click the **Create Report** icon. This opens the Define Report screen. Click the **[Save & Execute]** button and the quick report will be saved as a regular report with the same name. Instructions for further editing and using reports are covered in Section 13 [Tracking Statistics and Reports](#).

Section 13 Tracking Statistics and Reports

Once an email job has been sent and enough time has gone by to assume that most recipients have received the message and have opened it, data from selected open-up and click-through events can be gathered. This data can be used to generate reports in several ways:

1. The first way is by selecting any of the options from the **Report** menu on the Toolbar. Selecting the **Reports** option opens the Tracking Reports screen. Each report is displayed with its title and the date and time it was last saved. To execute and view the report, click on the title. To edit the report's settings, click on the report's **Edit** link.

Figure 13-1 The Tracking Reports Screen



New

Selecting the **Completed Job Statistics** option generates the Completed Jobs Statistics report. See Section 13.5 [Completed Job Statistics](#) for more information on this report.

New

Selecting the **Delivered Recipients Statistics** option generates the Delivered Recipients Statistics report. See Section 13.6 [Delivered Recipients Statistics](#) for more information on this report.

2. The second way is by clicking the **Reports** link located in the **Currently In the System** section of the Dashboard. This link opens the Tracking Reports screen.
3. The third way is by clicking on the Reports tab on the Completed Job Details screen (see Section 12.5 [Completed Jobs Reports](#)).

LISTSERV Maestro can generate several different types of reports with these methods, or data can be downloaded for use in other statistical analysis programs. For quick reports on delivery tests, click on the Test Reports tab on the Job Details screen. For more information on test reports, see Section 9.2 [Running Test Reports](#).

For more information on generating reports, see Section 13.2 [Executing Reports](#).

Tip

In many cases, it is easier to start from one of the quick reports available from the Completed Jobs list, save it, and then make changes using the edit reports pages, rather than starting from scratch.

13.1 Creating Reports

To create a new report or edit an existing report, click **Report > New Report**. The Define Report screen opens.

Figure 13-2 The Define Report Screen

At the top of the Define Report screen, there are four buttons and a text box to enter the report's title:

- **[Copy Settings]** – Copies settings from a previously generated report to the new report.
- **[Save & Execute]** – Saves the report and executes the collection of the selected data. A graph or table is produced based on the settings.
- **[OK]** – Saves any selections or entered information such as a title.
- **[Cancel]** – Cancels any settings or entered information.

Below the buttons is a tabbed table. Click on the tabs to toggle between the sections.

- **General Settings** – Defines the time period of the report, including time zone, and team collaboration settings. For more information, see Section 13.1.1 [General Settings](#).
- **Data Sources** – Opens the Data Source wizard, a series of screens that leads the user through the process of creating new data sources. Each data source represents a single variable in the report (a line or bar). For more information, see Section 13.1.2 [Adding a Data Source](#).

- **Result Settings** – Defines the type of report and how the data from the job is displayed. For more information, see Section 13.1.3 [Result Settings](#).

13.1.1 General Settings

The General Settings tab lets you define report period and edit the team collaboration settings.

Figure 13-3 Define Report Screen – General Settings Tab

The **Report Period** section is used to determine the earliest and the latest points in time that are considered when the events are retrieved from Maestro Tracker.

- **Automatic** – LISTSERV Maestro will determine the time period to fit the registered events. From all the events of all of the jobs and/or URLs that are part of the report, LISTSERV Maestro will set the time of the earliest event as the “From” and the time of the latest event as the “To” values of the time period. If two jobs are selected for tracking, LISTSERV Maestro will select the delivery time of the first received event (open-up or click-through) from either job as the start time, and the time of the last received event from either job as the end time.
- **Defined Period** – User can determine the time period for the report, and make this relative to any time zone.

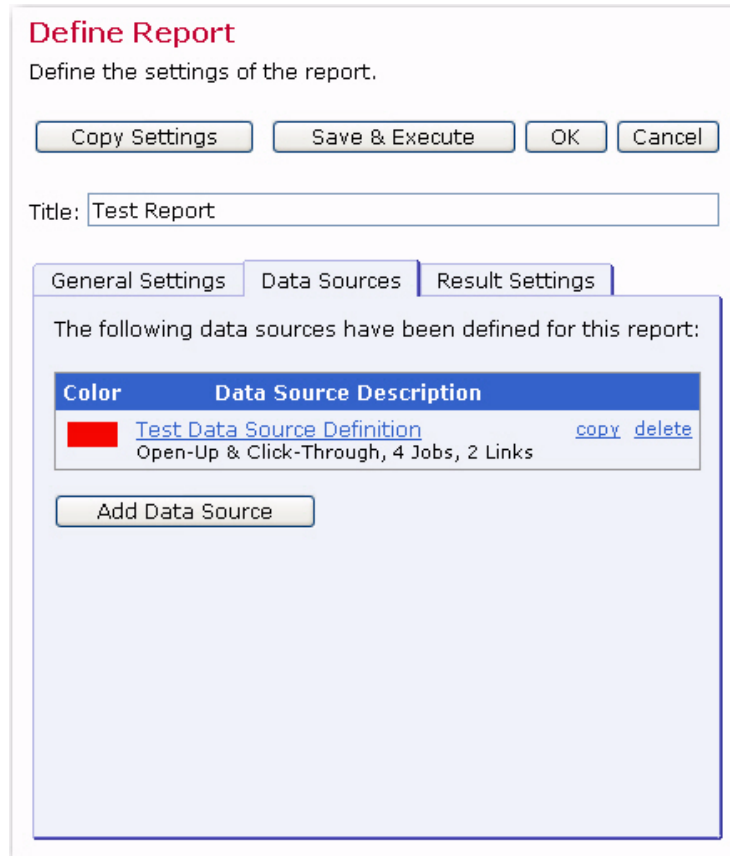
The **Team Collaboration** section contains an **Edit** link that is used to change the existing team collaboration settings for the report. If this link is not active, then you do not have permission to use this feature.

If you have permission to delete reports, then the **[Delete this Report]** button is active.

13.1.2 Adding a Data Source

Adding a data source is a multi-step process that has to be repeated for each separate variable in the report. To begin defining a data source, click on the Data Sources tab.

Figure 13-4 Define Report Screen – Data Sources Tab



The **Data Source Description** section lists the defined data sources available for use in a report. Click on the title of the data source to open the Data Source wizard and edit the selections. Click on the **copy** link to make a copy of the data source. Click on the **delete** link to delete the data source.

The **[Add Data Source]** button opens the Data Source wizard, guiding you through the process of creating a new data source.

There are five screens that comprise the Data Source wizard:

- **Data Source Type** – Select the type of event to report on.
- **Data Source Job Selection** – Select which job(s) to generate reporting data with.
- **Data Source Link Selection** – Select which URLs to include in the report data.
- **Data Source General Properties** – Select the color for the data source.
- **Data Source Summary** – Displays a summary of the selections for the newly defined data source.

The first screen, Data Source Type defines the type of event to report on. You can select the type of tracking event – **Open-Up** or **Click-Through**; or, you can select one of the three options in the **Sent Messages** and **Bounce Count Statistics** sections to be the data source type.

Figure 13-5 Data Source Type Screen

Report Data Source Definition

Type Jobs Links General Summary

Cancel <- Back Next ->

Data Source Type

Tracking Events
Select the event types to include in the data source:

Open-Up Events

Click-Through Events

Sent Messages and Bounce Count Statistics
Select the type of mail count statistics to include in the data source:

Total Number of Sent Messages
(This figure includes **all** sent messages, regardless of whether the mail bounced or not.)

Total Number of Unbounced Messages
(This figure shows the number of sent messages, minus the number of messages that were detected as bounces, at the time the report is executed.)

Total Number of Bounced Messages
(This figure shows the number of messages that were detected as bounces at the time the report is executed.)

Once you are finished making your selection, click **[Next ->]** to continue.

On the Data Source Job Selection screen, select the email job or jobs to report on.

Only jobs for which the chosen event type is possible will be listed. For example, if the **Open-Up Events** option was selected on the previous screen, then only jobs with open-up tracking enabled will be displayed. Check the boxes next to the job or jobs to include in the data source.

Click on the **[Select All]** or **[Unselect All]** buttons to quickly select or unselect all jobs.

Figure 13-6 Data Source Job Selection Screen

Report Data Source Definition

Type Jobs Links General Summary

Cancel <- Back Next ->

Data Source Job Selection

Select the jobs to generate reporting data:

Job-ID	Job Title	Date/Time of Sending
<input type="checkbox"/> 060428C	And a third nice job...	Apr. 28, 2006 09:14:52 AM
<input checked="" type="checkbox"/> 060906A	Newsletter	Sep. 6, 2006 11:15:30 AM
<input type="checkbox"/> 060428B	A second test job by Johannes	Apr. 28, 2006 09:11:22 AM
<input type="checkbox"/> 060428A	This is a test job by Johannes to illustrate some features	Apr. 28, 2006 09:09:19 AM

Select All Unselect All

Once you are finished making your selection, click **[Next ->]** to continue.

The Data Source Link Selection screen is only available if the **Click-Through Events** option was selected on the Type screen.

This screen defines the URLs to report on. To select a URL to generate report data on, click on the link in the **Available** section to highlight it. Next, click the **[Select]** button to place the highlighted link in the **Selected** section.

Use the **[All with same Alias]** button to select a group of links that share the same alias (defined during the Tracking Definition phase of defining a job). See Section 7.3.1 [Defining Tracking URLs](#) for more information. Use the **[All with same URL]** button to select a group of links that have the same URL.

To unselect a link, click on it in the **Selected** section to highlight it. Next, click the **[Unselect]** button to replace it in the **Available** section. To highlight several links at once, hold down the **SHIFT** or **CTRL** key while clicking.

Figure 13-7 Data Source Link Selection Screen

Report Data Source Definition

Type Jobs **Links** General Summary

Cancel <- Back Next ->

Data Source Link Selection

Select the links to include in reporting data:

Available:

<No Alias> - http://papaya.ease.lsoft.com:8081

Select All with same Alias All with same URL

Selected:

<No Alias> - http://www.lsoft.com
Track - http://papaya.ease.lsoft.com:8081/myfreekit.html

Unselect

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

The Data Source General Properties screen defines the name of the data source and the color it will appear as in the graph or data table (as in the case of Recipients Details and Event Details reports).

Enter a name for the data source in the text box. Pick a name that will be descriptive of the data source when it is viewed in the report. The name of the data source will be the only way beside color to identify what the source is in the report. Select the color of the line, bar, or table for the item that is tracked. For most reports, it is usually best to select a different color for every different data source for the report, but it is not necessary.

Figure 13-8 Data Source General Properties Screen

Report Data Source Definition

Type Jobs Links **General** Summary

Cancel <- Back Next ->

Data Source General Properties

Data Source Name:

Color:

Select a different color by clicking on any of the color patches below:

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


The last screen is a summary of the selections made on the previous screens. Changes can be made to the data source definition by clicking the **[<- Back]** button. Click **[Finish]** to save the Data Source Definition and return to the Define Report screen.

Figure 13-9 Data Source Summary Screen

Report Data Source Definition

Type Jobs Links General Summary

Cancel
<- Back
Finish



Data Source Summary

You have specified the following data source properties:

General

Name: "Test Data Source Definition"

Color:

Event Types

The data source will report **Open-Up** and **Click-Through** events.

Jobs

Job-ID	Title	Date/Time of Sending
060428C	And a third nice job...	Apr. 28, 2006 09:14:52 AM
060906A	Newsletter	Sep. 6, 2006 11:15:30 AM
060428B	A second test job by Johannes	Apr. 28, 2006 09:11:22 AM
060428A	This is a test job by Johannes to illustrate some features	Apr. 28, 2006 09:09:19 AM

Links

Alias	URL
Track	http://papaya.ease.lsoft.com:8081/myfreetkit.html
<No Alias>	http://www.lsoft.com



Tip: It is possible to combine data from different jobs into one report from this screen. Different jobs can be combined into one data source or they can each have their own data sources, depending on what the report is set up to compare.

To combine data sources from different jobs, check the boxes for the desired jobs listed under the Job-ID column. The data from each selected job is aggregated, and produces one line or bar on the graph. For example, to produce a report that shows the total number of click-through events for three jobs, first select click-through events on the Data Source Type screen. Next, select each of the three jobs from the Data Source Job Selection screen. From the Data Source Link Selection screen, select all the click-through links contained in the job, and on the Data Source General Properties screen type in a name for the data source and a color for the line or bar. All of the click-through events from the three jobs would be added together and produce one line or bar on the graph.

To combine data from more than one job into a report where each job is represented by a separate line or bar, a different data source for each job must be created. To do


this, using the example above, first select the type of data to include in the data source from the Data Source Type screen. Next, select one job from the Data Source Job Selection screen. Continue through the Data Source Link Selection and Data Source General Properties screens making the desired selections. Engage the Data Source wizard again for the second job in the report. Engage the Data Source wizard for a third time to create the third data source in the report. The resulting graph would have three separate lines or bars, each representing a different job.

13.1.3 Result Settings

The third tab of the Define Reports screen is Result Settings. Select the type of report to generate as well as how the report data will be displayed. There are four basic types of report listed under the **Result Type** section. The type of report selected will determine the other options that appear in the lower half of the screen. Some report types will have many other options to choose, and other report types will have no additional options to select.

13.1.3.1 Result Settings for Event Distribution over Time

The **Event distribution over time** option produces a simple line graph showing the number of responses over time. Time is plotted on the x-axis of the chart and event statistics are charted on the y-axis. Options available for this report type include:

- **Result Calculation** – Defines how the number of events is calculated. There are three choices:
 - **Total number of events** – The y-value of the graph will display the total number of events. For example, if 123 events have been counted for an interval, the resulting line height for that interval on the y-value will be 123.
 - **Percentage of the total number of messages sent** – The y-value shows percentages in relation to the total number of messages sent. For example, if 300 messages were sent, and if, in an interval, 150 events have been counted, then the line height for that interval on the y-value will be 50% (because 150 is 50% of 300).
-  **Note:** The percentage could be more than 100% if multiple event types are being represented by a given data source, or if single recipients produce multiple events.
- **Percentage of the total number of unbounded messages sent** – The y-value shows percentages in relation to the total number of messages sent that have not been bounced. For example, if 300 messages were sent, and 50 bounced, there would be 250 unbounded messages. And if, in an interval, 150 events have been counted, then the line height for that interval on the y-value will be 60% (because 150 is 60% of 250).
 - **Interval Size** – Defines the size (time period) for each interval on the chart. The number of events that occur within the interval will be plotted on the chart. Events can be grouped hourly, daily, or weekly.
 - **Result Accumulation** – Defines whether values plotted on the chart will display cumulatively from one interval to the next (creating an ever increasing line) or

whether they will display as non-cumulative intervals (creating a series of peaks and valleys).

Figure 13-10 Result Settings Tab for the Event Distribution over Time Option

The screenshot shows the 'Result Settings' tab with the following configuration:

- Result Type:**
 - Event distribution over time
 - Sum of events
 - Recipient details
 - Event details
- Result Calculation:**

Defines how the result shown on the Y-axis of the graph is calculated.

 - Total number of events
 - Percentage of total number of messages sent
 - Percentage of total number of unbounded messages sent
- Interval Size:**

Defines the how many events will be grouped in each interval.

 - Events per hour
 - Events per day
 - Events per week
- Result Accumulation:**

Defines if values accumulate from one interval to the next.

 - No accumulation
 - Accumulate interval values

13.1.3.2 Result Settings for Sum of Events

The **Sum of events** option produces a bar graph that shows the number of recipients who clicked on each URL and/or opened up the email message. For each data source, all events of the selected type (open-up and/or click-through), and the selected links (in the case of click-through), are summed up and displayed in the form of a colored bar.

Options available for this report type include:

- **Result Calculation** – Defines how the number of events is calculated. There are three choices:
 - **Total number of events** – Displays the total number of events. For example, if 123 events have been counted, the resulting bar length will be 123.
 - **Percentage of the total number of messages sent** – Displays percentages in relation to the total number of messages sent. For example, if 300 messages were sent, and if 150 events have been counted, then the bar length will be 50% (because 150 is 50% of 300).
 - **Percentage of the total number of unbounded messages sent** – Displays percentages in relation to the total number of messages sent that have not

been bounced. For example, if 300 messages were sent, and 50 bounced, there would be 250 unbounced messages. And if 150 events have been counted, then the bar length will be 60% (because 150 is 60% of 250).

- **Unique or Total Events** – Selects the type of events to include in the report.
 - **Count only events unique for each recipient** – Plots only a single event of each type for each recipient. Recommended when one of the percentage result calculations has been selected. This chart will register “0” (zero) events if blind tracking has been selected for the tracking type during the tracking definition because blind tracking cannot count any event as unique.
 - **Count all events** – Plots all events triggered for each recipient and is available for blind tracking.

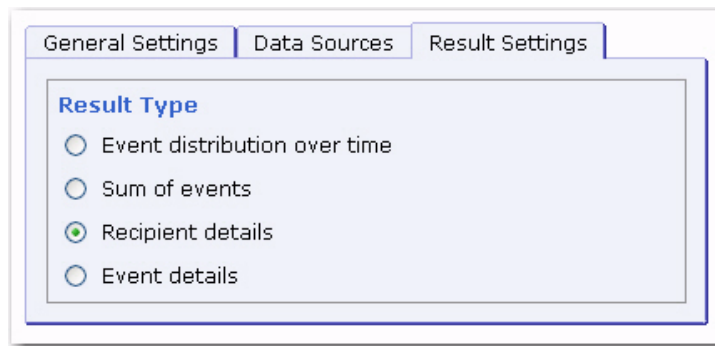
Figure 13-11 Result Settings Tab for the Sum of Events Option

The screenshot shows a software window with three tabs: 'General Settings', 'Data Sources', and 'Result Settings'. The 'Result Settings' tab is active. It contains three sections of radio button options:

- Result Type:**
 - Event distribution over time
 - Sum of events
 - Recipient details
 - Event details
- Result Calculation:** (Defines how the result shown as the length of the bars in the graph is calculated.)
 - Total number of events
 - Percentage of total number of messages sent
 - Percentage of total number of unbounced messages sent
- Unique or Total Events:** (Defines if unique events or if all events are counted.)
 - Count only events unique for each recipient
 - Count all events

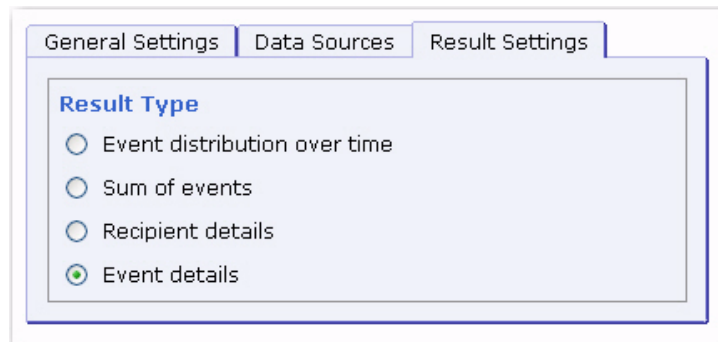
13.1.3.3 Result Settings for Recipient Details

The Recipient details option is only used for personal or anonymously tracked jobs because this report type is linked to recipient profile data. This report type displays a multi-frame table that lists each data source and the profile field columns from the recipient definition. You must then download the report to get the recipient detail data.

Figure 13-12 Result Settings Tab for the Recipient Details Option

13.1.3.4 Result Settings for Event Details

The Event details option is available for personal, anonymous, unique, and blind tracking jobs. The report type displays a table that lists the report type, time period of the report, allows for the selection of encoding for downloading the data, and allows for the selection of the time zone to reference the downloaded data. You must then download the report to get the event detail data.





Figure 13-13 Result Setting Tab for the Event Details Option

13.2 Executing Reports

There are several ways to execute reports. LISTSERV Maestro can produce quick reports that are instantly viewable on the screen from the Test Report tab on the Job Details screen (see Section 9.2 [Running Test Reports](#) for more information) and from the Reports tab on the Completed Job Details screen (see Section 12.5 [Completed Jobs Reports](#) for more information). LISTSERV Maestro can also produce reports from the Tracking Reports screen and **Reports** menu as described at the beginning of Section 13 [Tracking Statistics and Reports](#).

Each report type has its own unique appearance, and its own set of options for viewing, downloading, manipulating, and editing. These options are represented by four icons located at the bottom right side of each report. Clicking on an icon lets you access the options for each report type. The icon currently in use will have a highlighted border around it. Icons that are not available for a particular report type will appear grayed out and will not be clickable.

Table 13-1 Report Icons

	View Report – Displays the currently selected report with the latest report options.
	Download Report – Opens the Download Report Result screen. From here it is possible to download report data in a zipped text file.
	Change Results Settings – Opens the Change View Settings for Report screen. From here it is possible to change how the results are displayed and downloaded.
	Edit Report / Create Report – Opens the Define Report screen. For delivery tests, it is not possible to save a quick report; therefore, this icon is disabled (grayed out).

13.2.1 Report Details



Depending on the report type, these additional details may also be available:

Report Type: Distribution Over Time

The report chart itself is an interactive chart. Move the mouse pointer over the chart to display a special interval marker: The marker appears as a red line in the middle of the interval, with a little box at the top that contains the boundary dates (and times) of the interval. With the help of this marker you are able to pick out a certain interval in the chart even if the interval size is very small (so that each interval is only a few pixels wide).

You can then click on any interval to view details about it. The information box of the marker that usually only contains the boundary dates/times is expanded and shows additional details about the selected interval. Click anywhere a second time to close the more detailed information box again.

The information box that is displayed when you click on an interval also allows you to "drill down" into the interval by performing a new report with a period that corresponds to the currently selected interval, and with an interval size that is one unit "finer" than the currently selected interval size. To do this, click on the **Chart for days of this month/week/day** link in the information box (after you open the more detailed information box by clicking on an interval).

For example: If you are currently viewing a chart with interval size "1 month" and click on an interval (a month), then the information box for this interval will contain the **Chart for days of this month** link. If you click on this link, then a new report will be executed, where the "from" and "to" dates/times correspond to the beginning and end of the month that was selected in the original report. Also, this new report will then use the interval size "1 day", i.e. it will show the selected month, sub-divided into days.

Similarly, in this new daily report, if you click on an interval (a day), then the information box will contain the **Chart for hours of this day** link. If you click on this link, then again a new report will be executed, where the "from" and "to" dates/times now correspond to the beginning and end of the day that was selected. Also, this new report will then use the interval size "1 hour", i.e. it will show the selected day, sub-divided into hours.

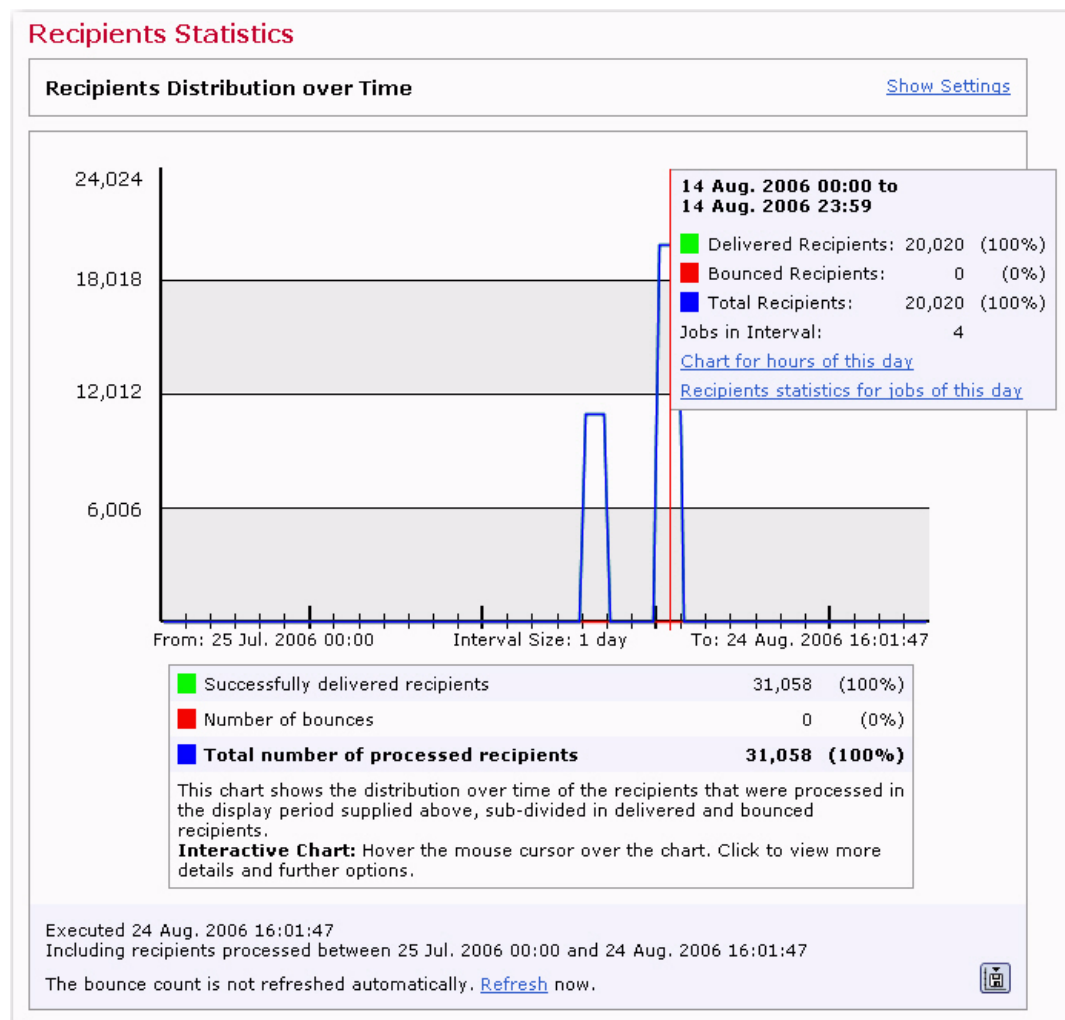
Once you have drilled down from a monthly/weekly to a daily chart, or a daily to an hourly chart, you can go back to the previous report with the **Back to monthly/weekly/daily chart** link at the top right above the chart diagram.



Note: You can not "drill down" any further into a diagram that already shows hourly intervals.

In addition to the drill-down into a more fine-grained distribution report, you can also use the information box of an interval to display a Per Job in Period report for the selected interval. In the distribution diagram, click on an interval. In the information box that opens, click on the **Recipients statistics for jobs of this month/week/day/hour** link in the information box. This will open a Per Job in Period report, where the period corresponds exactly to the interval on which you had clicked. To go back to the previous distribution report, click on the **Back to monthly/weekly/daily/hourly chart** link at the top right of the bar chart.

Figure 13-14 Example of the Recipients Distribution Over Time Report



Report Type: Per Job in Period

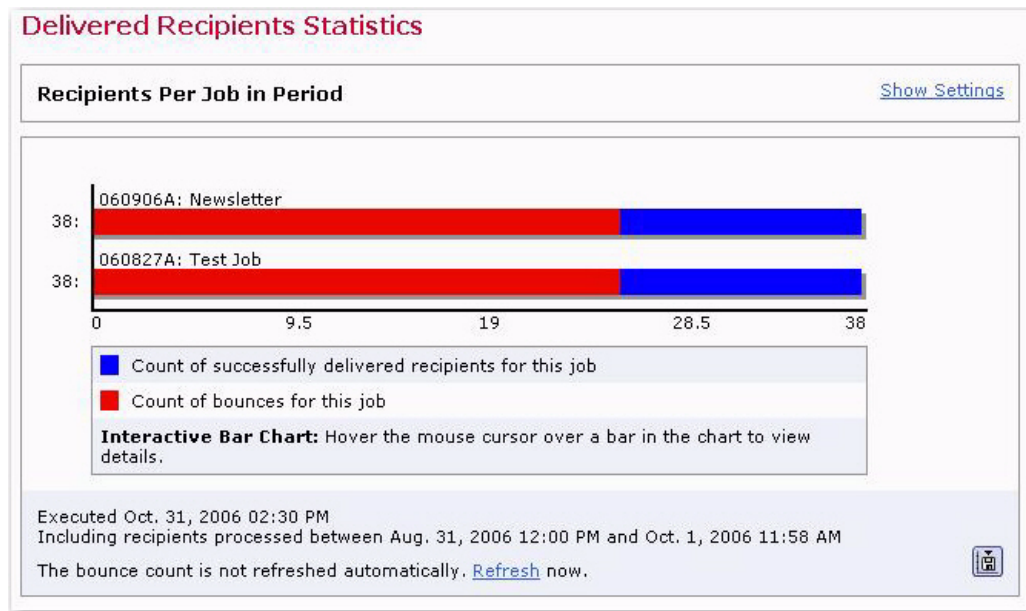
The bar diagram shows one bar for each job in the report period, where the length of the bar corresponds to the total number of recipients in this job. Above each bar, the ID and

title of the corresponding job are displayed. The number of recipients in the job is displayed to the left of the bar.

Each bar is separated into a blue part, representing the successfully delivered recipients of the job it represents, and a red part, for the bounced recipients (if any). Hover the mouse over one of the bar parts for a short while and a little popup box will display the exact amount of successful or bounced recipients in this job (depending on which part of the bar the mouse is over).

Of course, if the job contains only successful recipients, then the whole bar will be blue, or if all recipients have bounced, the whole bar will be red.

Figure 13-15 Example of the Recipients Per Job in Period Report



13.2.2 Report Settings



For certain reports, it is possible to adjust the specific settings that define it. The **Show Settings** link lets you adjust the interval size and period of time the report that is displayed.

The **Interval Size** defines the size of the intervals that the whole report period is divided into. Each interval on the x-axis corresponds to the size-unit selected here. For each interval, the corresponding report value during this interval is plotted against the y-axis. You can choose between the interval sizes of 1 hour, 1 day, 1 week, or 1 month.

Figure 13-16 The Show Settings Section on a Report

Job Statistics

Completed Jobs Distribution over Time

Interval Size:

Display Period:

to [Select](#)

The **Display Period** defines the period that will be shown in the report. There are two methods for defining this setting.

- **Show Fixed Period** – The period is defined by entering explicit "from" and "to" dates and times.



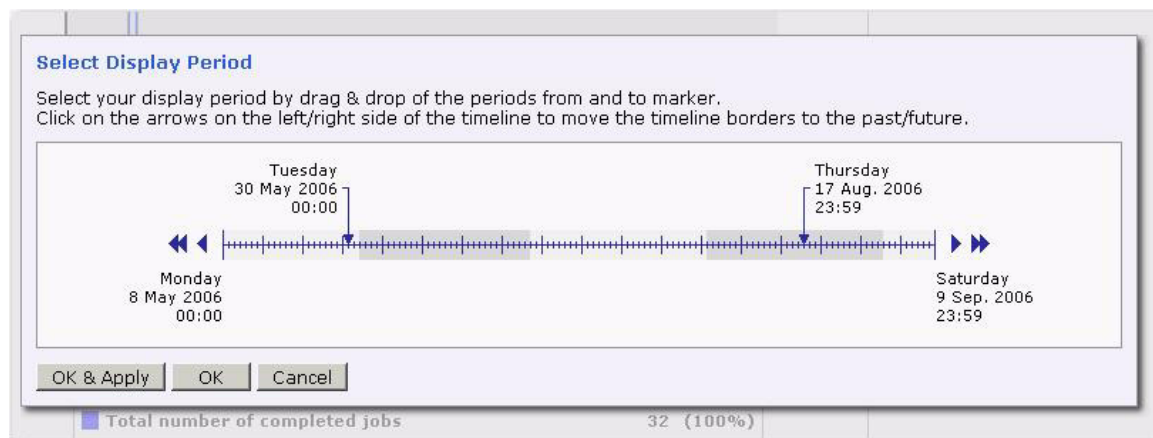
Note: There is a certain maximum size of the report period that must not be exceeded with the given "from" and "to" dates. The actual maximum size of the period depends on the currently chosen interval size (see above). When the given period is divided into the individual intervals, using the given interval size, then the number of resulting intervals must not exceed 125 (an error message will tell you so if this should be the case).

To specify a fixed period, you can either enter the "from" and "to" dates/times into the corresponding edit boxes directly (in the form [Date Time]), or you can click on the **Select** link and select the report period visually, by dragging markers on a timeline:

The link will open a popup dialog that contains a segment of the timeline with two markers – one for the "from" and one for the "to" date and time. Simply define the report period by dragging each marker to the desired position. The intervals on the timeline (i.e. the units by which the markers will move when dragged) correspond to the interval size chosen on the report page (see above).

The report period can not be longer than the length of the timeline segment in this dialog (which corresponds to the maximum number of 125 intervals). This means that you can not move the two markers further apart than the timeline allows. However, you can scroll the timeline to the left or right (i.e. to earlier and later times) if either the desired to- or from-date is not present on the timeline-segment that is currently visible. For this, use the arrow-icons (for small one-unit steps) and double-arrow-icons (for large steps equal to about half of the total timeline-segment length) at the left and right of the timeline.

Figure 13-17 The Select Display Period Screen



Click either **[OK]** to only transfer the values from the timeline into the edit boxes of the "from" and "to" values, click **[OK & Apply]** to both transfer the values and then

immediately apply them and execute a report with these values, or click **[Cancel]** to close the timeline dialog without applying any changes to the report settings.

- **Show Immediate Past** – The period is defined indirectly by specifying how many time-units of the past you want to see in the report. This means that the "to" date and time of the report always equals the present time (at the moment of the report execution), and the "from" date and time is so far in the past as specified. For this, simply enter the number of intervals that the report shall go into the past (but no more than 125). The unit of the intervals depends on the interval size selected above.

Once you have finished editing the report settings, click **[OK]** to apply them and to execute a report with the new settings (or click **[Cancel]** to close the settings box without changing the report).

13.3 Editing Reports

Editing tracking reports is a more detailed way to generate custom reports. Unlike the quick reports available from the Completed Jobs screen or the Test Reports tab on the Job Details screen, it is possible to combine data from multiple jobs as well as select the color of each data source.

To edit an existing report:

- From the Tracking Reports screen, click the **Edit** link that corresponds with that report.

— OR —



- Once the report is generated, you can change the definition of the current report by clicking on the **Edit Report** icon.

After performing one of the above actions, the Define Report screen opens if the user has the right to edit reports. The current report's General Settings, Data Sources, and Result Settings can be edited and saved to reflect any changes in the current report, or they can be saved as a new report. For more information on these tabs, see section 13.1 [Creating Reports](#).

13.4 Creating a Report from a Template



If the current report is a quick report from Delivered Jobs, clicking the **Create Report** icon will allow the user to create a new report based on the settings of that quick report. Type in a title for the report and then click **[OK]** to save the quick report as a regular report. Alternatively, click **[Save & Execute]** to execute the report again (display it) and save the quick report as a regular report. The report title will then show up in the listing of current reports on the Tracking Reports screen. Edit the settings of this new report by clicking the **Edit Report** icon again. This option is not available for quick reports generated from delivery test data. See Section 12.5 [Completed Jobs Reports](#) for more information.

13.5 Completed Job Statistics



The top of the report contains the **Job Category** drop-down menu. This selection allows the user to filter the jobs so that only jobs that are in the selected category are included in the statistics. In addition to all available categories, this drop-down menu also contains the following options – **<All Categories>** (all jobs will be included, no matter what category they are in) and **<No Category>** (only the jobs which are not in any category will be included).



Below the chart, at the very bottom, a message bar displays additional information about when the report was executed and which period is covered in the report. This message bar also contains the **Download** icon at the very right. Click on the icon to download a ZIP-file which contains the current report in form of a text file with comma separated values (a CSV-file), plus an additional readme.txt file with details about the report.

The Completed Jobs Statistics report displays a chart of the completed jobs as a timeline graph that plots the number of completed jobs, plus how many of these were successful and how many have failed.

The graph displays a certain time period (with a given "From" and "To" date and time), and divides this period into a number of equally long intervals. For each interval, the number of completed jobs in that interval is plotted against the y-axis.

The graph contains three lines – the green line shows the successful jobs, the red line shows the failed jobs, and the blue line shows the total jobs (both successful and failed).



Note: If for a given interval all jobs are successful, then the blue line, which is plotted last, will cover the green line with the same value, so in these intervals only the blue line will be visible in the graph. The same will happen with the red line for intervals where all jobs have failed.)

Below the graph itself, a summary is displayed for the three job types, including the total count over the whole period.

For information about using the interactive report chart, see Section 13.2.1 [Report Details](#). For information on the Show Settings link, see Section 13.2.2 [Report Settings](#).

13.6 Delivered Recipients Statistics



The top of the report contains the **Job Category** drop-down menu. This selection allows the user to filter the jobs so that only jobs that are in the selected category are included in the statistics. In addition to all available categories, this drop-down menu also contains the following options – **<All Categories>** (all jobs will be included, no matter what category they are in) and **<No Category>** (only the jobs which are not in any category will be included).

Below the chart, at the very bottom, a message bar displays additional information about when the report was executed and which period is covered in the report. This message bar also contains the **Download** icon at the very right. Click on the icon to download a ZIP-file which contains the current report in form of a text file with comma separated values (a CSV-file), plus an additional readme.txt file with details about the report.

The bounce count of a job can either be refreshed individually for that job (via the job details page of the corresponding job), or you can use the **Refresh** link at the bottom of

this report as a shortcut to refresh the bounce counts of all jobs which fall into the time period that is covered by the current report (i.e. which were delivered between the "from" and "to" date and time).



Note: When determining if a recipient is supposed to be reported as "successful" or "bounced", the report will always use whatever bounce information is currently available for the job that the recipient was part of. This job related bounce information is the information that was obtained during the last bounce count refresh of that job, which means that at the time that the report is executed, the bounce count information of the involved jobs may be partially outdated (if some or all of them were not updated recently, or probably never at all).

The recipients statistics report can be viewed as two different types:

- This **Distribution Over Time** type displays a statistics chart of the delivered recipients as a timeline graph which plots the number of processed recipients, and how many of these were successfully delivered and how many bounced. For more information, see Section 13.2.1 [Report Details](#).
- This **Per Job in Period** type displays a statistics chart of the delivered recipients as a bar chart, with one bar per job, where the length of the bar shows the number of recipients in this job (separated into successfully delivered and bounced recipients). For more information, see Section 13.2.1 [Report Details](#).

For information about using the interactive report chart, see Section 13.2.1 [Report Details](#). For information on the Show Settings link, see Section 13.2.2 [Report Settings](#).

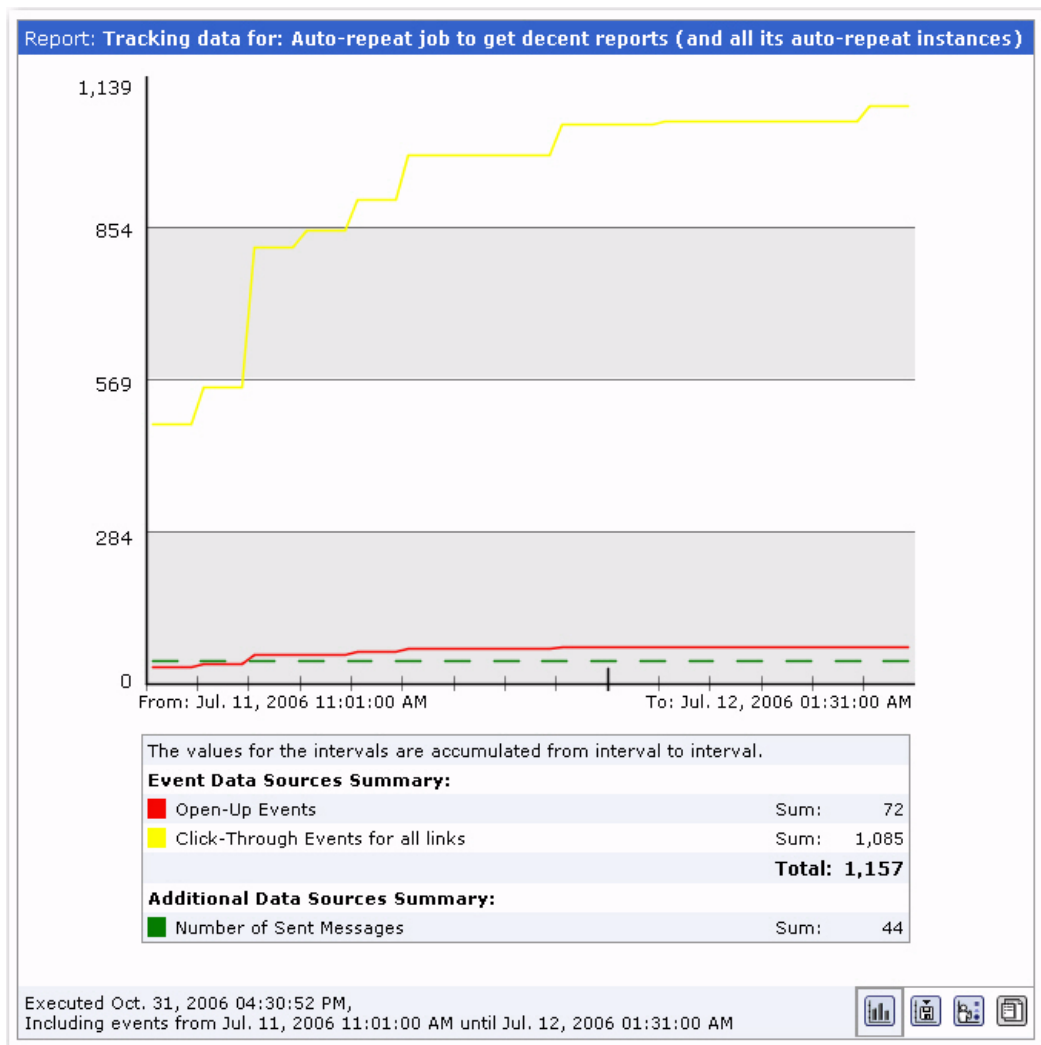
13.7 Event Distribution Report

An Event Distribution report plots the occurrence of events (open-up and/or click-through) over time. A simple line graph shows the number of responses over time. Time is plotted on the x-axis of the chart and can be measured in intervals of hours, days, or weeks. Events are charted on the y-axis and can be measured as the number of events or as a percentage of either the total number of messages sent, or the total number of unbounced messages.

13.7.1 Viewing Event Distribution Reports

The View Report screen of an Event Distribution report displays the collected data in a chart format. The View Report screen of this report type changes to reflect different options set on the Change View Settings for Report screen. Depending on what options are set, events on the y-axis can reflect the total number of events, or a percentage of either the total number of messages sent, or the total number of unbounced messages sent. Events occurring over time can be reflected as a total accumulation; each set of measured events is added to the previous set so the plotted data continuously accumulates until all events stop and a plateau is reached. Alternatively, events occurring over time can be reflected as accrued numbers, plotting the data as a series of peaks and valleys.

Figure 13-18 Events Distributed Over Time Report Variations



13.7.2 Downloading Event Distribution Report Data

It is possible to download the data from an event distribution report by clicking the **Download Report** icon. Data downloaded will be in the form of a zipped text file. Select the time zone that will be used to format the data from the drop-down menu. Click the **[Download]** button to begin downloading the data.



Tip: Click the **download** link to download an Excel Add-In to import the data into Excel. See Section 13.11 [Using the Excel Add-In](#) for more information.

13.7.3 Change Result Settings

The Change View Setting for Report screen allows the user to change specific options and, as a result, change the appearance of the report on the View Report screen and change the data that is downloaded on the Download Report Result screen. Any changes made on the Change Result Settings screen do not change the actual report definition; they are only temporary, allowing the user to see different views and download different data. To change the report permanently, changes need to be entered on the

Result Settings tab on the Define Reports screen, and then the changed report must be saved. See [Editing Reports](#) for more information.

For an Events Distribution report the following options can be selected:

- **Result Calculation** – Defines how the results on the chart are calculated.
 - **Total number of events** – Displays the total number of events counted per time interval. For example, if 123 events were counted for an interval, the resulting line height for that interval would be 123.
 - **Percentage of total number of events** – Displays percentages in relation to the total number of messages sent. For example, if 300 messages were sent, and if, in one interval, 150 events were counted, the line height for that interval would be 50% because 150 is 50% of 300.
 - **Percentage of total number of unbounced messages sent** – Displays percentages in relation to the total number of messages sent that have not bounced (at the time the report is executed). For example, if 300 messages were sent and 50 messages bounced, there would be 250 unbounced messages. And, if in one interval, 150 events were counted, the line height for that interval would be 60% because 150 is 60% of 250.
- **Interval Size** – Events are counted as occurring within a certain amount of time. This amount of time is referred to as an interval. Intervals can be set as hours, days, or weeks.
- **Result Accumulation** – Defines whether the values accumulate from one interval to the next.
 - **No accumulation** – Each interval's events are counted and plotted for only that time period. The resulting line on the chart displays as a series of peaks and valleys.
 - **Accumulate interval values** – Each interval's events are counted and plotted, adding to the previous interval's events until the end of the report period. The resulting line on the chart displays as ever increasing. The incline will become less steep over time until it plateaus into more or less a straight line once recipients no longer trigger events.

Click the **[Execute]** button to change the View Report screen (the appearance of the chart or graph), and change the downloadable data.

13.8 Sum of Events Report

The **Sum of events** option produces a bar graph that shows the number of recipients who clicked on each URL and/or opened up the email message. For each data source, all events of the selected type (click-through and/or open-up) and for the selected links (in the case of click-through), are summed up and displayed in the form of a colored bar.

Two types of sum can be chosen for the report – **Sum of unique events** or **Sum of all events**. **Sum of unique events** plots only a single event of each type for each recipient. This chart will register "0" (zero) events if blind tracking has been selected for the tracking type during the tracking definition because blind tracking cannot count any event as

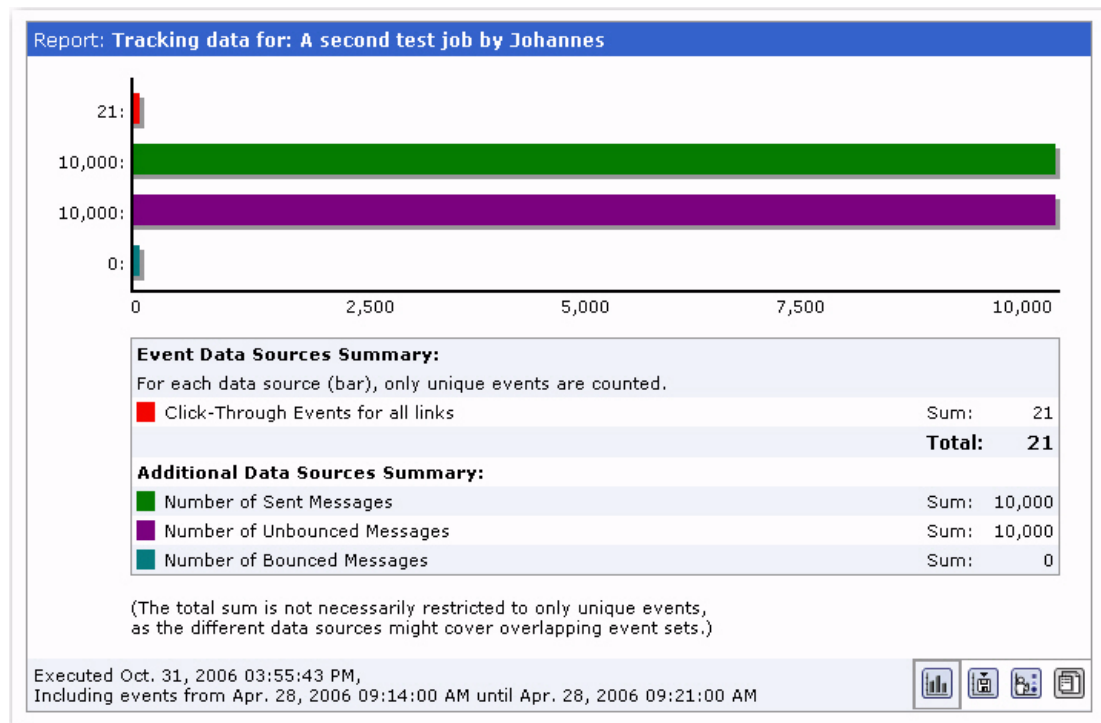
unique. **Sum of all events** counts all events triggered for each recipient and is available for blind tracking.

The **Sum of all events** will give an overall picture of how many events were generated. When compared to the **Sum of unique events**, the report gives an idea of how well the overall number of events was distributed over the individual recipients. It is possible to discern whether many recipients generated relatively few events each, or whether most events were generated by only a few recipients (generating the same events over and over), while many other recipients only generated a few events (or none at all).

13.8.1 Viewing the Sum of Events Report

The View Report screen of a Sum of Events report displays the collected data in a bar graph format. The View Report screen of this report type changes to reflect different options set on the Change View Settings for Report screen. Depending on what options are set, the number of recipients can reflect the total number of all recipients, or a percentage of the number of recipients who triggered an event.

Figure 13-19 Example of the Sum of Events Report



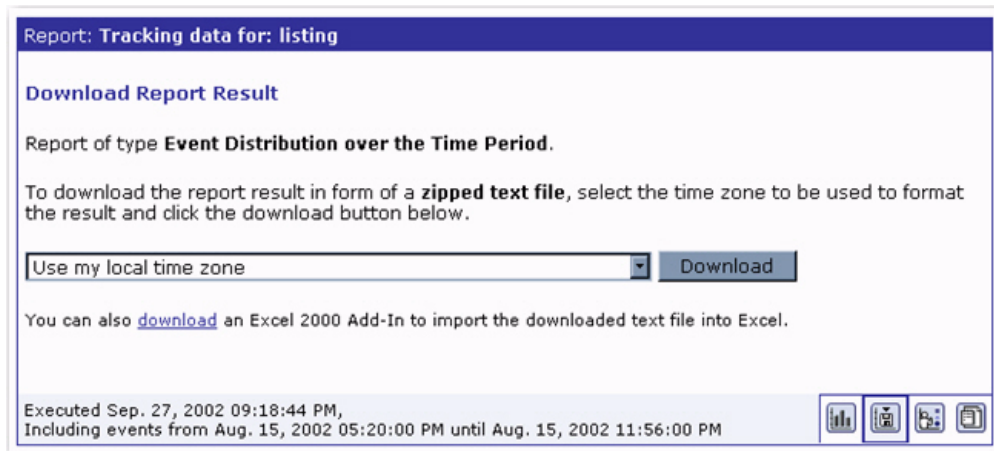
13.8.2 Downloading Sum of Event Report Data

It is possible to download the data from a sum of events report by clicking the **Download Report** icon. Data downloaded will be in the form of a zipped text file. Select the time zone that will be used to format the data from the drop-down menu. Click the **[Download]** button to begin downloading the data.



Tip: Click the [download](#) link to download an Excel Add-In to import the data into Excel. See Section 13.11 [Using the Excel Add-In](#) for more information.

Figure 13-20 Download Sum of Events Data



13.8.3 Change Result Settings

The Change View Settings for Report screen allows the user to change specific options and as a result change the appearance of the report on the View Report screen and change the data that is downloaded on the Download Report Result screen. Any changes made on the Change View Settings for Report screen do not change the actual report definition; they are only temporary, allowing the user to see different views and download different data. To change the report permanently, changes need to be entered on the Result Settings tab on the Define Report screen and then the changed report saved. See [Editing Reports](#) for more information.

For a Sum of Events report, the following options can be selected:

- **Result Calculation** – Defines how the results on chart are calculated.
 - **Total number of events** – Displays the total number of events. For example, if 123 events have been counted, the resulting bar length for will be 123.
 - **Percentage of total number of events** – Displays percentages in relation to the total number of messages sent. For example, if 300 messages were sent, and if, for a data source, 150 events have been counted, then the line length for that data source will be 50% (because 150 is 50% of 300).
 - **Percentage of total number of unbounced messages sent** – Displays percentages in relation to the total number of messages sent that have not been bounced (yet). For example, if 300 messages were sent, and 50 bounced, there would be 250 unbounced messages. And, if 150 events have been counted, then the bar length for that data source will be 60% (because 150 is 60% of 250).
- **Unique or Total Events** – Select whether to count all events that are tracked, or only unique events triggered by recipients.
 - **Count only events unique for each recipient** – For each recipient, only one event of each type is counted. For example, if open-up and click-through events are being tracked and a recipient opened the message twice and

clicked on the same link three times, only two events would be counted. This method of counting is recommended when one of the percentage result calculations is selected.

- **Count all events** – For each recipient, all triggered events are counted. Using the example above, five events would be counted using the **Count all events** option.

Figure 13-21 Change View Settings for Sum of Events Report

Report: **Sum of Events - Count Unique Events**

Change View Settings for Report

Report of type **Sum Over Number of Events during the Time Period.**

To modify the display of the report and the format of the downloaded results, change the settings below and click on the "Execute" button.

Result Calculation:
Defines how the result shown as the length of the bars in the chart is calculated.

Total number of events
 Percentage of total number of messages sent
 Percentage of total number of unbounded messages sent

Unique or Total Events:
Defines if only unique events or if all events are counted.

Count only events unique for each recipient
 Count all events

Execute (Changing the settings above only affect the resulting diagram produced when you click the "Execute" button. To permanently change the report, click on the "Edit Report" icon below.)

Executed Sep. 30, 2002 04:26:07 PM,
Including events from Aug. 15, 2002 12:20:00 PM until Aug. 15, 2002 06:56:00 PM

Click the **[Execute]** button to change the View Report screen (the chart or graph), and change the downloadable data.

13.9 Recipients Details Reports

The Recipient Details option is only used for personal or anonymously tracked jobs because this report type is linked to recipient profile data. This report type displays a multi-frame table that lists each data source and the profile field columns recipient definition. Use the table to select which data sources and which columns will be downloaded. Data can be downloaded and then imported into a statistical software program to generate charts and graphs.



Note: The downloaded file is in form of a ZIP archive file. The report data in this file appears as comma separated data (CSV).

The upper frame displays a **Select** link for each job-group in each data source. Click on the link to make a certain "job-group" the currently selected one.



Note: A job-group puts together all jobs in a data source where the recipients have the same profile structure (i.e. the same number of profile columns with the same column labels). Column order is ignored. This means that if you have several jobs in a data source, and all of the jobs have recipients with the same profile structure, then all of these jobs will be grouped together into one job-group. If, in the same

data source, there are jobs where recipients have a different profile structure, then these jobs will have their own group(s) inside of the data source.

In the lower frame, the currently selected job-group is displayed with the color and name of the data source the job-group belongs to, as well as a list of all jobs in the group.

The **Available Columns** section displays all columns that make up the structure of the profile of the recipients in the selected job-group. In addition, a special purpose column, called **{COUNT}**, is included.

The **Selected Columns** section displays the columns that have been selected for download. You can manipulate this list by clicking on the **Select All** link, which will turn all available columns into selected columns. You can also click the **Edit** link to select only those columns you want to download, as well as the order in which they appear in the file.

From the **File Encoding** drop-down menu, select the encoding to be used for the text file inside of the ZIP archive file. Next, click the **[Download]** button to start the download.

Figure 13-22 Example of the Recipients Details Report

Report: **Tracking data for: Auto-repeat job to get decent reports (and all its auto-repeat instances)**

Download Report Result

Report of type **Details of Recipients that Triggered Events During the Time Period.**

To download the report result in the form of a **zipped text file**, choose from the list below which job(s) from which data source you want to download the profiles and define the column-grouping and ordering you want to use. Next, select the file encoding to be used to format the result and click the Download button.

Data Source: Open-Up Events
[Select:](#) CLICK-060711A - Auto-repeat job to get decent reports

Data Source: Click-Through Events for all links
[Select:](#) CLICK-060711A - Auto-repeat job to get decent reports

Currently selected: From data source "Open-Up Events", the jobs:

- CLICK-060711A - Auto-repeat job to get decent reports

Selected Columns: **EMAIL, FNAME, LNAME, {COUNT}** [Edit](#)
 (The selection defines grouping and ordering.)

Available Columns: EMAIL, FNAME, LNAME, {COUNT} [Select All](#)

File encoding:

Executed Oct. 31, 2006 04:35:09 PM,
 Including events from Jul. 11, 2006 11:01:00 AM until Jul. 12, 2006 01:31:00 AM



Tip: If personal tracking was used and the **EMAIL** column is selected for the report, then the report can be used as the recipient data source for a new job. Click the **Use for new job** link to create a new job with a recipients list where each recipient that triggered one of the events counted by the selected data source would have an entry. This would be the same as if you selected all columns in alphabetical order, except for the **{COUNT}** column, downloaded that report, and then uploaded it as

the recipients list of a newly created job. The link will take you to the Start New Job screen where you will need to type in a title for the new job. After that, a new job with recipients already defined will be created.

When downloaded, the text file in the ZIP archive file will contain a table with the columns that you have selected – in the order you selected them. The rows in this table are generated in the following way:

For each recipient that generated at least one of the events that are counted by the selected data source, one entry is made. Each entry consists of the profile values of this recipient, which are placed into their matching columns. However, only those profile values that match any of the columns you have selected will be used. All columns not selected will be ignored. Because of this, several recipients may now have the same "condensed" profile. This would happen if the only differences in the profile of the recipients were in columns that are not used because they were not selected.

For example, if you use the **EMAIL**, **GENDER**, and **CITY** columns, then each recipient will most likely have a different profile. This is because the combination of **EMAIL**, **GENDER**, and **CITY** will probably be unique for each recipient. However, if you only select the **GENDER** and **CITY** columns to form a "condensed" profile, then, in all likelihood, you will have several recipients with the same profile, namely all those of the same gender that live in the same city.

If, during the creation of the report, several recipients are found to have the same "condensed" profile, this profile will be included in the report table only once. Instead of including the same profile several times, LISTSERV Maestro simply counts how many recipients share the same profile for each unique profile.

In the special purpose column, called **{COUNT}**, each instance of an event for the same profile is recorded. If you include this column, then it will be populated with the number of recipients that were matched to the "condensed" profile defined by the other columns in the same row. Using the **{COUNT}** column allows you to find out interesting demographic statistics such as how many males or females from a certain city have clicked on a certain link.



Note: The rows in the table will be sorted in ascending order on the first column. If there are profiles with the same values in the first column, then they will be sorted after their second column, and so on.

Example

Assume that the full profile has the three columns from above -- **EMAIL**, **GENDER**, and **CITY**. Also assume that if you included all columns plus the **{COUNT}** column, then your report table would look like this:

```
CITY,GENDER,EMAIL,{COUNT}
New York,female,sally@somewhere.com,1
New York,male,john@somewhere.com,1
New York,male,robert@somewhere.com,1
Washington,female,debby@somewhere.com,1
Washington,male,frank@somewhere.com,1
```

This table means that each of these recipients has generated one event of the type being counted by the data source. You can also see the sort order after first, second, and third column.

Now, if you would leave out the **EMAIL** column, the result would be:

CITY,GENDER,{COUNT}

New York,female,1

New York,male,2

Washington,female,1

Washington,male,1

As you can see, John and Robert from New York, which differed only in their email addresses, are now aggregated into the "male from New York" profile, and there are now two events shown as coming from recipients that match this profile, one from John and one from Robert.

If you would also leave out the **GENDER** column, the result would be:

CITY,{COUNT}

New York,3

Washington,2

13.9.1 Downloading Recipients Details Report Data

The Download Report Result screen lets you select the columns you want to include in the download of the Recipient Details report, and the order in which they occur. To select all of the columns, click **Select All**. To reselect the columns, click **Edit**.

The left box shows all available columns that are currently not selected. It will be empty if all are selected. The right box shows the currently selected column(s). It will be empty if none are selected.

To select a column:

- Click on the desired column in the left box to highlight it.
- Click the arrow button to move it into the right box.

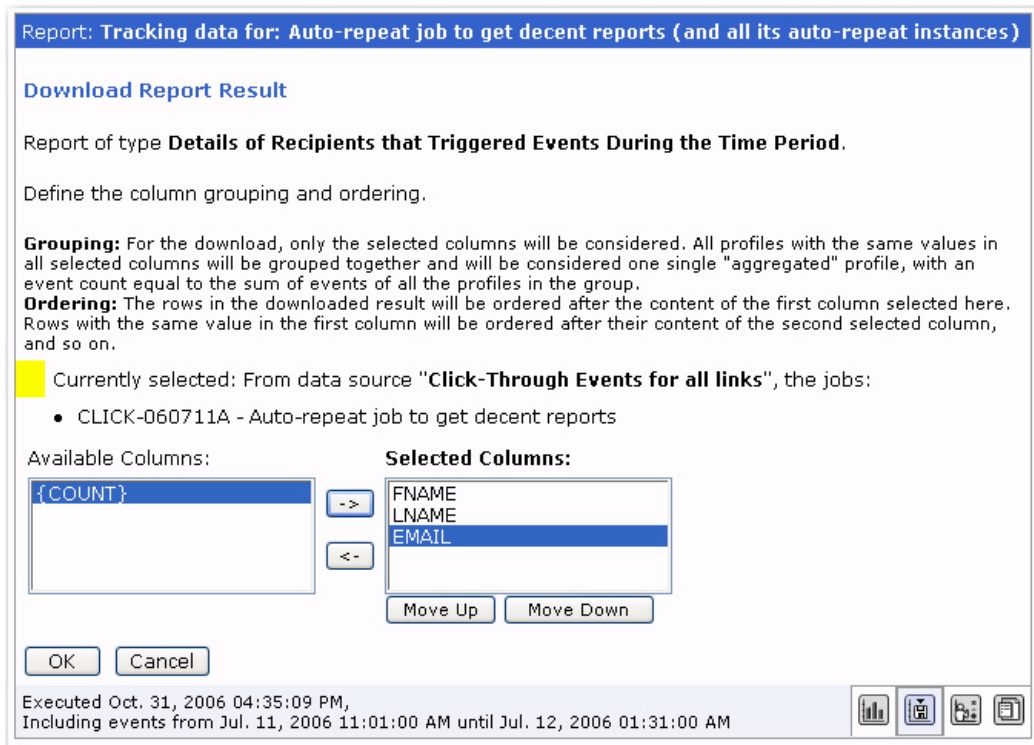
To place the new column in a certain position, select the item in the right box that appears after the position where you want the new item to appear. You can always change the ordering at a later time, see below.

To unselect a column:

- Click on the desired column in the right box to highlight it.
- Click the arrow button to move it back to the left box.

To change the order of the items in the selected list, click on the item you want to move, and then use the **[Move Up]** and **[Move Down]** buttons to move the item.

Figure 13-23 Recipient Details Report Column Selection



Click **[OK]** when you are done or **[Cancel]** to discard your changes.

If you clicked **[OK]**, then the Download Report Result screen will reopen. Choose the file encoding for the download from the drop-down menu. Click the **[Download]** button to begin downloading the data.

13.10 Event Details Report

The Event details report is available for personal, anonymous, unique, and blind tracking jobs. This report type displays a multi-frame table that lists each data source. Use the top frame to select the data source, and the bottom frame to select the time zone and file encoding to be used to format the downloaded data. Data must be downloaded and can be imported into a statistical software program to generate charts and graphs.

Figure 13-24 Sample of the Event Details Report

Report: **Tracking data for: This is a test job by Johannes to illustrate some features**

Download Report Result

Report of type **Raw Information of Events Collected During the Time Period**.

To download the report result in the form of a **zipped text file**, choose from the list below which job(s) from which data source you want to download the events. Next, select the time zone and file encoding to be used to format the result and click the Download button.

Data Source: Click-Through Events for link http://www.lsoft.com
[Select:](#) 060428A - This is a test job by Johannes to illustrate some features

Currently selected: Data source "Click-Through Events for link http://www.lsoft.com" with jobs:

- 060428A - This is a test job by Johannes to illustrate some features

Time zone:

File encoding:

Executed Oct. 31, 2006 03:59:48 PM,
 Including events from Apr. 28, 2006 09:09:00 AM until Apr. 28, 2006 09:10:00 AM

13.10.1 Downloading Events Details Report Data

Select the data source from the top frame by clicking the **Select** link. The currently selected data source will appear in the lower frame. Select the time zone from the top drop-down menu and the file encoding from the bottom drop-down menu. Click the **[Download]** button to download the raw data to a local drive.

The downloaded data CSV file contains comma separated and quoted <"> tabular data with the following columns:

- **EVENT_TIME** – The date and time, to the second, when the event was triggered.
- **RECIPIENT_ID** – ID of the recipient who triggered the event. If the tracking type is Personal, then the RECIPIENT_ID will be the actual ID of the recipient as defined by the account holder in the Tracking wizard.

If the tracking type is Anonymous, this field will contain a 1-based integer number, which is an internal identifier of the anonymous profile that matches the recipient who triggered the event. This number cannot be used to identify an individual recipient who triggered an event, but can be used to determine if two events were triggered by a recipient with the same anonymous profile (the same number will be used). This number is also used internally in the Recipients Details report to download the profiles that triggered certain events.

If the tracking type is Unique, this field will contain a 0-based integer number that was given out to the recipient during sending. This number cannot be used to identify which recipient triggered which event, but it can be used to determine if multiple events were triggered by the same recipient (the same number will be used).

If the tracking type is Blind, the field will always contain the default value “DEF” and cannot be used to find anything out about the recipient.

- **CLIENT_ADDRESS** – The IP address of the recipient who triggered the event. This is only present for personal tracking, and will appear as “0.0.0.0” for all other types of tracking.
- **EVENT_TYPE** – Either **click** (for click-through) or **openup** (for open-up) will appear depending on the type of event.
- **BODY_TYPE** – For **open-up** events, this field will always be empty because only HTML messages can track open-up events. For click-through events, the body part of the message containing the event will be listed. Possible body types are:
 - **Plain** – URL in the body of a plain text message.
 - **Alt** – URL in the text alternative of the HTML message.
 - **HTML** – URL in the HTML body of the message.
 - **XAOL** – URL in the AOL format alternative of the HTML message.
- **URL** – For **open-up** events, this will always be empty. For **click-through** events, the URL that was clicked is listed.
- **ALIAS** – For **open-up** events, this will always be empty. For **click-through** events, the alias of the URL that was clicked is listed. If there is no defined alias, this field will be empty.
- **FULL_JOB_ID** – The full Job ID including the User Prefix of the job that triggered the event.
- **AGENT** – The user agent string transmitted by the client software of the recipient who triggered the event. This identifies the browser software that was used to click on the link.

13.11 Using the Excel Add-In

The statistics downloaded from LISTSERV Maestro are in CSV format. The data from the Event Distribution and Sum of Events reports can easily be imported into Microsoft® Excel in order to create tables, graphs, and other forms of reports. LISTSERV Maestro comes with an easy to use Excel Add-In that makes this import process a matter of a few clicks.

13.11.1 Downloading the LISTSERV Maestro Excel Add-In

The add-in must be installed into Excel before it can be used. This step is done only once on each workstation, before the add-in is used for the first time. If there is an existing

version of the add-in file from an earlier build of LISTSERV Maestro, it must be removed from the local machine and the newest version installed. Please see the Section 13.11.4 [Removing an Existing Version of the Add-In](#) for instructions on how to proceed.

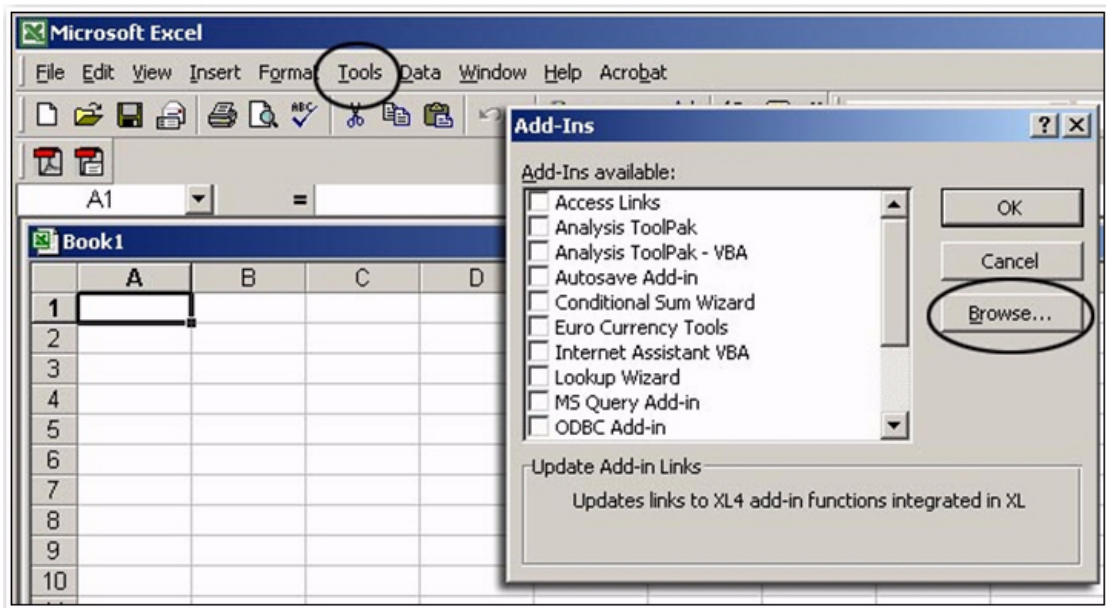
From any Event Distribution report or Sum of Events report, click the **Download Report** icon. This will open the Download Report Result screen. Next, click the **download** link located under the time zone drop-down menu. The Microsoft Excel Add-In for Tracking Statistics Import screen opens. Click on the **ImportTrackerStatistics.xla** link to download the add-in file.

13.11.2 Installing the LISTSERV Maestro Add-In into Excel

Follow the steps described below to install the add-in into Microsoft Excel 2000 or later:

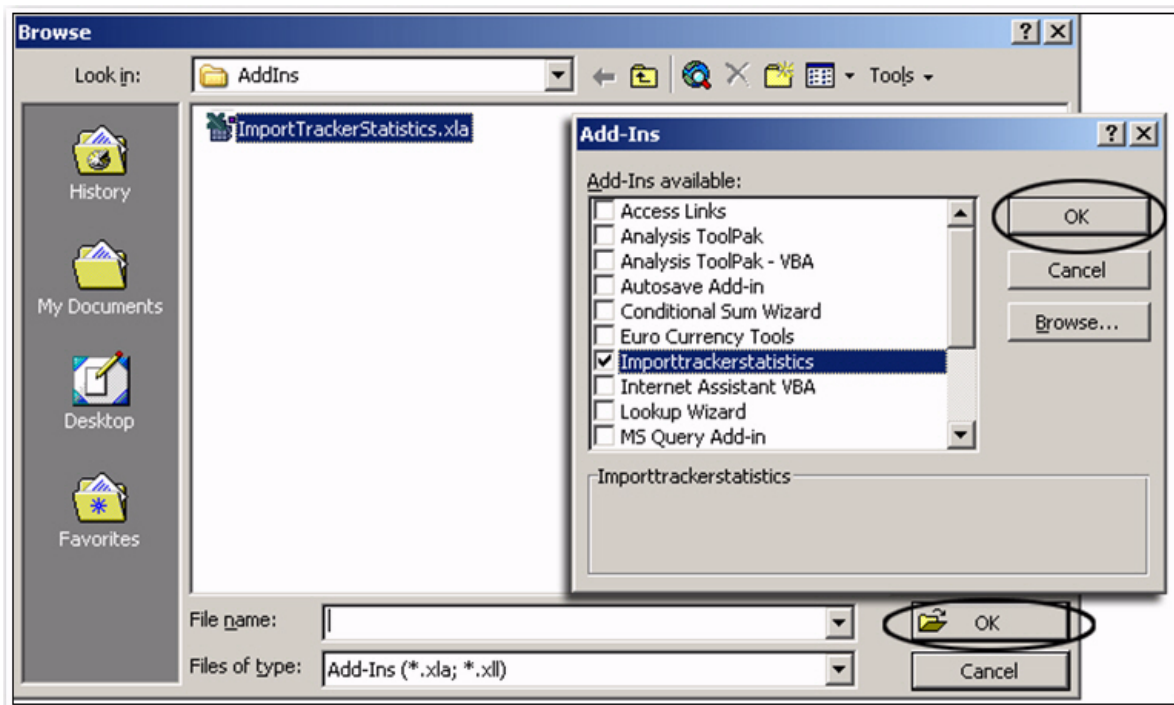
1. Open Microsoft Excel.
2. From the **T**ools menu, select **Add-Ins** (It may be necessary to click on the small arrow symbol at the bottom of the menu to make the command visible.) The Add-Ins screen opens, listing all available add-ins. Click the **[Browse...]** button.

Figure 13-25 Installing Tracker Add-In



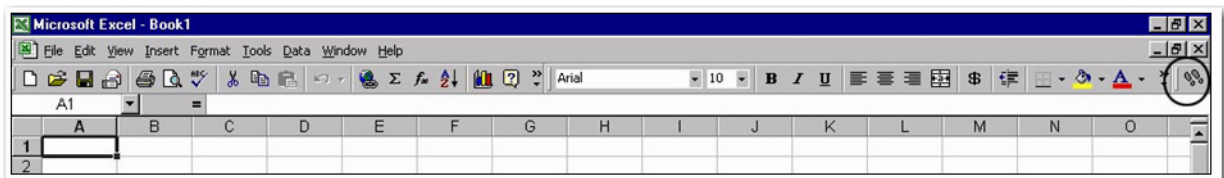
3. A file selection screen opens. Navigate to the folder where the downloaded file was saved, and then click **[OK]**.
4. The Add-Ins screen reopens. There will now be an entry for the LISTSERV Maestro add-in, **Importtrackerstatistics**, which should already have a check mark in front of it (if not, check the box). Click **[OK]** to install the add-in.

Figure 13-26 Browse for Add-In File



A new toolbar icon that looks like two footprints will appear in the Excel toolbar. This icon will start the LISTSERV Maestro data import.

Figure 13-27 New Excel Tool Bar Button



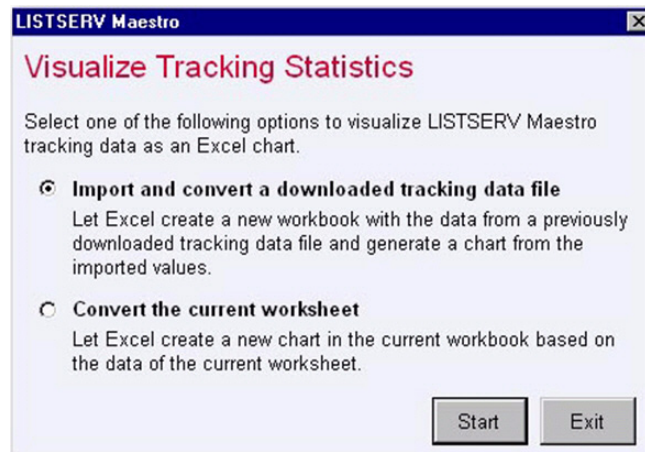
13.11.3 Using the LISTSERV Maestro Excel Add-In

Download the data to be imported into Excel. The data is downloaded in a compressed ZIP file. Open the ZIP file. There are at least two files contained inside, a `readme.txt` file, another file named for the type of data downloaded, and, optionally, the `additionalStatistics.txt` file. Extract the `*.txt` files and save them on a local drive.

The `readme.txt` file contains a summary of the report type and other information. The `additionalStatistics.txt` file contains any additional statistics (i.e. the number of emails sent or the number of bounces) that were requested in the report. The main data file, named for the type of data downloaded (i.e. `distributionReport.txt` or `uniqueSumReport.txt`) contains the data that will be imported into Excel. Start Excel and click on the **Visualize Tracking Statistics** icon in the toolbar (two small footprints).

The Visualizing Tracker Statistics screen opens. Select the **Import and convert a downloaded tracking data file** option to create a new workbook and generate a chart based on the downloaded tracking data.

Figure 13-28 Using Tracker Add-In with Excel Import



Click the **[Start]** button. A file selection screen will open. Navigate to the *.txt file with the tracking data previously downloaded and open this file. Excel will automatically open a new workbook. Once the workbook has been created successfully, save it using the Save Statistic File screen. After the file had been saved, a message will appear saying the data has been successfully imported and saved as an Excel Workbook. Click **[OK]** to close the message.

The new workbook has two sheets – the first sheet shows the imported tracking data in chart form, and the second sheet contains a table with the downloaded tracking data.

Figure 13-29 Example Excel Graph Event Distribution Over Time

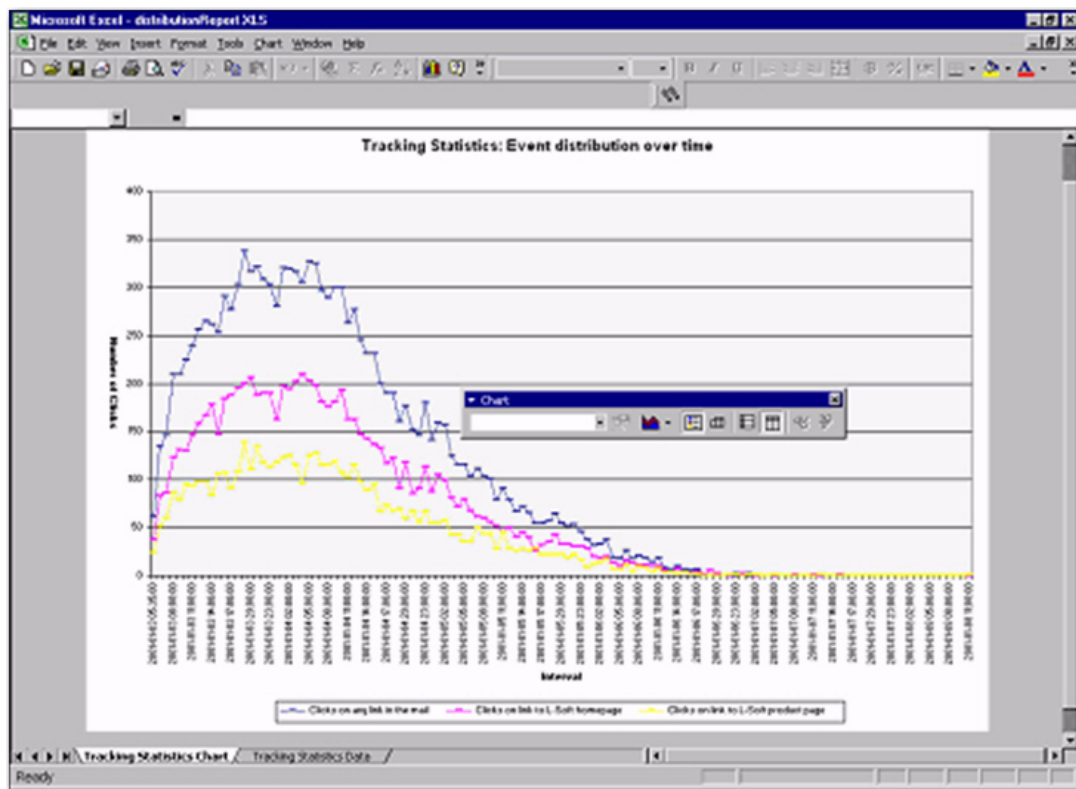


Figure 13-30 Example Excel Data Table

	A	B	C	D	E
1	From	To	Clicks on any link in the mail	Clicks on link to L-Soft homepage	Clicks on link to L-Soft product page
991	2001-01-07 05:30:00	2001-01-07 05:59:00	1	0	1
992	2001-01-07 06:30:00	2001-01-07 06:59:00	0	0	0
993	2001-01-07 07:30:00	2001-01-07 07:59:00	0	0	0
994	2001-01-07 08:30:00	2001-01-07 08:59:00	1	1	0
995	2001-01-07 09:30:00	2001-01-07 09:59:00	0	0	0
996	2001-01-07 10:30:00	2001-01-07 10:59:00	0	0	0
997	2001-01-07 11:30:00	2001-01-07 11:59:00	1	1	1
998	2001-01-07 12:30:00	2001-01-07 12:59:00	0	0	0
999	2001-01-07 13:30:00	2001-01-07 13:59:00	0	0	0
1000	2001-01-07 14:30:00	2001-01-07 14:59:00	0	0	0
1001	2001-01-07 15:30:00	2001-01-07 15:59:00	1	1	0
1002	2001-01-07 16:30:00	2001-01-07 16:59:00	0	0	0
1003	2001-01-07 17:30:00	2001-01-07 17:59:00	0	0	0
1004	2001-01-07 18:30:00	2001-01-07 18:59:00	0	0	0
1005	2001-01-07 19:30:00	2001-01-07 19:59:00	0	0	0
1006	2001-01-07 20:30:00	2001-01-07 20:59:00	0	0	0
1007	2001-01-07 21:30:00	2001-01-07 21:59:00	0	0	0
1008	2001-01-07 22:30:00	2001-01-07 22:59:00	0	0	0
1009	2001-01-07 23:30:00	2001-01-07 23:59:00	0	0	0
1010	2001-01-08 00:30:00	2001-01-08 00:59:00	0	0	0
1011	2001-01-08 01:30:00	2001-01-08 01:59:00	0	0	0
1012	2001-01-08 02:30:00	2001-01-08 02:59:00	0	0	0
1013	2001-01-08 03:30:00	2001-01-08 03:59:00	0	0	0
1014	2001-01-08 04:30:00	2001-01-08 04:59:00	0	0	0
1015	2001-01-08 05:30:00	2001-01-08 05:59:00	0	0	0
1016	2001-01-08 06:30:00	2001-01-08 06:59:00	0	0	0
1017	2001-01-08 07:30:00	2001-01-08 07:59:00	0	0	0
1018	2001-01-08 08:30:00	2001-01-08 08:59:00	0	0	0
1019	2001-01-08 09:30:00	2001-01-08 09:59:00	0	0	0
1020	2001-01-08 10:30:00	2001-01-08 10:59:00	0	0	0
1021	2001-01-08 11:30:00	2001-01-08 11:59:00	0	0	0
1022	2001-01-08 12:30:00	2001-01-08 12:59:00	0	0	0
1023	2001-01-08 13:30:00	2001-01-08 13:59:00	0	0	0
1024	2001-01-08 14:30:00	2001-01-08 14:59:00	0	0	0
1025	2001-01-08 15:30:00	2001-01-08 15:59:00	0	0	0
1026	2001-01-08 16:30:00	2001-01-08 16:59:00	0	0	0
1027	2001-01-08 17:30:00	2001-01-08 17:59:00	0	0	0
1028	2001-01-08 18:30:00	2001-01-08 18:59:00	1	0	1
1029			1,001	811	504

It is now possible to use all the regular Excel features to edit and adjust both the graph and the data table.

Select the **Convert the current worksheet** option on the main add-in menu to create a new chart in the current workbook based on the data of the current worksheet.

13.11.4 Removing an Existing Version of the Add-In

If there is an existing `ImportTrackerStatistics.xla` file from an earlier version of LISTSERV Maestro installed on the local machine, it may not work with downloaded report data from the newest version of LISTSERV Maestro. The old add-in file must be removed from Excel and a new one must be installed. Follow the steps below to remove an old `ImportTrackerStatistics.xla` file from Excel and install the latest version.

1. Open Excel. If there is an existing version of the add-in, then an icon with little feet will appear in a toolbar.
2. Click **Tools > Add-Ins...** > Uncheck the `Importtrackerstatisticsa` add-in from the list, and then click **[OK]**.
3. Click **View > Toolbars** > Uncheck **Tracker-Statistics** (the little feet icon should disappear).
4. Click **View > Customize...** > **Toolbars** tab > select the **Tracker-Statistics** listing from the menu (do not check the box) > Click **[Delete]**.
5. Close Excel.
6. Log in to LISTSERV Maestro.
7. Create a quick report, Event Distribution report, or Sum of Events report.

8. Click the **Download Report** icon.
9. Click the **download** link to download the Excel Add-In.
10. Right-click the **ImportTrackerStatistics.xla** link.
11. Select **Save Target As** from the menu.
12. Save the file on a local drive. (If there is an existing version of this file in the same location the new file is being saved in, a query will ask to replace the existing file. Click **[Yes]**.)
13. Open Excel.
14. Click **T**ools > **A**dd-**I**ns... > click **[B**rowse...]
15. Browse for the `ImportTrackerStatistics.xla` file that was downloaded, and select it.
16. If there is an existing version, a query will ask to replace the existing file. Click **[Yes]**. (The little feet icon should re-appear on the toolbar.)
17. Click the little feet icon, click **[S**tart], and follow the directions from there.



Important: If the new version of the `ImportTrackerStatistics.xla` file is downloaded and saved in a different location than the old version, the existing file will not be replaced after answering **[Yes]** to the query. The old file may remain associated with Excel even when the new version is selected under **T**ools > **A**dd-**I**ns... > **B**rowse... If this is the case, an error message will appear saying the file already exists and it is not possible to have two versions of the same file. To correct this situation, search for all versions of the `ImportTrackerStatistics.xla` file on your local drive and delete them. Then follow all the steps above.

Section 14 The Recipient Warehouse

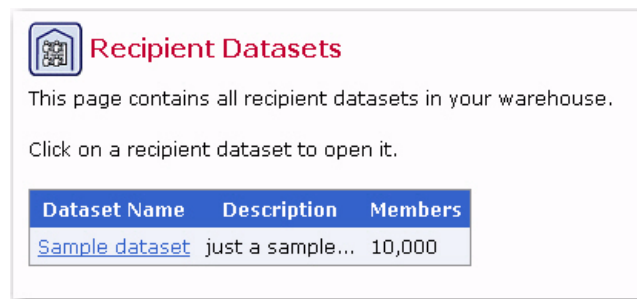
The Recipient Warehouse is LISTSERV Maestro's name for the method of creating, storing, and retrieving data within the system. Every group or single user account has its own Recipient Warehouse that is the repository for recipient datasets, lookup tables, and recipient target groups. Administering the Recipient Warehouse is only available to the data administrator or to those accounts with this permission (granted by the data administrator).

If your account has the data administrator rights, see Section 4 The Recipient Warehouse of the Data Administrator's Manual for more information on this feature.

14.1 Recipient Datasets

If your account has been granted access to certain functions with regard to an existing dataset, then the **Datasets** option on the **Recipient Warehouse** menu is active. (For more information on the **Dataset** menu, see Section 2.1 [The Toolbar](#).) By clicking this option, you will open the Recipient Dataset screen.

Figure 14-1 The Recipient Datasets Screen



To open a dataset, click on its name.

The options available for the dataset vary, depending on the permissions granted to your account. These permissions include:

- **Customize Subscriber Pages** – If this permission is granted for your account, then you will be able to customize any subscriber pages associated with the dataset and its hosted lists. This means that, from the Recipient Dataset Details screen, you will be able to access the Membership Area Layout tab and the **Subscriber Access URLs** option will be active on the **Dataset** menu.

For more information of customizing subscriber pages, see the Interface Customization Manual. For more information on the **Subscriber Access URLs** option, see Section 11 Giving Subscribers Access to URLs in the Data Administrator's Manual.

- **Add/Remove Subscribers** – If this permission is granted for your account, then you will be able to add new member to the dataset or new subscribers to the hosted lists within the dataset. You'll also be able to remove members or subscribers from the dataset or its lists.

For more information on adding or removing members of a dataset or subscribers of a hosted list, see Section 9 Adding and Maintaining Dataset Members and List Subscribers in the Data Administrator's Manual.

- **Modify Subscribers** – If this permission is granted for your account, then you will be able to modify any existing member of the dataset or any existing subscriber of the hosted lists within the dataset.

For more information on modifying existing members of a dataset or subscribers of a hosted list, see Section 9 Adding and Maintaining Dataset Members and List Subscribers in the Data Administrator's Manual.

- **Browse Subscribers** – If this permission is granted for your account, then you will be able to browse and view the list of current members of the dataset or the list of current subscribers of the hosted lists within the dataset.

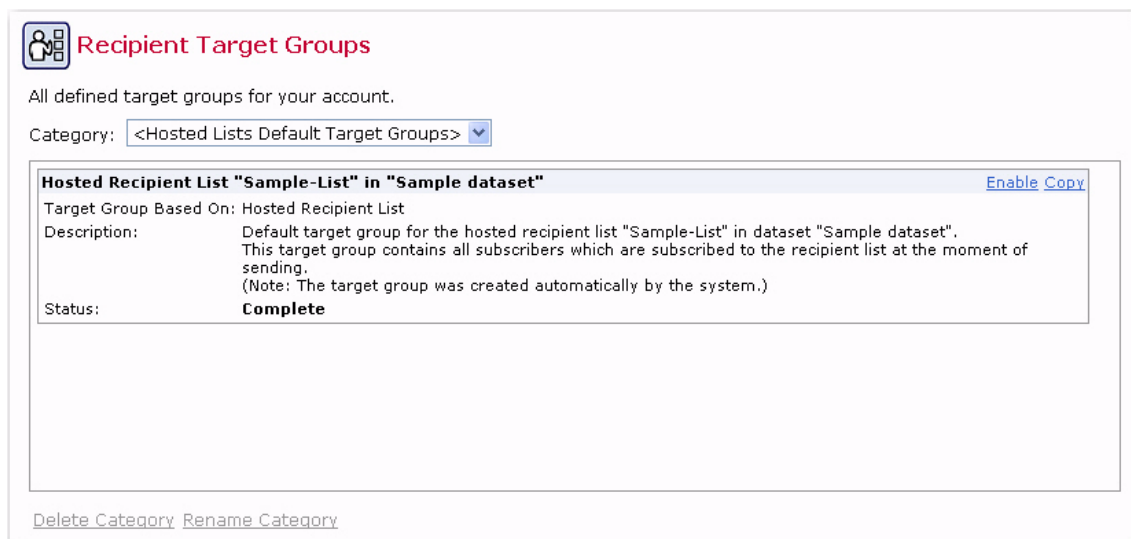
For more information on browsing and viewing existing members of a dataset or subscribers of a hosted list, see Section 9 Adding and Maintaining Dataset Members and List Subscribers in the Data Administrator's Manual.

For more information on working with datasets, see Section 4.1 Recipient Datasets of the Data Administrator's Manual.

14.2 Recipient Target Groups

If your account has been granted the right to create target groups, then the **Target Groups** option on the **Recipient Warehouse** menu is active. By clicking this option, you will open the Recipient Target Groups screen. This screen lists all of the defined target groups (if any) and provides a wizard to create new target groups.

Figure 14-2 The Recipient Target Groups Screen



Recipient target groups are created to simplify and streamline the use of data sources (including databases, uploaded text files, and email lists) for selecting recipients and recipient data. With recipient target groups, regular account holders do not need to know

anything about how or where data is stored, they simply choose which recipient target group to use while defining the recipients for a job.

There are many advantages to using recipient target groups:

- Using recipient data stored in a database can save time and system resources.
- The database can be continually updated until the time the job is sent, ensuring that the most current data is used for the job.
- Recipient target groups are shared among group members and can be reused for multiple jobs.
- Parameters can be inserted into recipient target groups so that regular account holders have some control over what recipients are retrieved for each job. Using parameters reduces the number of individual queries that need to be written for jobs.
- The data administrator does not need to be involved with any other parts of 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.

For more information on creating recipient target groups, see Section 12.1 Creating Recipient Target Groups in the Data Administrator's Manual.

Section 15 Utilities

The **Utilities** menu on the Toolbar allows individual users to save and change their advanced user settings specific to their account. The following options are available:

- **Sender Profiles** – This option is only available if the system administrator has given the user permission to define sender profiles. Sender profiles are shared among all members of a group. A group member does not need permission to create new sender profiles in order to use existing profiles.
- **Drop-In Content Elements** – This option is only available if the system administrator has given the user permission to create new drop-in content elements. Drop-ins are shared among all members of a group. A group member does not need permission to create new drop-ins in order to use any existing drop-ins.
- **Change Password** – This option is only available if the system administrator has given the user permission to change his or her password.
- **Print** – This option will print the current page.

15.1 Managing Sender Profiles

To open the Manage Sender Profiles screen, click on the **Utility > Sender Profiles**. This screen displays a list of all saved profiles.

Figure 15-1 The Manage Sender Profiles Screen

Profile Title	Date/Time saved
Manager	Sep. 11, 2006
Sample	Sep. 11, 2006
Test	Sep. 11, 2006

To add a new profile to the list, click on **Utility > New Sender Profile**. To edit an existing profile, click on the title of the profile you want to edit.

Fill in the following fields:

- **Profile Title** – Enter a title that will identify the profile when it appears on the saved profiles list.
- **Email Address** – Enter the email address of the sender of the message.
- **Sender Name** – This is an optional field; but, if it is filled in, then the sender’s name will appear in the “from” field of the email message. If the sender name is left blank, then the “from” field will be filled in with the email address.

- **Reply-To Address** – This is an optional field. Include an email address if replies are an option for recipients and if the reply-to address is different from the sender's email address.
- **Bounce Handling** – Select **Handle bounced messages automatically** to have LISTSERV handle bounced messages, or select **Send bounced messages to** and enter an email address in the text box. This email address will be the address where all bounced messages are sent.

To enable advanced sender information, click the [Click to enable](#) link. The **Advanced Sender Information Settings** section lets you define additional user defined mail headers following the X-Header convention as described in RFC822.

Enter the header name (including the leading "X-", which is mandatory) into the **X-Header-Name** column and the text for that header into the **X-Header-Text** column. The additional headers will be added to the end of the header part of the email, just before the actual message content. They will be added in the order you enter them.

Rows where both the name and the text columns are empty are ignored; therefore, to remove a certain header, simply click the [Clear Row](#) link. If you need more rows, click the **Add Row** link.

Figure 15-2 The Edit Sender Profile Screen with Advanced Sender Information Settings

Edit Sender Profile

Profile Title:

E-mail Address:

Sender Name: (optional)

Reply-To Address: (optional)

Bounce Handling:

Handle bounced messages automatically

Send bounced messages to:

Advanced Sender Information Settings

You may define additional "X-Headers" here. They will be added to the mail headers of the message during delivery.

	X-Header-Name	X-Header-Text
Clear Row	<input type="text"/>	<input type="text"/>
Clear Row	<input type="text"/>	<input type="text"/>
Clear Row	<input type="text"/>	<input type="text"/>

Advanced sender information settings are enabled. [Click to disable.](#)

DomainKeys settings are disabled. [Click to enable.](#)

To enable DomainKeys Signatures, click the [Click to enable](#) link. The DomainKeys Settings section lets you define whether or not the delivered message will be signed and augmented with an additional DomainKey-Signature header.

To enable, click **Yes, sign message**.

To disable, click **No, don't sign message**.

Figure 15-3 The Edit Sender Profile Screen with DomainKeys Settings

Click **[OK]** to save the profile, click **[Cancel]** to return to the Manage Sender Profiles screen without saving the profile, or click **[Delete]** to delete the profile.

Sender profiles can also be created and saved from the Edit Sender Information screen available from the Workflow or Summary Diagrams.

15.1.1 Using Merge Fields

The first three input fields – **Email Address**, **Sender Name**, and **Reply-To Address** are supplied with static values (the **Sender Name** and **Reply-To Address** fields are optional). These static values are then used as the sender address, sender name, and reply-to address of the email jobs. The resulting jobs have the same sender information and reply-to address for all recipients.

As an advanced feature, you can provide each recipient with personalized values by entering any text containing one or several merge fields into the corresponding field.

The only merge fields that are available for use in the **Email Address**, **Sender Name**, and **Reply-To Address** fields must come from the merge fields provided by the recipients of the job. These fields may be used to personalize the sender information and reply-to address. The merge field names must be entered in exactly the same format as when they are used as merge fields in the content. This format begins with an ampersand "&", is followed by the exact name of the field, and ends with a semi-colon";".

Example 1

If, in your recipient data, you have a merge field called "SENDER_ADDRESS" that contains the individual sender address to be used for each recipient, then you would fill out the **Email Address** field with the following text: "&SENDER_ADDRESS;"

Example 2

If, in your recipient data, you have a merge field called "DEPARTMENT" that contains the name of the department the recipient belongs to, and you have created management email accounts of the form "manager_DEPARTMENT@company.com" for your departments (where "DEPARTMENT" stands for the department's name), and you want all replies from recipients to go to the manager address of the department the recipient belongs to, then you would fill out the **Reply-To Address** field with the following text: "manager_&DEPARTMENT;@company.com"



Important: It is critically important that the sender and reply-to addresses resolve into authentic Internet email addresses when the merge fields have been replaced with corresponding data. Failing to provide a valid working Internet email address violates the law in certain countries. It will also disable the reply functionality of the email, hurting the reputation of the sender². The user must verify that merged addresses are valid; LISTSERV Maestro cannot accomplish this.

See Section 6.6 [Merge Fields and Conditional Blocks](#) for more information on using merged fields. See the online help for examples of using this feature to personalize sender information.

15.2 Creating and Managing Drop-In Content Elements

To open the Manage Drop-In Content Elements screen, click on **Utility > Drop-Ins**.

Figure 15-4 The Manage Drop-In Content Elements Screen

Name	Description	Date/Time saved
Sample	sample element	Sep. 11, 2006
Test	Test Drop-In Content Element	Sep. 11, 2006

To create a new drop-in content element, click on **Utility > New Drop-In Content**.



Note: For more information about the nature of drop-in content, see Section 6.1 [Drop-In Content](#) or the online help.

From the Edit Drop-In Content Element screen, select the type of drop-in from the drop-down menu. The Edit Drop-In Content Element screen will refresh and display the options associated with the drop-in type you selected.

Four types of drop-in content elements can be created:

- **Text** – Text elements can be **Plain Text** or **HTML Text**. Plain text elements are best suited for plain text or alternative text messages. HTML text drop-ins contain HTML tags to format the text such as
 for a line break and for bold. Plain text can

2. See Appendix G: [Tips for Creating a Successful Email Marketing Campaign](#) for more tips on preserving your organization's reputation.

be inserted into an HTML message, but formatting such as line breaks will not necessarily appear as expected. HTML text containing tags is not compatible with a plain text message because the tags will be seen in the message and will not format the text.

Select either **Plan Text** or **HTML Test** for the formatting of the drop-in. Plain Text does not support the use of HTML Tags but HTML Text does. Drop-in content for plain text messages should be rendered using the **Plain Text** option and drop-in content for HTML should be rendered using the **HTML Text** option. For HTML messages with alternative text, create two separate drop-ins, one in each format, and use each in its appropriate message part.

Click the **Test Drop-In** link to open a new browser window in order to test the formatting of the drop-in.

Click **[OK]** to save the new drop-in content element. Click **[Cancel]** to discard any changes and return to the Manage Drop-In Content Elements screen. Click **[Delete]** to delete the drop-in.

Figure 15-5 Edit Drop-In Content Element – Text

- **File** – The content of this type of drop-in element is loaded from a text file that is accessed by a file name defined here. The file itself must be accessible from the server and not a local file on a workstation computer. See the LISTSERV Maestro Administrators Guide or the system administrator for more information.

Figure 15-6 Edit Drop-In Content Element – File

Edit Drop-In Content Element

Name:

Description:

Type:

The drop-in contains: Plain Text HTML Text

Any nested drop-ins are enclosed in: and

File Name:

File Encoding:

[Test File Name](#)

Note: The given file name and path must be a valid path on the server running LISTSERV Maestro.

In the **Name** field, enter a name that will serve as the placeholder in the message. Next, select either **Plain Text** or **HTML Text** for the format of the drop-in. In the **File Name** field, enter the path and file name. Finally, click the **File Encoding** drop-down menu and select the type of file encoding. Click the **Test File Name** link to test the new file name.

Click **[OK]** to save the new drop-in content element. Click **[Cancel]** to discard any changes and return to the Manage Drop-In Content Elements screen. Click **[Delete]** to delete the drop-in.

- **URL** – The content of this type of drop-in element is loaded from a text file accessed by an `http://` or `ftp://` URL defined here. The URL must be accessible from the server and have an `http://`, `https://`, or `ftp://` protocol. See the LISTSERV Maestro Administrators Guide or the system administrator for more information.

Figure 15-7 Edit Drop-In Content Element – URL

Edit Drop-In Content Element

Name:

Description:

Type:

The drop-in contains: Plain Text HTML Text

Any nested drop-ins are enclosed in: and

URL:

File Encoding:

[Test URL](#)

Note: The given URL must be a valid "http://", "https://" or "ftp://" URL that is accessible from the **server** running LISTSERV Maestro.
If a username and password is required, include it in the URL:
"ftp://myhost.domain.com" becomes "ftp://username:password@myhost.domain.com".

In the **Name** field, enter a name that will serve as the placeholder in the message. Next, select either **Plain Text** or **HTML Text** for the format of the drop-in. In the **URL** field, enter the URL. Finally, click the **File Encoding** drop-down menu and select the type of file encoding.

Click the **Test URL** link to test the new URL.

Click **[OK]** to save the new drop-in content element. Click **[Cancel]** to discard any changes and return to the Manage Drop-In Content Elements screen. Click **[Delete]** to delete the drop-in.

- **Database** – The content of this type of drop-in element is queried from a database. The database connection settings and the SQL statement are defined here. See the LISTSERV Maestro Administrator's Guide or the system administrator for more information.

In the **Name** field, enter a name that will serve as the placeholder in the message. Next, select either **Plain Text** or **HTML Text** for the format of the drop-in. Click the **Database Plugin** drop-down menu and select the database plugin. Finally, in the **SQL Statement** field, enter a SQL statement.

Click the **Test SQL Statement** link to test the new SQL statement.

Click **[OK]** to save the new drop-in content element. Click **[Cancel]** to discard any changes and return to the Manage Drop-In Content Elements screen. Click **[Delete]** to delete the drop-in.

Figure 15-8 Edit Drop-In Content Element – Database

Edit Drop-In Content Element

Name:

Description:

Type:

The drop-in contains: Plain Text HTML Text

Any nested drop-ins are enclosed in: and

Database Plugin:

SQL Statement:

[Test SQL Statement](#)

OK Cancel Delete

15.2.1 System Drop-Ins

System drop-ins are special drop-in content elements that are named and controlled by LISTSERV Maestro. Some system drop-ins are only available for mailing lists that derive their recipients from data hosted by LISTSERV Maestro. They make it possible to include login and unsubscribe links to specific lists in the message as well as the use of other recipient data to create personalized messages.

The names of system drop-ins start with an asterisk “*”. System drop-ins need to be enclosed in the drop-in opening and closing tags just like normal drop-ins, and drop-in usage needs to be enabled for the mail content; otherwise, the system drop-ins will be ignored and will not be replaced.

15.2.1.1 Login URL

The login URL system drop-in is named *LoginURL. This name is case-sensitive and requires this exact spelling as well as the correct drop-in enclosing tags, for example “{{*LoginURL}}”.

This system drop-in is replaced with a URL that points to the login page for the member area of the hosted list that is used in the job’s recipient list. The URL will have a format similar to this:

```
http://YOUR.SERVER/list/login.html?...
```

This system drop-in is only usable if the recipient type of the mail job is based on a hosted list, which could include any of the following:

- Recipients type of **target group**, with a target group of **Based on Hosted Recipient List**.

- Recipients type of **target group**, with a target group of **Based on Classic LISTSERV list**, where the LISTSERV list it is based on is a hosted LISTSERV list in LISTSERV Maestro.
- Recipients type of **LISTSERV list**, where the list is a hosted LISTSERV list in LISTSERV Maestro.

15.2.1.2 Unsubscribe URL

The unsubscribe URL system drop-in is named `*UnsubscribeURL`. This name is case-sensitive and requires this exact spelling as well as the correct drop-in enclosing tags, for example `{{*UnsubscribeURL}}`. This system drop-in is replaced with a URL that points to an unsubscribe page for the member area of the hosted list that is used in the job's recipient list. The URL will have a format similar to this:

```
http://YOUR.SERVER/list/unsubscribe.html?...
```

This system drop-in is only usable if the recipient type of the mail job is based on a hosted list, which could include any of the following:

- Recipients type of **target group**, with a target group of **Based on Hosted Recipient List**.
- Recipients type of **target group**, with a target group of **Based on Classic LISTSERV list**, where the LISTSERV list it is based on is a hosted LISTSERV list in LISTSERV Maestro.
- Recipients type as **LISTSERV list**, where the list is a hosted LISTSERV list in LISTSERV Maestro.

15.2.1.3 Multiple Selection Fields

Normally, multiple selection fields cannot be used for mail-merging. Mail merging is only compatible with fields that have a single value. Any field that was defined to allow subscribers to select more than one choice is classified as a multiple selection field. To work around this situation, a system drop-in has been introduced to allow merging the information from a multiple selection field into the text of a message. This system drop-in is only usable if the recipient type of the mail job is a target group with the **Based on Hosted Recipient List** type.

There are three different versions of this drop-in, which provides access to the multiple fields in different ways.

- **Multiple Selection Field Count** – The name of this version of the drop-in is a directive with the following syntax:

```
*Multi FIELD_NAME count
```

Replace "FIELD_NAME" with the name of the multiple selection field being used as the merge field. For example, a multiple selection field with the name "hobbies" would appear as `{{*Multi hobbies count}}`.

The directive is case-sensitive and requires this exact syntax and the correct drop-in enclosing tags. It will be replaced by the number of selections that each subscriber has made from the available choices of the profile field with the name "FIELD_NAME". If a subscriber has selected 3 different items from the list, the number "3" will be dropped in the message body.

- **Multiple Selection Field Enumerated** – The name of this version of the drop-in is a directive with the following syntax:

*Multi *FIELD_NAME* separated by "*SEPARATOR*"

Replace "*FIELD_NAME*" with the name of the multiple selection field being used as the merge field. Replace "*SEPARATOR*" with any string (which must be enclosed in quotation marks). This string will be used to separate the enumerated values if more than one choice has been made by the subscriber. For example, if a subscriber selected "surfing", "poker", and "reading" from a selection list field named "hobbies" and a comma is the desired separator character in the mail text, the drop-in would appear as "{{*Multi hobbies separated by ','}}" and the text "surfing, poker, reading" will be dropped in the message body.

Additional optional parameters are available for this type of system drop-in. They include:

- **default** "*CUSTOMIZED_DEFAULT*" – If a subscriber does not have any of the choices from the multiple selection list selected, the drop-in would normally be replaced with an empty string. By setting a customized default parameter, all subscribers that do not have any selections will have the text inside the quotation marks dropped into the message. For example, a subscriber who did not select any hobbies from the multiple selection list "hobbies" could have the word "other" dropped into the message text. The drop-in would appear as "{{*Multi hobbies separated by ',' default 'other'}}".

If quotation marks are used in the replacement string, then they must be escaped by using them twice in succession.

- **more** "*CUSTOMIZED_ELLIPSIS*" – If a subscriber's selections from the list are longer than approximately 800 characters, the enumeration will break off and will be finished with an ellipsis "...". By setting the customized ellipsis parameter, any text string may be added to the enumeration field, replacing the standard "...". In addition, the number of items left off the list can be added by using "#*COUNT*" anywhere in the string. For example, a subscriber selected many hobbies from the selection field "hobbies" and exceeded the 800 character limit for the drop-in text. Setting the customized ellipsis and the #*COUNT* like this: "{{*Multi hobbies separated by ',' default 'other' more 'and #COUNT more'}}" would create a drop-in that read "surfing, poker, reading, and 15 more".

If quotation marks are used in the replacement string, they must be escaped by using them twice in succession.

If both the "default" and the "more" optional parameters are used together in one string, the "default" must be used first and then "more".

- **Multiple Selection Field Advanced Set-Operators** – This set of operators allows for the creation of drop-ins to personalize content for recipients based on their selections from the multiple selection field. This is a complex, yet very powerful tool

that can be used to send specialized content to individual recipients based on their recipient data. For example, in a message to subscribers who selected a hobby or hobbies from the selection list “hobbies”, a special advertisement for Hawaiian vacations for those who selected “surfing” as one of their choices will be included. Hobbyists without surfing as a selection will not receive the ad, but will receive another general advertisement.

This type of system drop-in is based upon comparing two sets. The first set of items is taken from the multiple selection list, and the second set of items is created by the user. The two sets (two groups of items) can then be compared using four different operators to see what relationship they have to one another. The outcome of this comparison can be either “true” or “false” and will determine which content is dropped into which message.

The name of this version of drop-in is a directive with the following syntax:

```
*Multi [not] FIELD_NAME OP COMPARE_SET ? "TRUE_TEXT" :
"FALSE_TEXT"
```

The directive is case-sensitive and requires this exact syntax and the correct drop-in enclosing tags.



Note: The brackets around the word “not” are not part of the syntax, but they are used to denote that the word “not” itself is optional, meaning that it can be included (without brackets) to negate a field.

- Replace “FIELD_NAME” with the name of the multiple selection field being used as the merge field. The content of this field for any given subscriber defines the content of the first set of the comparison.
- Replace “OP” with the set operator being employed for the comparison. Available operators are (without the quotes):
 - “=” **Equality** – Checks if the two sets are equal. Two sets are equal only if they contain exactly the same elements.
 - “<=” **Subset** – Checks if the first set is a subset of the second set. The first set is a subset of the second set if the first set is fully contained in the second set (all elements from the first set also are in the second set).
 - If two sets are equal, then the subset condition is also true, meaning that the two equal sets are always also “trivial” subsets of each other. Except for the trivial case of equality, the first set is smaller than the second set.
 - “>=” **Superset** – Checks if the first set is a superset of the second set. The first set is a superset of the second set if the first set contains the entire second set (all elements from the second set also are in the first set).
 - If two sets are equal then the superset condition is also true, meaning that the two equal sets are always also “trivial” supersets of each other. Except for the trivial case of equality, the first set is “larger” than the second set.
 - “&” **Intersection** – Checks if there is a non-empty intersection between the first and the second set. A non-empty intersection exists if at least one element

of the first set also appears in the second set. It does not matter how many elements appear in both sets, as long as at least one appears in both, the intersection is non-empty and the check will result in “true”. In other words, the check is “true” if at least one element appears in the first set and in the second set.

- Replace “COMPARE_SET” with the *second set* of the comparison. Specify this set as a comma-separated list of all values in the set. Each value must be enclosed within quotation marks <“>. Type the textual names of those choices from the multiple selection field column specified in “FIELD_NAME” that are to be part of the second set. Enclose each name individually in quotes and use commas to separate the values if there is more than one.
- Replace “TRUE_TEXT” with the drop-in text for comparisons that result in a “true” match and replace “FALSE_TEXT” with the drop-in text for comparisons that result in a “false” match. If the quote character <“> appears in the text of either field it must be escaped. To escape the quote character, use it twice in a row.

For example, to send a special advertisement for Hawaiian vacations to all those subscribers who selected “surfing” as one of their hobbies in the multiple selection field “hobbies” in a mail job going out to all hobbyists, the system drop-in would appear like this: `{{*Multi HOBBIES & "surfing" ? "Follow your dreams and ride the big curl in Hawaii. See your travel agent today and mention this email offer for a 10% discount on hotel rates at the Sheraton on Waikiki" : "Visit your local Hobby Master store today! Check here for the nearest one ""http://www.hobbymaster.com""}}`

15.2.1.4 Calculation Fields

The name of this system drop-in is *Calc. The name is case-sensitive and requires this exact spelling, followed by a valid mathematical formula, and the appropriate enclosing tags, for example `{{*Calc ToDate(SubscribeTimeMillis, "MMMM dd, yyyy")}}` will return a drop-in that reads the date the subscriber signed on to the list.

Merge fields from subscriber data can be combined with other merge fields or number- or text-constants and even predefined functions into a formula. The formula will then be calculated individually for each recipient to determine an individual drop-in replacement text for that recipient.

Formulas can be used to calculate drop-in content based on existing recipient data to determine a birth date, a subscription date, a bank balance, and much more. For more information on how to write formulas for system drop-ins, see Section 18 [Calculation Formulas](#).

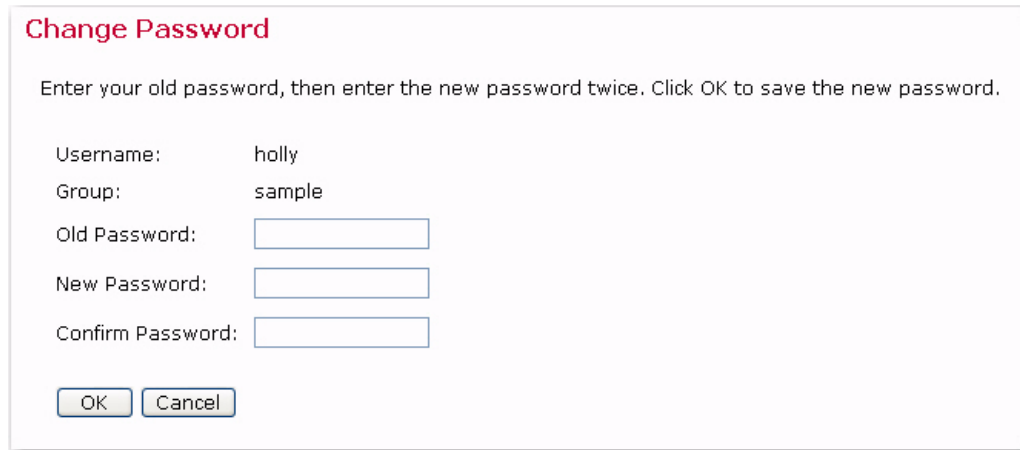
The *Calc drop-in is not available for jobs with recipient definitions of **Send to an Existing LISTSERV List, Let LISTSERV Select Recipients from a Database**, or Target Groups based on these. However it is available for all other recipient definition options. Certain special variables usable in *Calc, for example `SubscribeTimeMillis`, are available only for Hosted Recipient Lists.

There are many other advanced methods of creating personalized messages based on hosted recipient data using these tools. For more information and detailed examples, see Section 16 [Advanced Use of System Drop-Ins](#).

15.3 Changing User Password

To open the Change Password screen, click **Utility > Change Password**. Enter the old password first, and then type in the new password twice for confirmation.

Figure 15-9 Changing User Password



Change Password

Enter your old password, then enter the new password twice. Click OK to save the new password.

Username: holly
Group: sample
Old Password:
New Password:
Confirm Password:

Click **[OK]** to save the new password and return to the User Settings screen. Permission to change an account password is set by the system administrator. If this right is not given, then user accounts will not have permission to change their passwords.

Section 16 Advanced Use of System Drop-Ins

As described in Section 15.2.1 [System Drop-Ins](#), system drop-ins are special drop-in content elements that are named and controlled by LISTSERV Maestro. System drop-ins are only available for mailing lists that derive their recipients from data hosted by LISTSERV Maestro. They make it possible to include login and unsubscribe links to specific lists in the message as well as use other recipient data to create personalized messages.

The names of system drop-ins start with an asterisk “*”. System drop-ins need to be enclosed in the drop-in opening and closing tags just like normal drop-ins and drop-in usage needs to be enabled for the mail content, otherwise the system drop-ins will be ignored and will not be replaced. System drop-ins are replaced after normal drop-ins, so they can be nested within normal drop-in content elements.

This appendix is written using extensive examples to illustrate how and why system drop-ins can be used to create personalized message content for mail subscribers using hosted recipient data.

16.1 Login URL

The login URL system drop-in is named `*LoginURL`. This name is case-sensitive and requires this exact spelling as well as the correct drop-in enclosing tags, for example “`{{*LoginURL}}`”.

This system drop-in is replaced with a URL that points to the login page for the member area of the hosted list that is used in the job’s recipient list. The URL will have a format similar to this:

```
http://YOUR.SERVER/list/login.html?...
```

This system drop-in is only usable if the recipient type of the mail job is based on a hosted list, which could include any of the following:

- Recipients type as **target group**, with a target group of the **Based on Hosted Recipient List** type.
- Recipients type as **target group**, with a target group of the **Based on Classic LISTSERV list** type, where the LISTSERV list it is based on is a hosted LISTSERV list in LISTSERV Maestro.
- Recipients type as **LISTSERV list**, where the list is a hosted LISTSERV list in LISTSERV Maestro.



Tip: Include the login URL system drop-in in email messages so that recipients can control their own subscription settings easily and without having to find or remember a long URL.

16.2 Unsubscribe URL

The unsubscribe URL system drop-in is named `*UnsubscribeURL`. This name is case-sensitive and requires this exact spelling as well as the correct drop-in enclosing tags, for example “`{{*UnsubscribeURL}}`”. This system drop-in is replaced with a URL that

points to an unsubscribe page for the member area of the hosted list that is used in the job's recipient list. The URL will have a format similar to this:

```
http://YOUR.SERVER/list/unsubscribe.html?...
```

This system drop-in is only usable if the recipient type of the mail job is based on a hosted list, which could include any of the following:

- Recipients type as **target group**, with a target group of the **Based on Hosted Recipient List** type.
- Recipients type as **target group**, with a target group of the **Based on Classic LISTSERV list** type, where the LISTSERV list it is based on is a hosted LISTSERV list in LISTSERV Maestro.
- Recipients type as **LISTSERV list**, where the list is a hosted LISTSERV list in LISTSERV Maestro.



Tip: Include the unsubscribe URL system drop-in in email messages so that recipients can easily leave your mailing list.

16.3 Multiple Selection Fields

Normally, multiple selection fields cannot be used for mail-merging. Mail merging is only compatible with fields that have a single value. Any field that was defined to allow subscribers to select more than one choice is classified as a multiple selection field. To work around this situation, a system drop-in has been introduced to allow merging the information from a multiple selection field into the text of a message. This system drop-in is only usable if the recipient type of the mail job is a target group of the **Based on Hosted Recipient List** type.

There are three different versions of this drop-in, which provides access to the multiple fields in different ways.

- **Multiple Selection Field Count** – The name of this version of the drop-in is a directive with the following syntax:

```
*Multi FIELD_NAME count
```

Replace "FIELD_NAME" with the name of the multiple selection field being used as the merge field. For example, a multiple selection field with the name "hobbies" would appear as "{*Multi hobbies count}".

The directive is case-sensitive and requires this exact syntax and the correct drop-in enclosing tags. It will be replaced by the number of selections that each subscriber has made from the available choices of the profile field with the name "FIELD_NAME". If a subscriber has selected 3 different items from the list, the number "3" will be dropped in the message body.

- **Multiple Selection Field Enumerated** – The name of this version of the drop-in is a directive with the following syntax:

```
*Multi FIELD_NAME separated by "SEPARATOR"
```


Replace "FIELD_NAME" with the name of the multiple selection field being used as the merge field. Replace "SEPARATOR" with any string (which must be enclosed in quotation marks). This string will be used to separate the enumerated values if more than one choice has been made by the subscriber. For example, if a subscriber selected "surfing", "poker", and "reading" from a selection list field named "hobbies" and a comma with a space after it is the desired separator character in the mail text, then the drop-in would appear as "{*Multi hobbies separated by ", "}" and produce a line such as "surfing, poker, reading". If the space is not included as part of the separator string, then only a comma will be used producing a line that reads like this: "surfing,poker,reading".

Additional optional parameters are available for this type of system drop-in. They include:

- `default "CUSTOMIZED_DEFAULT"` – If a subscriber does not have any of the choices selected, the drop-in would normally be replaced with an empty string. By setting a customized default parameter, all subscribers that do not have any selections will have the text inside the quotation marks dropped into the message. For example, a subscriber who did not select any hobbies from the multiple selection list could have the word "other" dropped into the message text. The drop-in would appear as "{*Multi hobbies separated by \", \" default \"other\"}"



Note: If quotation marks are used in the replacement string, they must be escaped by using them twice in succession.

- `more "CUSTOMIZED_ELLIPSIS"` – If a subscriber's selections from the list are longer than approximately 800 characters, the enumeration will break off and be replaced with ellipsis "...". By setting the customized ellipsis parameter, any text string may be added to the enumeration field, replacing the standard "...". In addition, the number of items left off the list can be added by using "#COUNT" anywhere in the string. For example, if a subscriber selected "surfing", "poker", and "reading" from a selection list field named "hobbies, and a comma is the desired separator character in the mail text, then the drop-in would appear as "{*Multi hobbies separated by ", "}" and the text "surfing,poker,reading" will be dropped into the message.



Notes: If quotation marks are used in the replacement string, they must be escaped by using them twice in succession.

If you want to use both the "default" and the "more" optional parameter, you must use "default" first and then "more".

Here are some examples that use all these tools:

Assume a subscriber which has selected the hobbies "Cycling", "Poker", "Windsurfing", "Bird Watching", "Web-Browsing" and "Swimming" from a multiple selection listed named "HOBBIES"

The drop-in `{*Multi HOBBIES separated by ", "}` will be replaced with:

“Cycling,Poker,Windsurfing,Bird Watching,Web-Browsing,Swimming” in the body of the message.

Note that there is no space after the comma separator, since none was included in the separator string of the directive. If the drop-in is rewritten as follows (note the space after the comma):

```
{{*Multi HOBBIES separated by ", "}}
```

then the replacement text in the message body would look like this:

“Cycling, Poker, Windsurfing, Bird Watching, Web-Browsing, Swimming”

For the sake of the example, assume that the above string would be too long for the 800 characters threshold, which would be overstepped by “Bird Watching”. The replacement would then be abbreviated with the standard ellipsis token, like this:

“Cycling, Poker, Windsurfing, ...”

If this is not acceptable, a custom ellipsis token can be created:

```
{{*Multi HOBBIES separated by ", " more "and others..."}}
```

The replacement text in the message body would then look like this:

“Cycling, Poker, Windsurfing, and others...”

To provide even more information, the #COUNT parameter can be added:

```
{{*Multi HOBBIES separated by ", " more "and #COUNT more"}}
```

The replacement text in the message body would then look like this:

“Cycling, Poker, Windsurfing, and 3 more”

When a subscriber has not selected any hobbies the system drop-in

```
{{*Multi HOBBIES separated by ", "}}
```

will then be replaced with no text at all. Leaving a blank spot in the message text.

To fill something in for subscribers who do not have anything selected, a default string can be created as follows:

```
{{*Multi HOBBIES separated by ", " default "<no hobby selected>"}}
```

The replacement text in the message body for only those subscribers with no hobbies selected would then look like this:

“<no hobby selected>”

These examples can be combined to cover those subscribers who have a few selections from the multiple selection list, many selections from the list, and no selections from the list like this:

```
{{*Multi HOBBIES separated by ", " default "<no hobby selected>" more "and #COUNT more"}}
```

The line break has been added for readability. In LISTSERV Maestro, this would have to be on one line. If both “default” and “more” are used, “default” must come first and “more” second.

The resulting replacement text would be different for different subscribers, depending on what, if anything, they had selected from the list. Subscribers with only a few selected values would get the correct comma (and space) separated list, for example:

“Cycling, Poker, Swimming”

Subscribers with too many values would get the abbreviated list with a customized ellipsis text, for example:

“Cycling, Poker, Windsurfing, and 3 more”

Subscribers without any selection would get a customized default text:

“<no hobby selected>”

- **Multiple Selection Field Advanced Set-Operators** – This set of operators allows for the creation of drop-ins to personalize content for recipients based on their selections from the multiple selection field. This is a complex, yet very powerful tool that can be used to send specialized content to individual recipients based on their recipient data. For example, in a message to subscribers who selected a hobby or hobbies from the selection list, a special advertisement for Hawaiian vacations for those who selected “surfing” as one of their choices will be included. Hobbyists without surfing as a selection will not receive the ad, but will receive another general advertisement.

This type of system drop-in is based upon comparing two sets. The first set of items is taken from the multiple selection list, and the second set of items is created by the user. The two sets (two groups of items) can then be compared using four different operators to see what relationship they have to one another. The outcome of this comparison can be either “true” or “false” and will determine which content is dropped into which message.

The name of this version of drop-in is a directive with the following syntax:

```
*Multi [not] FIELD_NAME OP COMPARE_SET ? "TRUE_TEXT" :
"FALSE_TEXT"
```

The directive is case-sensitive and requires this exact syntax and the correct drop-in enclosing tags.



Note: The brackets around the word “not” are not part of the syntax, but they are used to denote that the word “not” itself is optional, meaning that it can be included (without brackets) or not.

Replace “FIELD_NAME” with the name of the multiple selection field being used as the merge field. The content of this field for any given subscriber defines the content of the *first set* of the comparison.

Replace “OP” with the **set operator** you want to employ for the comparison. Available operators are (without the quotes):

- “=” **Equality** – Checks if the two sets are equal. Two sets are equal only if they contain exactly the same elements.
- “<=” **Subset** – Checks if the first set is a subset of the second set. The first set is a subset of the second set if the first set is fully contained in the second set (all elements from the first set also are in the second set).



Note: If two sets are equal, then the subset condition is also true, meaning that the two equal sets are always also “trivial” subsets of each other. Except for the trivial case of equality, the first set is smaller than the second set.

- “>=” **Superset** – Checks if the first set is a superset of the second set. The first set is a superset of the second set if the first set contains the entire second set (all elements from the second set also are in the first set).



Note: If two sets are equal then the superset condition is also true, meaning that the two equal sets are always also “trivial” supersets of each other. Except for the trivial case of equality, the first set is “larger” than the second set.

- “&” **Intersection** – Checks if there is a non-empty intersection between the first and the second set. A non-empty intersection exists if at least one element of the first set also appears in the second set. It does not matter how many elements appear in both sets, as long as at least one appears in both, the intersection is non-empty and the check will result in “true”. In other words, the check is “true” if at least one element appears in the first set and in the second set.

Replace “COMPARE_SET” with the **second set** of the comparison. Specify this set as a comma-separated list of all values in the set. Each value must be enclosed within quotation marks <”>. Type the textual names of those choices from the multiple selection field column specified in “FIELD_NAME” that are to be part of the second set. Enclose each name individually in quotes and use commas to separate the values if there is more than one.

Replace “TRUE_TEXT” with the drop-in text for comparisons that result in a “true” match and replace “FALSE_TEXT” with the drop-in text for comparisons that result in a “false” match. If the quote character <”> appears in the text of either field it must be escaped. To escape the quote character use it twice in a row.

For example, to send a special advertisement for Hawaiian vacations to all those subscribers who selected “surfing” as one of their hobbies in the multiple selection field “HOBBIES” in a mail job going out to all hobbyists, the system drop-in would appear like this: `{{*Multi HOBBIES & “surfing” ? “Follow your dreams and ride the big curl in Hawaii. See your travel agent today and mention this email offer for a 10% discount on hotel rates on the Sheraton on Waikiki” : “Visit your local Hobby Master store today! Check here for the nearest one ““http://www.hobbymaster.com”””}}`

Some scenarios that can be used as examples that demonstrate system drop-ins are given below. Line breaks that occur in the system drop-ins have been added for readability only.

Scenario 1: If the subscriber has selected exactly the three hobbies “Swimming”, “Cycling”, and “Poker” from the list “HOBBIES” (and no others), use one text for replacement, if not use a different text”.

This is a check of the type “equality”. If the set of hobbies selected by the subscriber (=first set) is equal to the set that contains the hobbies “Swimming”, “Cycling”, and “Poker” (=second set), the check will be “true”, otherwise it will be “false”. The corresponding drop-in looks like this:

```
{{*Multi HOBBIES = "Swimming", "Cycling", "Poker" ? "Use this for subscribers with exactly the given hobbies" : "Use this for all other subscribers"}}
```

Scenario 2: If the subscriber has selected one, two or all of the hobbies “Swimming”, “Cycling”, and “Poker” from the list “HOBBIES” use one text for replacement, if not use a different text.

This is a check of the type “subset”. If the set of hobbies selected by the subscriber (=first set) is a subset of the set that contains the hobbies “Swimming”, “Cycling”, and “Poker” (=second set), the check will be “true”, otherwise it will be “false”. The corresponding drop-in looks like this:

```
{{*Multi HOBBIES <= "Swimming", "Cycling", "Poker" ? "Use this for subscribers with only the given hobbies" : "Use this for all other subscribers"}}
```

Scenario 3: If the subscriber has selected at least the hobby “Swimming” from the list “HOBBIES” (any other hobbies can be selected as well as long as “swimming” is included), use one text for replacement, if not use a different text.

This is a check of the type “superset”. If the set of hobbies selected by the subscriber (=first set) is a superset of the set that contains only the hobby “Swimming” (=second set), the check will be “true”, otherwise it will be “false”. The corresponding drop-in looks like this:

```
{{*Multi HOBBIES >= "Swimming" ? "Use this for subscribers with at least the given hobby" : "Use this for all other subscribers"}}
```

Scenario 4: If the subscriber has selected any of the hobbies “Swimming”, “Cycling”, and “Poker” (not necessarily all of them, and others not included can be selected) from the list “HOBBIES” use one text for replacement, if not use a different text.

This is a check of the type “intersection”. If the set of hobbies selected by the subscriber (=first set) intersects with the set that contains the hobbies “Swimming”, “Cycling”, and “Poker” (=second set), the check will be “true”, otherwise it will be “false”. The corresponding drop-in looks like this:

```
{{*Multi HOBBIES & "Swimming", "Cycling", "Poker" ? "Use this for subscribers with any of the given hobbies" : "Use this for all other subscribers"}}
```



Note: Even though mathematically the “empty set” is always a subset of every other conceivable set, with regards to the “subset” operator in LISTSERV Maestro this is not so. In LISTSERV Maestro, if a subscriber has not selected any choices (=first set is the “empty set”) then the subset operator will always yield “false”.

16.4 Combining System Drop-Ins with Conditional Blocks

The special set operator system drop-in described here is especially useful when used in combination with LISTSERV's conditional blocks.

When observing the "raw" drop-in, one text that will be used for replacement for subscribers who fulfill the condition and one text that will be used for replacement for all other subscribers who do not fulfill the condition are always required.

However, there are also possible scenarios such as "If subscribers have "Diving" among their hobbies, include an advertisement for the newest scuba gear. If not, do not include any additional content." Other times a scenario could call for the text for one or both conditions to be very long or involved. This is usually not possible using a system drop-in since everything must be written on a single line.

For these types of scenarios, combining a system drop-in with conditional blocks can be the right solution. The advantage of using this method is that system drop-ins will be replaced before the content is evaluated for conditional blocks, meaning that the result of a system drop-in replacement can be used in a LISTSERV condition.

To utilize the order of replacement for system drop-ins and conditional blocks to the best advantage, specify two very simple values to be returned in the "true" and "false" cases of the system drop-in. For example, use the words "true" and "false" or even the digits "1" and "0" for the replacement text. Next, use a LISTSERV condition to check for either of these values and conditionally include the desired content or not. For more information about conditional blocks, see Appendix E: [Using Conditional Blocks](#).

Some scenarios that can be used as examples that demonstrate system drop-ins combined with conditional blocks are given below. Line breaks that occur in the system drop-ins have been added for readability only.

Scenario 1: If the subscribers have "Diving" among their hobbies, listed in the multiple select field "HOBBIES" include an advertisement for the newest scuba gear. If not, do not include anything" can be written as:

```
.BB ("true" = "{{*Multi HOBBIES >= "Diving" ? "true" :
"false"}}")
The advertisement text for the Scuba gear goes here...
.EB
```

Scenario 2: If subscribers have selected any of the hobbies for which there is a special this week, (specials are "Cycling", "Poker" and "Diving" this week) then include HTML formatted content describing the special(s). If not, include some other HTML formatted content of a general nature. This can be written as (linebreaks in the drop-in added for readability only):

```
.BB (1 = {{*Multi HOBBIES & "Cycling", "Poker", "Diving" ? "1" :
"0"}})
<h1>Weekly Hobbies Special</h1>
<p>Did you know that our current Weekly Hobbies Special covers
some of the hobbies you are interested in?</p>
<p>Check it out at...</p>
etc...
.ELSE
```

```
<h1>General Text</h1>
<p>General text goes here...</p>
etc...
.EB
```

16.5 Formula Calculation

The name of this system drop-in is `*Calc`. The name is case-sensitive and requires this exact spelling, followed by a valid mathematical formula, and the appropriate enclosing tags, for example “`{{*Calc ToDate(SubscribeTimeMillis,“MMMM dd, YYYY”)}}`” will return a drop-in that reads the date the subscriber signed on to the list.

Merge fields from subscriber data can be combined with other merge fields or number- or text-constants and even predefined functions into a formula. The formula will then be calculated individually for each recipient to determine an individual drop-in replacement text for that recipient. If the formula contains merge-fields, the result will be calculated for each recipient and may differ from recipient to recipient.

Formulas can be used to calculate drop-in content based on existing recipient data to determine a birth date, a subscription date, a bank balance, and much more. Formulas must follow a set of rules that are detailed in Section 18 [Calculation Formulas](#).

A scenario is described below that uses conditional blocks and calculation formulas to send customized messages to each recipient in a customer database. It is beyond the scope of this document to give all the possible ways formulas can be used to calculate personalized content. The scenario described below uses a merge-field value (a number) that is used in subtraction formulas with constant numbers to calculate the replacement values.

Scenario 1: A supermarket chain has a customer-card bonus-point system where customers are awarded points for every purchase. After collecting a certain number of points, customers can use their points to trade for bonus items. The bonus items with the highest values require more points. The recipient data has a column “CURRENT_POINTS” that contains the current total points for each subscriber. By using a calculation formula in conjunction with data in the “CURRENT_POINTS” column, content such as “You currently have X many points! This means that you only need Y points more to get a free watch or only Z points more to get a free digital camera!” can be created.

The supermarket decides that customers must earn 300 points for a free watch and 500 points for a free digital camera. From this information and depending on the value of “CURRENT_POINTS” there are four groups of customers:

- Those not eligible for either a watch or a camera (0-299)
- Those eligible only for a camera (300-499)
- Those eligible for a watch or a camera (500-799)
- Those eligible for both (800+).

In combination with LISTSERV’s conditional blocks, the following personalized content can be created to address each of the four groups and add the point balances for each individual. `.BB (&CURRENT_POINTS >= 800)`

`.*` Content for recipients eligible for both a watch and digital camera

Congratulations! You have already collected &CURRENT_POINTS; points!

This means you are eligible to receive both a free watch and digital camera. Pick up your gifts at your nearest SuperMarket, and don't forget to bring your bonus card with you. After collecting your gifts, you'll still have $\{\{ *Calc \&CURRENT_POINTS; - 800 \} \}$ points left!

.ELSE

.BB (&CURRENT_POINTS >= 500)

.* Content for recipients eligible for widget or digital camera

Congratulations! With your &CURRENT_POINTS; point balance, you are eligible for a free watch, which will leave you with $\{\{ *Calc \&CURRENT_POINTS; - 300 \} \}$ points remaining. You also qualify for a free digital camera, which will leave you with $\{\{ *Calc \&CURRENT_POINTS; - 500 \} \}$ points remaining.

.ELSE

.BB (&CURRENT_POINTS >= 300)

.* Content for recipients eligible for widget only

You are on track! With your current point balance of &CURRENT_POINTS; you are eligible for a free watch, which will leave you $\{\{ *Calc \&CURRENT_POINTS; - 300 \} \}$ points, or you can collect $\{\{ *Calc 500 - \&CURRENT_POINTS; \} \}$ more points to qualify for a digital camera!

.ELSE

.* Content for recipients eligible for no gifts yet.

Keep going! You already have &CURRENT_POINTS; collected! Only another $\{\{ *Calc 300 - \&CURRENT_POINTS; \} \}$ points to go and you can receive a free watch! Better yet, save $\{\{ *Calc 500 - \&CURRENT_POINTS; \} \}$ more points and receive a free digital camera

.EB

.EB

.EB



Important: Formulas offer many more features than illustrated in the scenario above. All the standard operators like +, -, *, /, and % (modulo) can be used in any combination and even be nested with parenthesis. Formulas can also work on text strings and there are a number of pre-defined functions, like abs, min, max, random, to-date, substring, and more. For details, see Section 18 [Calculation Formulas](#).

16.6 Escaping Quote Characters

Some of the system drop-ins allow users to include their own text for certain parameters. Any user-supplied text must usually be enclosed in quotation marks <"> to distinguish it from the surrounding drop-in directive text.

If the text itself contains the quote character anywhere (quotation marks appear somewhere in the text), it must be “escaped” so that the system drop-in is interpreted correctly. All quote characters in the actual text must be escaped by “doubling” them. This means that the character is used twice in succession with no space in between them. For example, to use this customized text:

```
Our company motto is "the customer is always right!"
```

It would have to appear in the body of the system drop-in as:

```
"Our company motto is ""the customer is always right!"""
```


Section 17 Using Conditional Blocks

Adding conditional blocks to the body of an email job is a powerful way to personalize the content of the message for individual recipients. Conditional blocks act much the same way that merge fields do in that their use is dependent upon the recipient data available in the mail job. Judicious use of conditional blocks can also save time and resources by allowing one job to contain different content for different recipients that would otherwise have to be sent in multiple jobs.

Conditional blocks are sections of text that are inserted into a message based on a conditional statement. If the condition is “true”, a particular section of text will be inserted into the message. If the condition is “false”, the text will not be inserted. An “ELSE” clause can be included as part of the conditional statement so that a different section of text will be inserted into the message when the condition is “false”.



Important: Conditional blocks use a significant amount of processing time. Use with care for jobs with a large volume of recipients. If messages will be substantially different for different recipients, then it may be more efficient (and easier to test) if the recipients are split up among multiple jobs with fewer conditional blocks, rather than trying to fit many different messages into one job with a complex conditional block structure.

17.1 Syntax for Conditional Blocks

The syntax of a conditional block is composed of directives and operators. A conditional block is coded by using the “.BB” (begin block), the “.EB” (end block), and the “.ELSE” directives. Comments can be added without appearing in the final message by placing a “.*” before the text containing the comment. Each directive must be on a line by itself, starting as the first character of the line. Conditional directives are not case sensitive.

Table 17-1 Conditional Directives

.bb	Begins a conditional block. Must begin any block and must contain the condition to be evaluated on the same line.
.else	Conditional "else". If the condition specified in .bb evaluates "false", then execute the code in this part of the block.
.eb	End conditional block. Must be the last line of any block.
.*	Precedes comment lines.

A conditional block always starts with the .BB directive followed by a “condition” on the same line. The .EB directive ends the conditional block. Fields used in a condition are preceded by an ampersand (“&”), but are not followed by a semicolon (“;”).

The syntax for a basic LISTSERV Maestro conditional block looks like this:

```
.bb condition_to_be_evaluated
text to be included when the condition is met
.eb
```

The `.ELSE` command is used to execute the code in the block if the condition is false. Instead of not including any text if the condition is false, a different text can be included. For example, if you wanted to add the recipient's name to the salutation of a message so the greeting starts with "Dear fullname", but not all of the recipient records have a name entered in the "fullname" field, then the use of a conditional block can ensure a salutation for all messages. Those recipients that have a name in the "fullname" field (condition is "true") would receive a message with their name inserted, and those that do not have a name in the field (condition is "false") can have a generic greeting inserted into the message instead.

Such a conditional block might look like this:

Table 17-2 Example of a Conditional Block

<code>.bb &fullname ^= ""</code>	<p>Begin block directive.</p> <p>Ampersand and column name represents the recipient data to perform the operation on.</p> <p>Operator characters that represent the operation performed on the data. In this case, the conditional expression checks that the value in the "fullname" column is "not equal to an empty string" or is not blank.</p>
Dear &fullname,;	<p>The text to be inserted if the condition is "true".</p> <p>In this case, if there is data in the field "fullname" it will be inserted here using the merge-field to create a line that reads "Dear Anne Smith," for example.</p>
<code>.else</code>	<p>The else directive is inserted to allow a different text to be used if the condition is false. In this case, if the field "fullname" has no data, another salutation will be used.</p>
Dear Valued Customer,	<p>The text to be inserted if the condition is false. In this case, a generic salutation.</p>
<code>.eb</code>	<p>End block directive.</p>

17.2 Nesting Conditional Blocks

Conditional blocks can be nested to any depth, creating opportunities to insert more than two pieces of text, depending on the conditions. For example, if the second condition is false, another variation of the text is inserted, and if the third condition is false, another variation of the text is inserted, and so on.

An example of a nested conditional block looks like this:

```
.bb condition_to_be_evaluated
  text to be included when the condition is met
.else
.bb condition_to_be_evaluated
  text to be included if the first condition is not met but the second condition is
.else
  text to be included if neither the first nor the second condition is met
.eb
.eb
```

17.3 Conditional Operators

The condition that is evaluated is created by making a comparison against recipient data. Operator symbols make up the statement and appear in a table below. Operators are not case sensitive. However, == (strictly equal to) and ^= (not strictly equal to) are available when case must be respected. String literals within a statement must be enclosed within quotation marks if they contain spaces.

Boolean operators “AND” and “OR” may be used within the statement. If used, the sub-expressions must be enclosed within parentheses. For example, for this conditional block to be true both expressions must be met; the recipient must be in New York State and in New York City to see the text about winning sunglasses:

```
.* For residences of New York, NY
.bb (&state = NY) and (&city = "New York")
Congratulations! You have won a free pair of XYZweb sunglasses!
.eb
```

For the next conditional block to be true, only one of the expressions must be met; the recipient is either in New York State or in New York City. Recipients in “Albany, NY”, “New York, NY”, and “New York, CA” will see the text about winning sunglasses.

```
.* For residences of any New York
.bb (&state = NY) or (&city = "New York")
Congratulations! You have won a free pair of XYZweb sunglasses!
.eb
```

Table 17-3 Conditional Operators

=	is equal to (case insensitive)
==	is strictly equal to (case sensitive)
>	is greater than
<	is less than
=>	is greater than or equal to
=<	is less than or equal to
=*	matches wildcard expression
^	negation - used in conjunction with the other mathematical operators, for instance, "^=" means "is not equal to"
IN	The specified text is found in the space-separated data provided. For instance, <pre>.bb DEC IN &*DATE</pre> The server's internal variable <code>&*DATE</code> outputs the day's date in the format "Day, dd Mon yyyy hh:mm:ss -TZ". This statement would evaluate true if the date were any day in December, and false for any other day of the year.
NOT IN	The specified text is not found in the space-separated data provided

17.4 Testing Conditional Blocks

Any number of conditional blocks can be inserted into the body of a message. Conditional blocks will be processed and resolved by LISTSERV during delivery and will not appear as part of the final message that is sent to recipients. Figure 17-1 shows a plain text message that contains conditional blocks and merge-fields. Figures 17-2 and 17-3 show variations of the resulting message when certain conditions are met.

One of the most important steps to perform when using multiple conditional blocks is extensive testing. Send messages to test every condition and combination of conditions to ensure that your conditional text matches up with your recipient data in the expected manner.



Important: Any basic syntax errors that are detected when the job is transferred to LISTSERV will generate an error message from LISTSERV that will be displayed in the Maestro User Interface.

However, if there are mistakes in the syntax of the conditional statement that turn up when the conditions are evaluated for each recipient, the test messages will not be sent, although they will appear to, because LISTSERV cannot process the job with incorrect coding. No error message will be displayed in the Maestro User Interface. Errors of this nature will be reported in the LISTSERV logs and an email message will be sent to the LISTSERV Postmaster. If your test messages are not delivered in a reasonable amount of time, contact your LISTSERV administrator for assistance diagnosing the problem.

Presented in 17-1 is an example of a detailed plain text email message using mail-merge and complex conditional blocks. Each variable and combination of variables needs to be tested before the job is sent out. Some of the resulting test messages for particular combinations are presented in the following examples.

Figure 17-1 Plain Text Message with Conditional Blocks

```

Happy birthday!

To celebrate the occasion, XYZweb is pleased to credit your
account with $10.00 in birthday credits. You can spend these cred-
its on anything in our online store, but there's a catch! They
will expire in a week if you do not use them! So wait no further
and go to your personalized web page at:

&PERS_URL;

.* Special offer for people who turn 18

.bb &age = 18

Now that you are 18, you can finally do what you have been waiting
for all your life - sign up for your very own XYZweb online cash
management account! We are waiving the first year's fee if you
apply within the next 2 weeks! Apply now at: http://
www.XYZWeb.com/bday/1234&=18badgrz

.eb

.* Two randomly selected people every day get a free T-shirt.
Note: &*index .* is randomized with every run. If we ran the job
twice, the prize would go .* to different people

.bb &*index <= 2

Congratulations! You have won a free XYZweb T-shirt!

.eb

.* Another 10 randomly selected people get a free baseball cap
.bb (&*index > 2) and (&*index <= 12)

.* Make that a free pair of sunglasses in Texas!
.bb (&country = USA) and (&state = TX)

Congratulations! You have won a free pair of XYZweb sunglasses!

.else

Congratulations! You have won a free XYZweb baseball cap!

.eb

.eb

.* Special for AOL users
.bb &*to =* "*"@aol.com"

Did you know that you can access XYZweb's store directly from AOL?
Click on keyword XYZWeb and land on your personalized page.

.eb

```

The resulting message to a person using AOL and turning 18 would read:

Figure 17-2 Resulting Recipient Plain Text Message

```
Happy birthday!

To celebrate the occasion, XYZweb is pleased to credit your
account with $10.00 in birthday credits. You can spend these cred-
its on anything in our online store, but there's a catch! They
will expire in a week if you do not use them! So wait no further
and go to your personalized web page at:

http://www.XYZWeb.com/bday/home/home.html/782-3339950-1258814

Now that you are 18, you can finally do what you have been waiting
for all your life - sign up for your very own XYZweb online cash
management account! We are waiving the first year's fee if you
apply within the next 2 weeks! Apply now at:

http://www.XYZWeb.com/bday/1234&=18badgrz
```

Did you know that you can access XYZweb's store directly from AOL? Click on keyword XYZWeb and land on your personalized page.

The resulting message to a person from Texas and randomly selected would read:

Figure 17-3 Resulting Recipient Plain Text Message

```
Happy birthday!

To celebrate the occasion, XYZweb is pleased to credit your
account with $10.00 in birthday credits. You can spend these cred-
its on anything in our online store, but there's a catch! They
will expire in a week if you do not use them! So wait no further
and go to your personalized web page at:

http://www.XYZWeb.com/bday/home/home.html/104-1119951-0252744

Congratulations! You have won a free pair of XYZweb sunglasses!
```

Section 18 Calculation Formulas

In LISTSERV Maestro, calculation formulas are available in the context of the special “*Calc” system drop-in (see Section 15.2.1 [System Drop-Ins](#)). This section describes the syntax and semantics of these calculation formulas.

A formula is a sequence of expressions that are combined with operators into more complex expressions. Expressions can optionally be nested with parenthesis and make use of a few pre-defined functions.

Examples for formulas are:

```
15 + 4
```

```
27 * Max(17, 4, 24/8) / (19 + 22)
```

```
&NAME; + "@lsoft.com"
```

```
(ToNum(&AGE;) - 2004) * 10
```

```
ToDate(CurrentTimeMillis, "MM/dd/yyyy HH:mm")
```

The following sub-sections explain all aspects of formulas in detail.

18.1 Expressions

Operands can be of the type “number” or of the type “text”. They can appear in different “shapes”, which are described in the following sub-sections.

For “number” type expressions, the number can be any integer number in the range

```
-9223372036854775808 to 9223372036854775807
```

Floating point numbers are not possible in LISTSERV Maestro formulas.

The text can be any character string for “text” type expressions.

18.1.1 Constant Number Expressions

Restriction: None. Constant number expressions can be used in any formula.

Type: Constant number expressions are, as the name implies, always of the type “number”.

Usage: To include a constant number in a formula, simply type the number using only the digits “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
```

18.1.2 Constant Text Literal Expressions

Restriction: None. Constant text literal expressions can be used in any formula.

Type: Constant text literal expressions are, as the name implies, always of the type "text".

Usage: To include a text literal in a formula, type the characters desired, and then denote the beginning and the end of the text literal by enclosing the whole string in quotation marks "<>". There must not be any linebreaks in the text string.

Since the text literal must be quoted, it must also follow the rules for quote escaping. See Section 16 [Advanced Use of System Drop-Ins](#) for details.

Examples:

```
"example"
"this is a text string"
"This string contains ""quotes"" which are therefore escaped"
"   this string has three spaces at the beginning and end   "
```

18.1.3 Standard Merge Field Expressions

Restriction: Standard merge field expressions are only allowed if the formula is used 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, then 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 the **number** or **text** type, depending on their context or content (see the explanation for **Type Determination** for details).

Usage: To include a standard merge field in a formula, type the merge field name enclosed in "&" and ";". Only merge field names that are actually defined in the recipient list can be used.

Examples:

```
&NAME;
&STATE;
&ACCOUNT_BALANCE;
```

Type Determination: Whenever a merge field appears in a formula, it will first be replaced with the field value for the current recipient before the result of the formula is calculated for that recipient. To be able to do this calculation, the expression's type is determined as follows:

- If the formula is used in a "*Calc" system drop-in together with recipients based on a "Hosted Recipient List" 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 expression type **number**.
- Profile fields of the **Text** type have the expression type **text**.
- Profile fields of the **Single Selection** type have the expression type **text**.
- 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 as **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, then the **number** type will be used. If it cannot be interpreted as a number (or is empty), then the **text** type 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 **text** type 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 a “*Calc” system drop-in together with recipients based on a “Hosted Recipient List” target group, then only profile fields which are defined in the hosted recipient list as **mandatory** are allowed as “standard merge field” expressions. Fields that are defined as **optional** must use the “optional merge field” expression instead. (See next sub-section.)

18.1.4 Optional Merge Field Expressions

Restriction: Optional merge field expressions are only allowed if the formula is used 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 and content (see the explanation of Type Determination for details).

Usage: Optional merge fields are fields that may be undefined (empty) for at least some recipients in the recipient list. Recipients with a blank field would not have the result of the calculation formula displayed in their content.

An optional merge field expression is written in the following way:

```
[&FIELD_NAME; DEFAULT]
```

The whole expression is enclosed in brackets “[” and “]”. Between the brackets first type the name of the merge field being addressed, enclosed with “&” and “;”. Next, type the default that will be used for all recipients where the merge field itself is undefined.

The default that is replaced by “DEFAULT” as shown above must be a [constant number](#) or a [constant text literal](#).

Examples:

```
[&NAME; "no name"]
[&NAME; ""]
[&STATE; "n/a"]
[&ACCOUNT_BALANCE; 0]
```

(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](#)).

18.1.5 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: Function names are case sensitive and 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](#).

18.2 Operators

Operators always work on two operands, which may be any valid expressions. Some operators require their operand expressions to be either the **number** or **text** type.

18.2.1 Operators for “Number” Operands

The following operators require both operand expressions to be 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.

18.2.2 Operators for “Text” Operands

The following operators require both operand expressions to be 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 the **number** type, then the “+” is interpreted as the addition operator and the result will also be the **number** type.

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 the **text** type. If the other operand is the **number** type, it is automatically converted to **text** first, see [Automatic Type-Conversion](#).

18.2.3 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

18.3 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** or **number** type can be used. In the latter case, the **number** will first be converted into a **text** before the operator or function is applied. For this conversion, the number-value is simply converted into the corresponding string representation, for example the number 157 becomes the text string "157".

18.4 Formula Functions

The following tables describe the functions that are available for use in LISTSERV Maestro formulas.

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

"CurrentMillis"	
CurrentMillis	
<i>Function:</i>	Returns the current time, in milliseconds since "Jan. 1 st 1970, 00:00:00 GMT".
<i>Return-Type:</i>	Number
<i>Arguments:</i>	None.
<i>Examples:</i>	CurrentMillis

“IndexOf” IndexOf(<i>text</i> , <i>searchtext</i> [, <i>startindex</i>])	
<i>Function:</i>	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”.
<i>Return-Type:</i>	Number
<i>Arguments:</i>	<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>The third argument is optional:</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>
<i>Examples:</i>	<pre>IndexOf("a longer text", "lo"), IndexOf("abc def abc def", "abc", 4)</pre>

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

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

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

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

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

“SubscribeTimeMillis”	
SubscribeTimeMillis	
<i>Function:</i>	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”.
<i>Return-Type:</i>	Number
<i>Restriction:</i>	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.
<i>Arguments:</i>	None.
<i>Examples:</i>	SubscribeTimeMillis

“Substring”	
Substring(<i>originaltext</i> , <i>startindex</i> [, <i>endindex</i>])	
<i>Function:</i>	Returns a text substring that has been extracted from the given original text string according to the other argument(s) specified: 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 <i>not</i> part of the substring. 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”.
<i>Return-Type:</i>	Text
<i>Arguments:</i>	<i>originaltext</i> – Text type: The original text string from which the substring will be extracted. <i>startindex</i> – Number type: The beginning index, inclusive, zero-based. The third argument is optional: <i>endindex</i> – Number type: The ending index, exclusive, zero-based.
<i>Examples:</i>	Substring("original text", 5), Substring("original text", 3, 3 + &VALUE;)

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

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

“ToNum” ToNum(<i>text</i>)	
<i>Function:</i>	Tries to parse a number from the given text string and returns that number. Generates an error if the provided text string does not contain a valid number (for example letters). 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).
<i>Return-Type:</i>	Number
<i>Arguments:</i>	<i>text</i> – Text type: The text string to convert to a number.
<i>Examples:</i>	ToNum ("12345"), ToNum (&AGE;), ToNum ("123" + "456") 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.

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

“ToMillis”	
ToMillis(<i>datetext</i> , <i>formatpattern</i> [, <i>localename</i> <i>langcode</i> , <i>countrycode</i>])	
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
Arguments:	<p><i>datetext</i> – 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><i>formatpattern</i> – Text type: specifies the format pattern to use to parse the “<i>datetext</i>”. See Date and Time Patterns for details.</p> <p>The following arguments are optional: Either you supply no further argument at all... Or you supply <u>only</u> the following argument:</p> <p><i>localename</i> – 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 “<i>datetext</i>” will be expected according to this locale.</p> <p>Or you supply <u>both</u> the following two arguments:</p> <p><i>langcode</i> – 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><i>countrycode</i> – 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 “<i>langcode</i>” and “<i>countrycode</i>” are specified, they are used to create a locale for the given language and country, and any locale specific text in “<i>datetext</i>” will be expected according to this locale.</p>

<i>Examples:</i>	<p>ToMillis("February 22. 2004", "MMMM dd. yyyy") (parses the given date using the default U.S. locale)</p> <p>ToMillis("Februar 22. 2004", "MMMM dd. yyyy", "Germany") (parses the given date using the pre-defined locale for Germany)</p> <p>ToMillis("Februar 22. 2004", "MMMM dd. yyyy", "de", "AT") (parses the given date using a custom locale for language "de" =German and country "AT" =Austria)</p>
------------------	---

18.4.1 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 Formats

Date and time formats are specified by pattern strings. Within pattern strings, unquoted letters from 'A' to 'Z' and from 'a' to 'z' are interpreted as pattern letters representing the components of a date or time string (see below for details). Text can be quoted using single quotes <'> to avoid interpretation. In a quoted text, the double single quote <' '> represents a single quote. All other characters are not interpreted; they are simply copied into the output string during formatting or matched against the input string during parsing.

The following pattern letters are defined (all other characters from 'A' to 'Z' and from 'a' to 'z' are reserved). The letters are case-sensitive. The same letter has different meanings in its uppercase or lowercase version. Each pattern letter has a specific "presentation" in the created final string (during formatting) or in the parsed string (during parsing). For example, presentation types may be **Text**, **Number**, **Year** or similar. More details about the presentations and their meanings follow below.

Commonly Used Pattern Letters:

Letter	Date or Time Component	Presentation	Examples
y	Year	Year	1996; 96
M	Month in year	Month	July; Jul; 07

d	Day in month	Number	10
E	Weekday	Text	Tuesday; Tue
H	Hour in day (0-23)	Number	0
h	Hour in am/pm (1-12)	Number	12
m	Minute in hour	Number	30
s	Second in minute	Number	55
S	Millisecond	Number	978
a	Am/pm marker	Text	PM

Special Pattern Letters:

Letter	Date or Time Component	Presentation	Examples
G	Era designator	Text	AD; BC
D	Day in year	Number	189
w	Calendar week in year	Number	27
W	Calendar week in month	Number	2
F	Weekday ordinal in month	Number	2
k	Hour in day (1-24)	Number	24
K	Hour in am/pm (0-11)	Number	0
z	Time zone	General time zone	Pacific Standard Time; PST; GMT-08:00
Z	Time zone	RFC 822 time zone	-0800



Note: The **calendar week in year** and **calendar week in month** value depends on the locale that is used. The locale determines the conventions about which weekday is interpreted as the first day of the week (usually “Monday” or “Sunday”) and under which circumstances a week that falls partially into one year (or month) and partially into the next, is interpreted as belonging to the one year (or month) or the other.



Note: The **weekday ordinal in month** value indicates the ordinal number of the weekday of the given date/time in the given month. For the first Monday in a month, the ordinal is “1”, as it is for the first Tuesday, Wednesday and so on. For the second Monday in a month, the ordinal is “2”, and so on.

Presentation Description

Pattern letters are usually repeated, as their number determines the exact presentation:

- **Text:** For formatting, if the number of pattern letters is four or more, the full form is used; otherwise, a short or abbreviated form is used if available.

For parsing, both forms are accepted, independent of the number of pattern letters.

- **Number:** For formatting, the number of pattern letters is the minimum number of digits, and shorter numbers are zero-padded to this amount.
For parsing, the number of pattern letters is ignored unless it is needed to separate two adjacent fields.
- **Year:** For formatting, if the number of pattern letters is two, the year is truncated to 2 digits; otherwise it is interpreted as a **Number** (see above).

For parsing, if the number of pattern letters is more than two, the year is interpreted literally, regardless of the number of digits. So using the pattern “MM/dd/YYYY”, the text “01/11/12” parses to Jan. 11, 12 AD.

For parsing with the abbreviated year pattern (“y” or “yy”), LISTSERV Maestro must interpret the abbreviated year relative to some century. It does this by adjusting dates to be within 80 years before and 20 years after the current time. For example, using the pattern “MM/dd/yy” on Jan. 1, 1997, the text “01/11/12” would be interpreted as Jan. 11, 2012, while the text “05/04/64” would be interpreted as May 4, 1964. During parsing, only strings consisting of exactly two digits will be parsed into the default century. Any other numeric string, such as a one digit string, a three or more digit string, or a two digit string that is not all digits (for example “-1”), is interpreted literally. Therefore, “01/02/3” or “01/02/003” are parsed, using the same pattern, as Jan. 2, 3 AD. Likewise, “01/02/-3” is parsed as Jan. 2, 4 BC.

- **Month:** If the number of pattern letters is one or two, the month is interpreted as **Number**, if it is 3 or more, it is interpreted as **Text**. Therefore, if the month is interpreted as **Number** or **Text**, the applicable **Number/ Text** interpretation rules apply (see above). For example: 1 letter will be a **Number** that is not padded, 2 letters will be a **Number** that is padded, 3 letters will be a **Text** using the abbreviated form and 4 or more letters will be a **Text** using the long form.
- **General time zone:** For formatting, the time zone is handled as **Text** if it has a name. If not, it is given as a GMT offset value in the format “GMT [+ | -] HH : MM”, where “HH” is the hours between 0 and 23 (one or two digits, may be zero-padded to the left) and “MM” is the minutes between 00 and 59 (always two digits, zero-padded to the left if necessary). For example, “GMT+8 : 00”, “GMT+08 : 00”, “GMT-12 : 45”.

For parsing, see “Time zone parsing” below.

- **RFC 822 time zone:** For formatting, the RFC 822 4-digit time zone format is used: “[+ | -] HHMM”, where “HH” is the hours as two digits, between 00 and 23 (zero-padded to the left if necessary) and “MM” is the minutes as two digits, between 00 and 59 (zero-padded to the left if necessary).

For parsing, see “Time zone parsing” below.

- **Time zone parsing:** For parsing of a time zone, it does not matter if the format pattern specifies a “General time zone” or a “RFC 822 time zone”: In both cases, all three types of time zone specifications are accepted:
 - Time zone given as “Text” (if given with a name recognized by LISTSERV Maestro).

- Time zone given as GMT offset (see “General time zone”).
- Time zone given as RFC 882 4-digit notation (see RFC 822 time zone).

Examples

The following examples show how date and time patterns are interpreted in the default U.S. locale with the “U.S. Pacific Time” time zone. The given date and time are “2001-07-04 12:08:56” local time in that time zone.

Date and Time Pattern	Result
"yyyy.MM.dd G 'at' HH:mm:ss z"	2001.07.04 AD at 12:08:56 PDT
"EEE, MMM d, 'yy"	Wed, Jul 4, '01
"h:mm a"	12:08 PM
"hh 'o'clock' a, zzzz"	12 o'clock PM, Pacific Daylight Time
"K:mm a, z"	0:08 PM, PDT
"yyyyy.MMMMM.dd GGG hh:mm aaa"	02001.July.04 AD 12:08 PM
"EEE, d MMM yyyy HH:mm:ss Z"	Wed, 4 Jul 2001, 12:08:56 -0700
"yyMMddHHmmssZ"	010704120856-0700

Predefined Locales

When specifying a locale to be used for date/time formatting in “ToDate” or for parsing in “ToMillis”, you can either specify the specific ISO codes of the desired country and language (see the description of “ToDate” and “ToMillis”), or you can simply specify one of the following predefined locale names, which stands as a shortcut for the given language and country combination:

Locale Name	Language	Country
CANADA	English (en)	Canada (CA)
CANADA_FRENCH	French (fr)	Canada (CA)
CHINA	Chinese (zh)	China (CN)
FRANCE	French (fr)	France (FR)
GERMANY	German (de)	Germany (DE)
ITALY	Italian (it)	Italy (IT)
JAPAN	Japanese (jp)	Japan (JP)
KOREA	Korean (ko)	Korea (KR)

SPAIN	Spanish (es)	Spain (ES)
SWEDEN	Swedish (sv)	Sweden (SE)
TAIWAN	Chinese (zh)	Taiwan (TW)
UK	English (en)	Great Britain (GB)
US	English (en)	USA (US)

Appendix A: 24 Hour Clock Time Conversion Table

Use this table to convert conventional AM and PM times to LISTSERV Maestro compatible format.

1:00 AM equals 01:00
2:00 AM equals 02:00
3:00 AM equals 03:00
4:00 AM equals 04:00
5:00 AM equals 05:00
6:00 AM equals 06:00
7:00 AM equals 07:00
8:00 AM equals 08:00
9:00 AM equals 09:00
10:00 AM equals 10:00
11:00 AM equals 11:00
12:00 PM equals 12:00
1:00 PM equals 13:00
2:00 PM equals 14:00
3:00 PM equals 15:00
4:00 PM equals 16:00
5:00 PM equals 17:00
6:00 PM equals 18:00
7:00 PM equals 19:00
8:00 PM equals 20:00
9:00 PM equals 21:00
10:00 PM equals 22:00
11:00 PM equals 23:00
12:00 AM equals 00:00

Appendix B: 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, back slash, 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.

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 " 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 ").

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 ' ' 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 LISTSERV list**, or by letting **LISTSERV select from a database**, then again the bytes from the name-merge value will be merged into the "To:"-header correctly by LISTSERV, without the Maestro User Interface having a chance to encode them. And, because it is very improbable that the names (the byte sequences representing them) already contain the special MIME-header encoding necessary for non-ASCII "To:"-

header fields, 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 LISTSERV Maestro.

Actually, LISTSERV Maestro will not use the charsets with the names ISO-8859-6 and ISO-8859-8, but will instead use the special bi-directional versions **ISO-8859-6-i** and **ISO-8859-8-i**. These charsets contain the same characters as their non-i-suffix counterparts, but the "-i" suffix tells the receiving mail client that the text should be displayed with right-to-left reading direction. Without the "-i" suffix in the charset name, many 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 C: About Comma Separated Format Recipient 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, a 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 the 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.

The last rule listed above introduces the concept of "quoted values". As described, it is necessary to quote a value if the value contains the separator (because otherwise the separator would be interpreted as the start of another value). For LISTSERV Maestro to correctly know how to deal with quoted values, it is necessary to tell LISTSERV Maestro if the comma separated file contains any quoted values or not.

If a file does not contain any quoted values, then the additional rules explained below do not apply, i.e. even if one of the usual quote characters (quotation marks or the apostrophe) would appear anywhere in the file, then they would be interpreted by LISTSERV Maestro as just another normal character.

However, such a file may not have any value which contains the separator. If at least one value contains the separator, then this value must be quoted, and, because of this, the file becomes a file with quoted values again.

If a file does contain quoted values (at least one of them), then it must follow these additional rules:

- Any character, except for the separator character, can be used as the quote character (quotation marks or apostrophe are conventional). This character must be

used both as the opening and closing quote and must be used for all quoted fields in the file.

- A field must be quoted if it fulfills any of these two conditions:
 - If the field contains the separator character in the value, then the field must be quoted.
 - If the field contains the quote character in the value, and this quote character is also the first character of the value, then the field must be quoted. This also means that if the field contains the quote character, but it's not as the first character, then it is not necessary to quote the field.
- It is not necessary that all fields are quoted. Only fields that fall into one of the two cases described above have to be quoted. However, it is legal to also quote fields which do not fulfill these conditions.
- Usually one of two styles is used: One style quotes all fields (both the ones that have to be quoted and the ones which do not), while the other style quotes only those fields which have to be quoted (all others are left unquoted). LISTSERV Maestro is able to understand both of these styles, and also mixes of the two styles, as long as the rules described here are followed).
- If a field is a "quoted field" and the quote character also appears as part of the value of the 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.
- If a field is an "unquoted field" and the quote character also appears as part of the value of the field, then this character must not be escaped. Quote-escaping is only necessary in quoted fields.
- A "quoted field" is parsed from the file as follows: The field starts with the opening quote and ends with the next appearance of a not-escaped quote character after the opening quote. The end of the field must then be followed by a separator character or by the end of the line - trailing white space after the last field of the line is allowed.
- The value of the field is the text between the two quotes, excluding the quotes. Any escaped quotes in the value will be un-escaped.
- An "unquoted field" is parsed from the file as follows: The field starts with the first character and ends with the next appearance of the separator character (or the end of the line). The value of the field is the text with this start and end, excluding the separator character.



Note: If only some fields in a file are quoted (especially if those fields 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 only some, but not all, fields are quoted, then those fields may be parsed incorrectly or may be rejected as invalid.

Here are some examples:

Simple values, separated by comma, not quoted:

John,Doe,Chicago,USA

Lucy,Summers,London,GB

Karl,Hauser,Frankfurt,D

This will be parsed as follows:

John	Doe	Chicago	USA
Lucy	Summers	London	GB
Karl	Hauser	Frankfurt	D

Simple values, separated by comma, not quoted, with empty fields:

John,,Chicago,USA

,Summers,London,GB

Karl,Hauser,Frankfurt,

This will be parsed as follows:

John		Chicago	USA
	Summers	London	GB
Karl	Hauser	Frankfurt	

Values of which some contain a comma, separated by comma, quoted with "<">:

Using the style that quotes all values:

"John","Doe","Chicago, Illinois","USA"

"Lucy","Summers","London, England","GB"

"Karl","Hauser","Frankfurt","D"

Or using the style that quotes only the values that have to be quoted:

(The only values that have to be quoted in this example are the two values containing the separator character <,>.)

John,Doe,"Chicago, Illinois",USA

Lucy,Summers,"London, England",GB

Karl,Hauser,Frankfurt,D

Both will be parsed as follows:

John	Doe	Chicago, Illinois	USA
Lucy	Summers	London, England	GB
Karl	Hauser	Frankfurt	D

Values of which some contain a comma, separated by comma, quoted with "<">, with empty fields:

Using the style that quotes all values:

"John", "", "Chicago, Illinois", "USA"

"" , "Summers", "London, England", "GB"

"Karl", "Hauser", "Frankfurt", ""

Or using the style that quotes only the values that have to be quoted:

(The only values that have to be quoted in this example are the two values containing the separator character <,>.)

John, , "Chicago, Illinois", USA

, Summers, "London, England", GB

Karl, Hauser, Frankfurt,

Both will be parsed as follows:

John		Chicago, Illinois	USA
	Summers	London, England	GB
Karl	Hauser	Frankfurt	

Values of which some contain a comma and some the quote character, separated by comma, quoted with "<">:

Using the style that quotes all values:

"John", "Doe", "Chicago ""The Windy City"", Illinois", "USA"

"" ""Little"" Lucy", "Summers", "London, England", "GB"

"Karl ""Big Boy""", "Hauser", "Frankfurt", "D"

Or using the style that quotes only the values that have to be quoted:

(The values that have to be quoted in this example are the two values containing the separator character <,> and also the first value of the second row, which starts with the quote character "<". In comparison, the first value of the third row does contain the quote character too, but not as the first character. Therefore this field does not have to be quoted and the quote character is therefore also not escaped.)

John, Doe, "Chicago ""The Windy City"", Illinois", USA

"" ""Little"" Lucy", Summers, "London, England", GB

Karl "Big Boy", Hauser, Frankfurt, D

Both will be parsed as follows:

John	Doe	Chicago ""The Windy City"", Illinois	USA
"" ""Little"" Lucy	Summers	London, England	GB
Karl ""Big Boy""	Hauser	Frankfurt	D

Appendix D: Email Related RFCs

For technical material on the protocols for email, see the many “Request for Comments” documents (RFCs) available on the web. These documents explain the rules that email and other software products must follow in order to work cooperatively with each other on the Internet. Understanding these rules is often helpful for understanding and troubleshooting problems.

All RFCs	http://www.ietf.org/iesg/1rfc_index.txt
3000 Internet Official Protocol Standards	http://ietf.org/rfc/rfc3000.txt
Internet Drafts	http://ietf.org/ID.html
821 Simple Mail Transfer Protocol	http://ietf.org/rfc/rfc0821.txt
2821 Simple Mail Transfer Protocol	http://ietf.org/rfc/rfc2821.txt
822 Standard for the Format of ARPA Internet Text Messages	http://ietf.org/rfc/rfc0822.txt
2822 Internet Message Format	http://ietf.org/rfc/rfc2822.txt
1123 Requirements for Internet Hosts-- Application and Support	http://ietf.org/rfc/rfc1123.txt
2045 MIME Part 1: Format of the Internet Message Bodies	http://ietf.org/rfc/rfc2045.txt
2046 MIME Part 2: Media Types	http://ietf.org/rfc/rfc2046.txt
2047 MIME Part 3: Message Header Extensions for Non-ASCII Text	http://ietf.org/rfc/rfc2047.txt
2049 MIME Part 5: Conformance Criteria and Examples	http://ietf.org/rfc/rfc2049.txt
1894 An Extensible Message Format for Delivery Status Notifications (DSNs)	http://ietf.org/rfc/rfc1894.txt
1893 Enhanced Mail System Status Codes	http://ietf.org/rfc/rfc1893.txt
1855 Netiquette Guidelines	http://ietf.org/rfc/rfc1855.txt
2505 Anti-Spam Recommendations for SMTP MTAs	http://ietf.org/rfc/rfc2505.txt
2635 DON'T SPEW: A Set of Guidelines for Mass Unsolicited Mailings and Postings (spam*)	http://ietf.org/rfc/rfc2635.txt
3098 How to Advertise Responsibly Using Email and Newsgroups	http://ietf.org/rfc/rfc3098.txt
1818 Best Current Practices	http://ietf.org/rfc/rfc1818.txt
1796 Not All RFCs are Standards	http://ietf.org/rfc/rfc1796.txt

Appendix E: LISTSERV Maestro and AOL

Recipients who use older AOL email clients (version 5.0 and older) cannot receive HTML messages, but can receive AOL Rich Text messages. AOL Rich Text is a specialized email format that uses a sub-set of HTML tags to create text formatting. Rich Text is not compatible with newer AOL email clients, and sending Rich Text formatted mail to newer AOL clients will cause formatting errors. Images cannot be embedded in Rich Text, but Rich Text can contain links to image files located on another server.

AOL Alternative Text for HTML Messages

To include recipients using older AOL email clients, create an AOL alternative message to be sent with the HTML message.

To add an AOL Rich Text alternative to an HTML message, follow these steps:

1. Select the **HTML with Alternatives** option on the Define Message screen.
2. Check the box next to **AOL Format**. This activates two additional tabs AOL Preview and AOL Code.
3. Click on the AOL Code tab to add the alternative AOL message. The message can be uploaded, pasted, or keyed directly into the box.
4. Click the AOL Preview tab to see what the message looks like to recipients. All formatting will be displayed (bold or italic text for example). HTML tags that are not compatible with AOL Rich Text (errors in coding) will be displayed as regular text within the message and will be readily identifiable. Any drop-in content elements will be automatically added into the body of the text message.

Any trackable links in the alternative text message must be enclosed within quotation marks the same way as the trackable plain text message links are enclosed. Merge fields and drop-in content can be used in this format as described in Sections 6.1 [Drop-In Content](#) and 6.6 [Merge Fields and Conditional Blocks](#).

Table E-1 AOL Rich Text Formatting Tags

Big: <big>	Body: <body>	Bold:
Break: 	Center: <center>	Font:
Headers 1-3: <h1>, <h2>, <h3>	Hyperlink: <a>	Italics: <i>
Paragraph: <p>	Small: <small>	Strong:
Superscript: <sup>	Subscript: <sub>	Underline: <u>

AOL and Conditional Content

In the event that recipient data is available that somehow determines the format each recipient prefers to receive, that data can be used to send the preferred format to each recipient, all within the same job. This determination is based upon a conditional statement run against the recipient data. The advantage of using conditional content is that it's possible to prepare a single job for recipients who prefer HTML and those who

prefer plain text, respecting each recipient's choices as well as saving time and reducing the chance for errors while sending multiple jobs.

In order to use the Conditional Content feature, it must first be enabled. To enable conditional content, click on the **Change** link that appears directly under the tabs of the text box on the Define Message screen when HTML content with alternatives is selected. The Conditional Content Settings screen opens. Select the **Enable conditional content** option.

Once enabled, it is necessary to type in the condition that determines which recipients receive which type of mail. LISERV Maestro uses the standard LISERV syntax to create the condition. See Section 17 [Using Conditional Blocks](#) for more information on constructing conditions. The condition needs to include at least one merge field from the recipient data so that the condition acts like a variable whose true/false result is different for those recipients receiving each of the different message formats.

Figure E-1 Conditional Content Settings for AOL

There are three possible situations that conditions can be used to deliver the message format preferred by individual recipients: an HTML message with a text alternative, an HTML message with an AOL formatted alternative, and an HTML message with both a text alternative and an AOL alternative.

- **HTML content with plain text alternative** – one condition needs to be specified for the HTML content.
 - If a recipient fulfills the condition, the full HTML email including the plain text alternative is delivered to that recipient.
 - If the recipient does not fulfill the condition, a simple plain text email is delivered instead, containing only the plain text alternative.
- **HTML content with AOL format alternative** – one condition needs to be specified for the HTML content.

- If a recipient fulfills the condition, a pure HTML email with no alternatives is delivered to that recipient.
- If the recipient does not fulfill the condition, an email in the special AOL format is delivered, containing only the AOL format alternative.
- **HTML content with both AOL format and plain text alternatives** – two conditions need to be specified, one for the HTML content and one for the AOL format content, evaluated in the following order:
 - If a recipient fulfills the HTML condition, a full HTML email, including the plain text alternative only, is delivered to that recipient.
 - If the recipient does not fulfill the HTML condition, but does fulfill the AOL condition, an email in the special AOL format is delivered, containing only the AOL format alternative.
 - If the recipient does not fulfill the AOL condition, (neither of the two conditions are fulfilled) a simple plain text email is delivered, containing only the plain text alternative.

If attachments are present, then LISERV Maestro adds the attachments to each of the messages, without applying conditions.

Appendix F: Using Netscape or Mozilla Browsers with a Linux Client

The following issues may apply when using a Netscape or Mozilla browser on a Linux client to access the LISTSERV Maestro user interfaces. Older versions of these browsers (Netscape 7.0 or Mozilla 1.0.0) may be more susceptible to these issues than newer versions.

Font Size

The user interface may be displayed with fonts that appear too small. To display the user interface with the original font sizes, please set the Netscape or Mozilla browser to a text zoom factor of **130%**.

Go to the **View** menu, select **Text Zoom**, and then **Other**. Input the value 130.

HTML Upload

Uploading of an HTML page as the content of a HTML mail message happens with a Java based upload applet. This applet is executed on the client computer where the Netscape or Mozilla browser is running, and it is started automatically by the browser when the **[Upload HTML]** button is clicked.

For Netscape and Mozilla on Linux to be able to start and run this Java applet, you must have the **Java 1.4** (or later) **plugin** installed. The applet will not work with the Java 1.3 plugin.

Please go to Sun's Java pages at <http://java.sun.com> or to the homepage of your browser to learn how to install the Java plugin.

Appendix G: Tips for Creating a Successful Email Marketing Campaign

- ✓ Build your list internally, even if it takes time, so the quality of your recipient list remains at a high level.
- ✓ Keep an accurate audit of how your company received permission to contact the subscribers of the lists - some people forget they signed up to receive information.
- ✓ Make membership to your list valuable by offering deals that non-members do not receive.
- ✓ Make sure that your company's name (or product name) is clearly stated in the domain name, which appears in the "Sender" line of the email.
- ✓ Use clearly stated words that describe what you want customers to respond to in both the "Subject" line and the body of your message.
- ✓ Provide recipients with a clear way to contact you for more information, including a staffed telephone number or email address.
- ✓ Provide subscribers with clear instructions of how to be removed from future mailings, and make sure that your Privacy Policy is easily accessible.
- ✓ Plan mailings for specific, opportune times so subscribers are expecting your messages and are properly suited to respond.
- ✓ Personalize headers with recipients' names, and tailor messages that are ideally suited for different target segments.
- ✓ Choose software that is capable of performing as your lists grow, scans outgoing messages for viruses, and can measure the effectiveness of your campaign.
- ✗ Don't send messages to anyone who did not request to receive information.
- ✗ Don't purchase or rent lists of email addresses from brokers who are not reputable.
- ✗ Don't use exclamation points, capitalized letters or other blatant marketing techniques that are synonymous with spammers.
- ✗ Don't send irrelevant offers to members of your database - for example, if you run an online travel agency, do not send special airfares incentives that originate from airports that do not correspond with the zip codes members have provided.
- ✗ Don't overload recipients with too many messages - only offer truly special deals.
- ✗ Don't cram too many messages into a single email or send large attachments that may clog subscribers' inboxes.
- ✗ Don't neglect to test messages for formatting errors, especially when sending HTML messages or when contacting AOL users.
- ✗ Don't rely on your email program's spell checker - have several colleagues proofread your message for spelling and grammatical errors.
- ✗ Don't sell or rent your email lists to other organizations unless you have been given specific permission to do so.

- ✘ Don't expect every campaign to be an immediate home run - crafting quality messages takes time and requires feedback.

The full text of this award-winning article, "Successful Email Marketing Practices", can be viewed and downloaded at <http://www.lsoft.com/resources/wp-email-marketing.pdf>.

Glossary of Terms

A

Attachment – A file linked to an email message. Many programs use MIME encoding to attach files.

B

C

Click-Through Event – A trackable occurrence available with text and HTML email messages that records each time a URL contained in the message is clicked.

Column – A vertical set of data, as in a table or spreadsheet.

D

Database – A large collection of data organized for rapid search and retrieval, and managed by a DBMS.

Database Plugin – 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 he/she wants to access then provides the connection data (like host name, port, user name, password, etc.) and LISTSERV Maestro is then able to access that database to select the recipients.

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.

DBMS – Stands for Data Base Management System. A complex set of programs that control the organization, storage, and retrieval of data for many users. Data is organized into fields, records, and files. A database management system must also control the security of the database. Examples of Database management systems are Oracle, Sybase, and Datacom. A DBMS provides the possibilities for users to connect LISTSERV to a database back-end and hence send out personalized messages to customers, according to demographic information and preference.

Delimiter – The character or symbol that is used to separate one item from another. In text files that are imported into databases, commas are often used as delimiters.

E

Email Job – In LISTSERV Maestro an email job is the creation of a customized list of recipients matched with a customized email message that is scheduled for delivery and then sent out.

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.

Encoding – The transformation of data into digital form. With text encoding, different character sets encode text files differently based on language and other variables. If a

special character set was used to encode a text file, then that same encoding scheme needs to be used to interpret the data correctly. LISTSERV Maestro allows for the selection of encoding based upon the original encoding scheme of the uploaded text file. For example, if special encoding was used to initially create (and save) the text file (e.g. ISO-7 encoding for a file with Greek characters, or a Unicode encoding), then the same encoding will have to be selected in LISTSERV Maestro so the system interprets the uploaded data in the same way it was saved.

F**G****H**

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 Data – A collection of data organized in columns and rows, related to recipients, and stored inside LISTSERV Maestro.

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

I

Identity – A collection of several accounts that belong to one and the same "identity", usually a person. By collecting all accounts of one person into an identity, LISTSERV Maestro knows that these accounts all belong together. As a result, the user is then allowed to switch between the accounts in the identity without having to perform an actual logout and login. In other words, if a user logs in with one account that belongs to an identity, then this user can switch over to all other accounts in the same identity without having to first logout the old account and then login again with the new account.

J**K****L**

Link Alias – Gives each trackable link a special name. Aliases can be used to differentiate between two different links that go to the same URL. Each link in this case would be given a different alias. Aliases can also be used to group different links together into a larger group in order to measure the overall number of clicks in a message. In this case, all the links would be given the same alias. If aliases are not defined for tracked links (aliases are optional), then LISTSERV Maestro will only be able to find the URL of the link in the tracking data.

LISTSERV® – The most prevalent email list management software in the world today. It is an application that allows users to create and maintain email lists on their corporate networks or on the Internet. LISTSERV supports all types of email lists: newsletters (moderated and un-moderated), discussion groups, and direct marketing campaigns. List sizes can range from a few participants in a discussion group to several million in a newsletter. Every list and its archives can be maintained through a simple web interface, which can be fully customized to match a website profile.

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

M

MIME – Stands for Multipurpose Internet Mail Extensions. Extensions to the Internet mail format that allow it to carry multiple types of data as attachments to email messages.

Multiple Selection List – In hosted recipient data, a field that appears as a drop-down menu that allows one or more items to be selected.

N

O

Open-Up Event – A trackable occurrence available with HTML email messages that records each time a message is opened by a recipient.

P

Parse – A software routine that analyzes a statement in natural or artificial language and resolves it into a form that can be understood by the computer. In LISTSERV Maestro a database file exported as a text file will be parsed – sorted into categories or columns of data before it can be used by the system.

Plugin – A LISTSERV Maestro database plugin allows the Maestro User Interface to gain access to different databases. Plugins need to be registered and configured by the LISTSERV Maestro system administrator. For more information, see the Administrator's Guide.

Q

Quote Character – In a SQL statement: a character (usually the single quote) used to enclose string literals, to set them off from the rest of the SQL statement.

In a text file (CSV-file) containing data: a character or symbol used to surround a separator character that is used in the actual data in a column so that the separator character is not confused with the character that appears in the data. For example, if a comma (,) is used as the separator character in a database file, all the fields of data are separated by a comma. If the comma is also used within a field, a quote character must surround the entire field. If the quote character is used in a field, it must be used twice or "escaped."

R

R

RFC – Stands for Request for Comments. These documents explain the rules that email and other software products must follow in order to work cooperatively with each other on the Internet. Understanding the rules is often helpful for understanding and

troubleshooting problems. See Appendix D: [Email Related RFCs](#) for links to various RFCs.

S

Select Statement – A SQL statement in the form of a query that is issued to a database to retrieve data.

Separator Character – A character or symbol used to separate one item from another. In databases, commas are often used as separator characters.

SQL – Stands for Structured Query Language. It is a language used to create, maintain, and query relational databases. SQL uses regular English words for many of its commands, making it easy to use. It is often embedded within other programming languages.

T

Target Groups – 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.

U

URL – Stands for Uniform Resource Locator (formerly “Universal Resource Locator”). URLs are Internet addresses that tell browser programs where to find Internet resources. The URL for L-Soft is <http://www.lsoft.com>.

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