L-Soft Sweden AB

User's Manual

LISTSERV® Maestro, version 1.2-6

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About This Manual

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

The following documentation conventions have been used in this manual:

- Quotations from the screen will appear in italics enclosed within quotation marks.
- Clickable buttons will appear in bold.
- Clickable links will appear in bold.
- Directory names, commands, and examples of editing program files will appear in Courier New font.
- Emphasized words or phrases will be underlined.

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

This symbol denotes an important note or warning.

This symbol denotes optional advice to save time.

Section 1 Introduction to LISTSERV® Maestro

Designed specifically to work with LISTSERV® 1.8e (or later) and LSMTP® 1.1b (or later), LISTSERV Maestro allows users to easily create and send personalized e-mail messages using a Web interface. Incorporated into this powerful tool is a tracking component that can collect data every time a recipient opens an e-mail message or clicks on a URL contained within the message. LISTSERV Maestro can:

- Define a targeted group of recipients based on a LISTSERV list, a database, a past job, responses to a past job, or a text file.
- Define an e-mail message in plain text, in AOL Rich Text, HTML, or combination.
- Attach files to an e-mail message.
- Delegate various tasks related to defining recipients, creating the messages, and delivering e-mail to LISTSERV Maestro defined team members.
- Schedule e-mail messages for delivery on any date, at any time in one minute intervals, within any time zone.
- Save messages, as well as sender and recipient information for future e-mail jobs.
- Test e-mail 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 and LSMTP. 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, however, 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:

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

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

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

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

1.2 Accessing Maestro

Once the system administrator has installed the program and created user accounts, set a compatible browser to `http://Your_Maestro_Host/lui`

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.

Figure 1 LISTSERV Maestro Login Screen

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

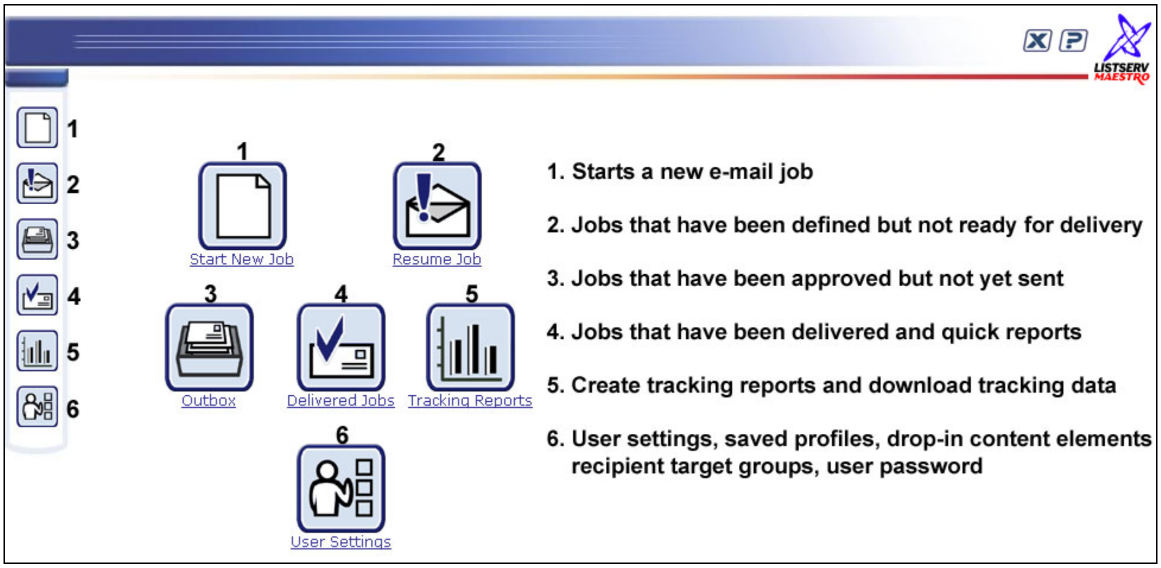
The opening screen of LISTSERV Maestro's interface contains various sets of functional and navigational icons. The top right of each page in the LISTSERV Maestro interface includes all or a subset of these four small icons:

Table 1 Navigational Icons

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

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

Figure 2 LISTSERV Maestro Home Page



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

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

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

Section 3 Using LISTSERV® Maestro to Define an E-mail Job

Creating and sending customized e-mail 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 e-mail 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.
- Tracking data, if requested, can then be retrieved as messages are received and opened by recipients.

3.1 Starting a Job

To begin creating a new e-mail job, click the icon **Start New Job**. The individual who initiates a new e-mail job becomes the "owner" of that job. A job owner:

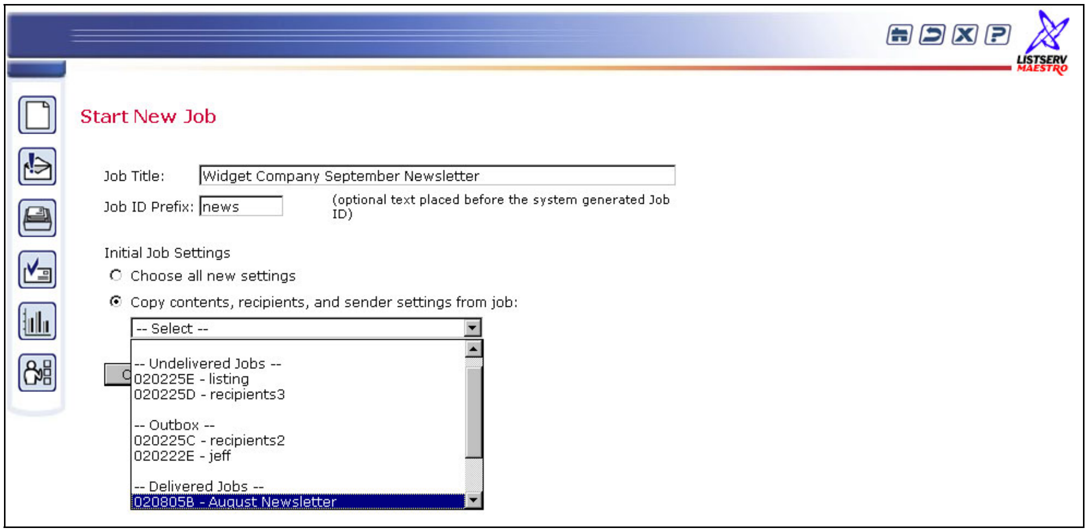
- Automatically has the rights (privileges) to all the different functions of the job from assigning a job title to final approval for delivering the message.
- Is the only account holder that can change the Job Title and Job ID.
- Is the only account holder that can designate team members that are allowed 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 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, which appears at the beginning of the system generated Job ID and is 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 further identify jobs or perhaps group jobs for reporting or billing. For more on Job Titles and Job IDs, see the LISTSERV Maestro online help or the LISTSERV Maestro Administrators Guide.

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 3 Start New Job Screen



A new job can be created one of two ways, by selecting the option button "*choose all new settings*," which means entering in all new information, or, by selecting the option button "*copy contents, recipients, and sender settings from existing job:*" which takes the settings from an existing job as the basis for the new job.

A new empty job needs to have the e-mail 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. Press **OK** to continue or **Cancel** to return to the previous screen.

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. A new product announcement would contain the same message but could be sent to different recipient lists.

3.2 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 e-mail 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 a "*Summary"* diagram. These diagrams serve to guide account holders through the proper sequence of events for defining an e-mail job. Both of these displays chart the process of creating an e-mail job and contain links that allow each procedure to be edited.

The Workflow diagram is a visual representation of the process of creating an e-mail job. 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 the area in LISTSERV Maestro that defines and edits that step of the e-mail 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 e-mail job. To reach the Summary 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 11.4 Setting User Preferences for more information.

The third tab at the top of the "*Job Details*" screen is called "*Test Reports*" and will only become active once an e-mail 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-though events. For information on using the Test Reports functions, see Section 7.2 Delivery Testing for a Job.

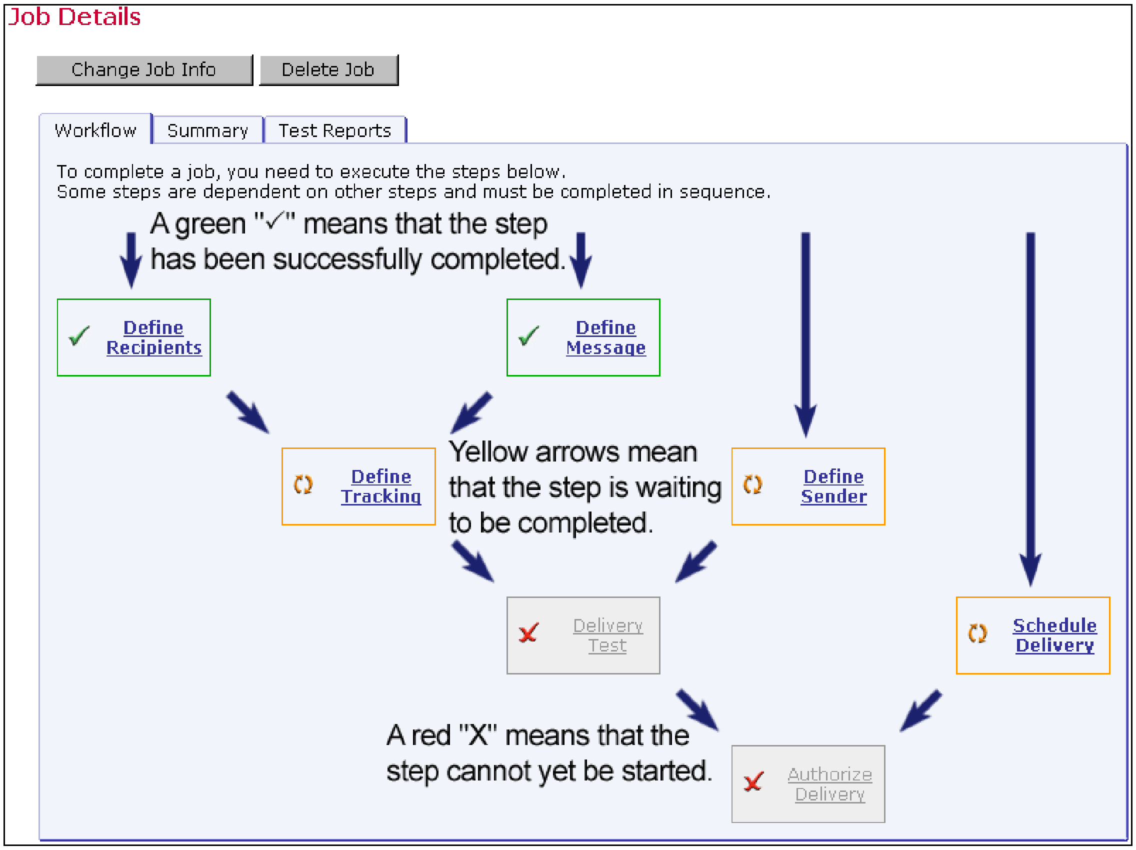
3.3 Using the Workflow Diagram

This flow chart serves as a visual representation of the process of creating a new e-mail 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 e-mail 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 the **Delete Job** button. The job owner can change the Job Title, Job ID, and Team Collaboration by clicking the **Change Job Info** button.

Figure 4 Workflow Diagram on Job Details Screen



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.

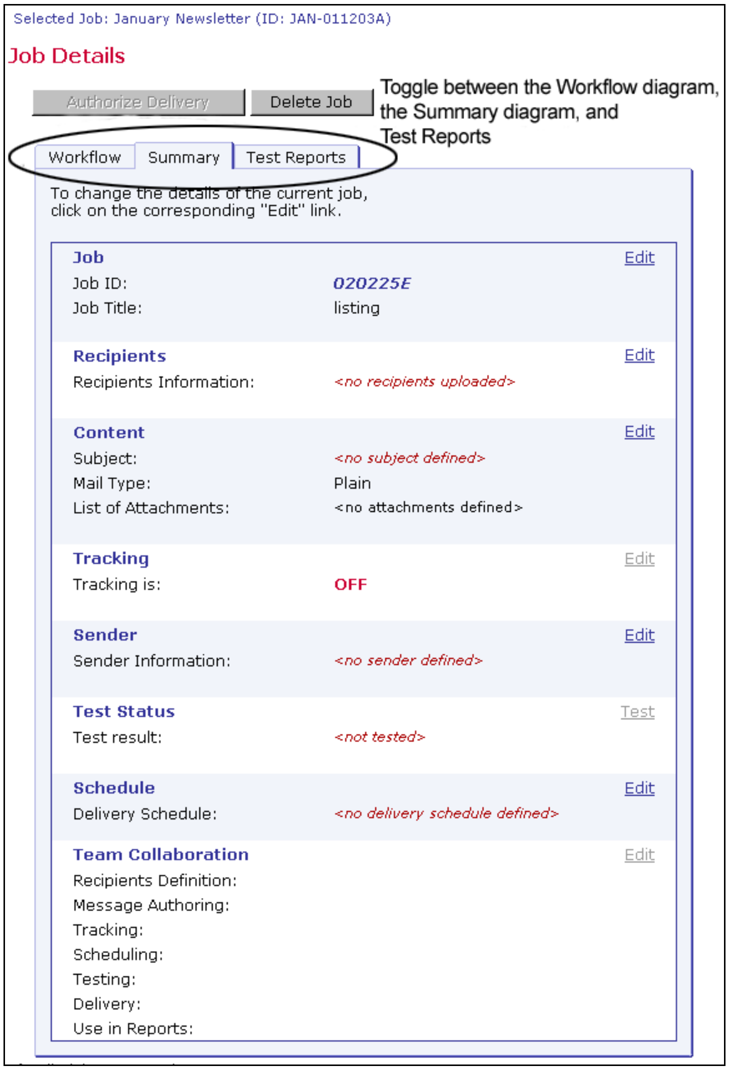
Icons may also not be clickable for an individual, even though the step is available, because the account holder does not have permission to execute that particular step of the job. Permission to execute certain steps in an e-mail job is granted by the job owner (the person who initiated the e-mail job), or by the LISTSERV Maestro Administrator when the user's account was set up. For more information on team collaboration, see Section 3.5 Team Collaboration. For more information on individual user account privileges see Section 4.2 in the LISTSERV Maestro Administrator's Manual.

3.4 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 e-mail 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. Toggle between the Summary diagram, the Workflow diagram, and Test Reports by using the tabs near the top.

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.

Figure 5 Summary Diagram from the Job Details Screen



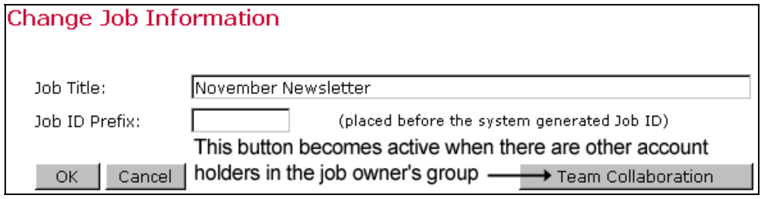
Click on the **Edit** link adjacent to each function to enter or change existing settings. If the **Edit** link is not clickable, it will appear grayed out or a lighter color. This means that a preceding step has not been successfully completed or the user does not have permission to execute that step.

3.5 Team Collaboration

The **Change Job Info** button is located at the top of the Job Details screen displaying the Workflow diagram. Clicking this button will allow the Job Title and Job ID Prefix to be changed. A **Team Collaboration** button becomes available if there are other account holders in the group. This function makes it possible to set up a team of people to collaborate on a job. From the Job Details Summary screen, “*Team Collaboration*” is the bottom listing and can be edited if the **Edit** link is active.

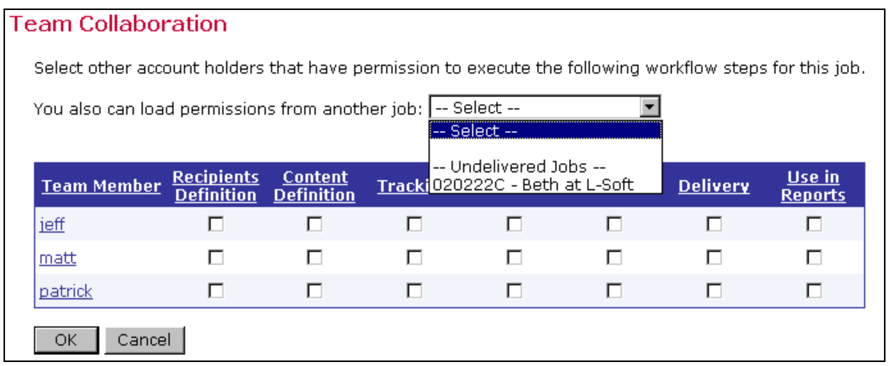
The job owner can choose team members and assign each person privileges (rights) to perform certain functions within that job. The job owner always has privileges to all the functions of his/her job and other account holders may not revoke these privileges. Other team members can have different responsibilities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

Figure 6 Change Job Information Screen



Clicking **Team Collaboration** reveals 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 7 Team Collaboration Screen



Separating responsibilities for different aspects of an e-mail 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 4 Defining Recipients of an E-mail Job

The next step in creating an e-mail job is to define or select the recipients of the message. Recipients can be selected from a past job or a new recipient definition can be created. LISTSERV® Maestro also gives the user the option of eliminating duplicate recipients based on e-mail address or other unique column identifiers.

Generating a recipient definition is a multi-step process. The recipients definition wizard is composed of the following steps that will guide the account holder through the process:

- **Options** – Deciding where the recipient data will come from.
- **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 file into labeled columns such as name and e-mail address.
- **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.

4.1 Options

The first screen that opens in the define recipients process is the "*Options*" screen. There are seven options, split into two categories that can be selected to define the source for a recipient list:

The "*Use existing recipient*s" category contains four options that are based on the existence of predetermined recipients:

- **Send to a Recipients Target Group** – Allows account holders to select pre-defined groups of recipients from a database. All accounts in the group where the recipients target groups are saved may use them to build a recipient list for an e-mail job. The data administrator will set up target groups based on information in a database 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.
- **Send to an Existing LISTSERV List** – Recipients are defined by a LISTSERV list. The list must be owned or be moderated by the e-mail address registered for the LISTSERV Maestro account. The LISTSERV site administrator or the LISTSERV Maestro system administrator must configure this set-up.
- **Determine Recipients Based on Reaction to the Job** – Recipients are selected based upon a defined action they performed in a previous job. Select the previous job from the drop-down menu. This option can only draw recipients from jobs with personal tracking, and where the recipients were defined using "*Upload a Recipients Text File*" or "*Select Recipients from a Database.*"
- **Use Recipients Definition from Job** – Recipients are copied from a previous job, including all the recipient details such as LISTSERV list options and so on. Select the previous job using a drop-down menu listing the jobs available.

The category "*Define recipients*" contains three options that allow for the creation of an original recipients list.

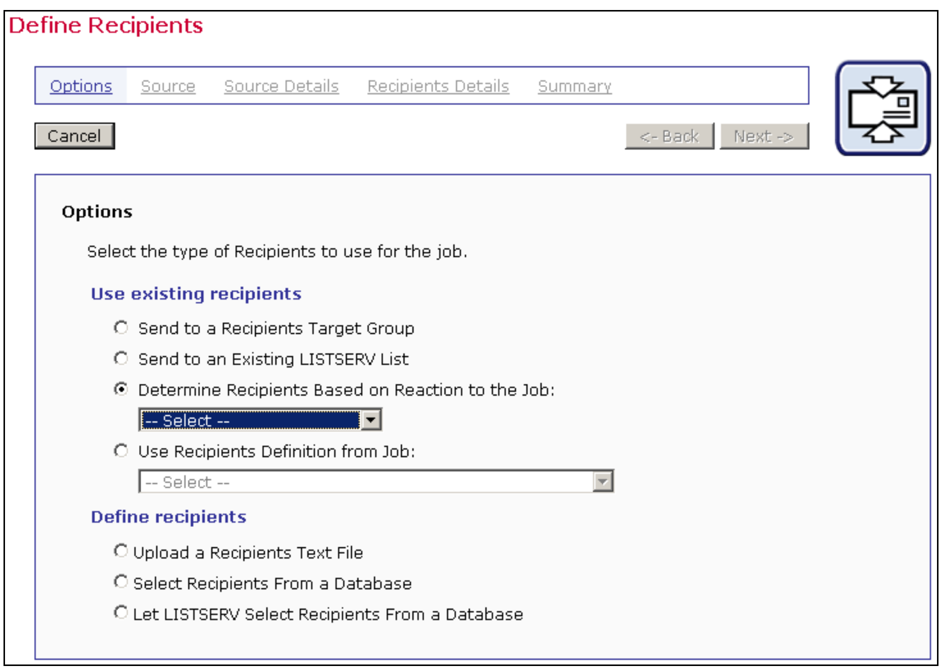
- **Upload a Recipients Text File** – A text file uploaded into the system defines recipients. The text file may contain columns of data with or without headers. The system administrator may limit the availability of this option and/or may limit the size of the uploaded file. For more information on text files, see Section 4.2.5 Upload a Recipients Text File, and Appendix C.
- **Select Recipients from a Database** – Recipients are defined by a LISTSERV Maestro defined database that is connected to by a plugin installed and configured by the LISTSERV Maestro system administrator.
- **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.

Select the option button next to the type of recipients that will be used to generate the recipients list. The types "*Determine Recipients Based on Reaction to the Job:*" and "*Use Recipient Definition from Job:*" also require the further selection of the job from the drop-down menu. Click **Next ->** to continue.

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 once acts the same as clicking **Cancel**.

Caution: Do not use the browser's back button to navigate within the program because entries may not be automatically saved.

Figure 8 Define Recipients Options Screens



4.2 Source

The next step is to define or upload a "Source" for the recipient data. Depending on the Options selected in the previous screen, different prompts will appear on the Source screen, requesting different information in order to create the recipients list.

4.2.1 Send to a Recipients Target Group

Recipient target groups are pre-selected groups of recipients organized around a set of criterion such as demographic information (or other data) that is stored in a database. There are many advantages to using recipients target groups:

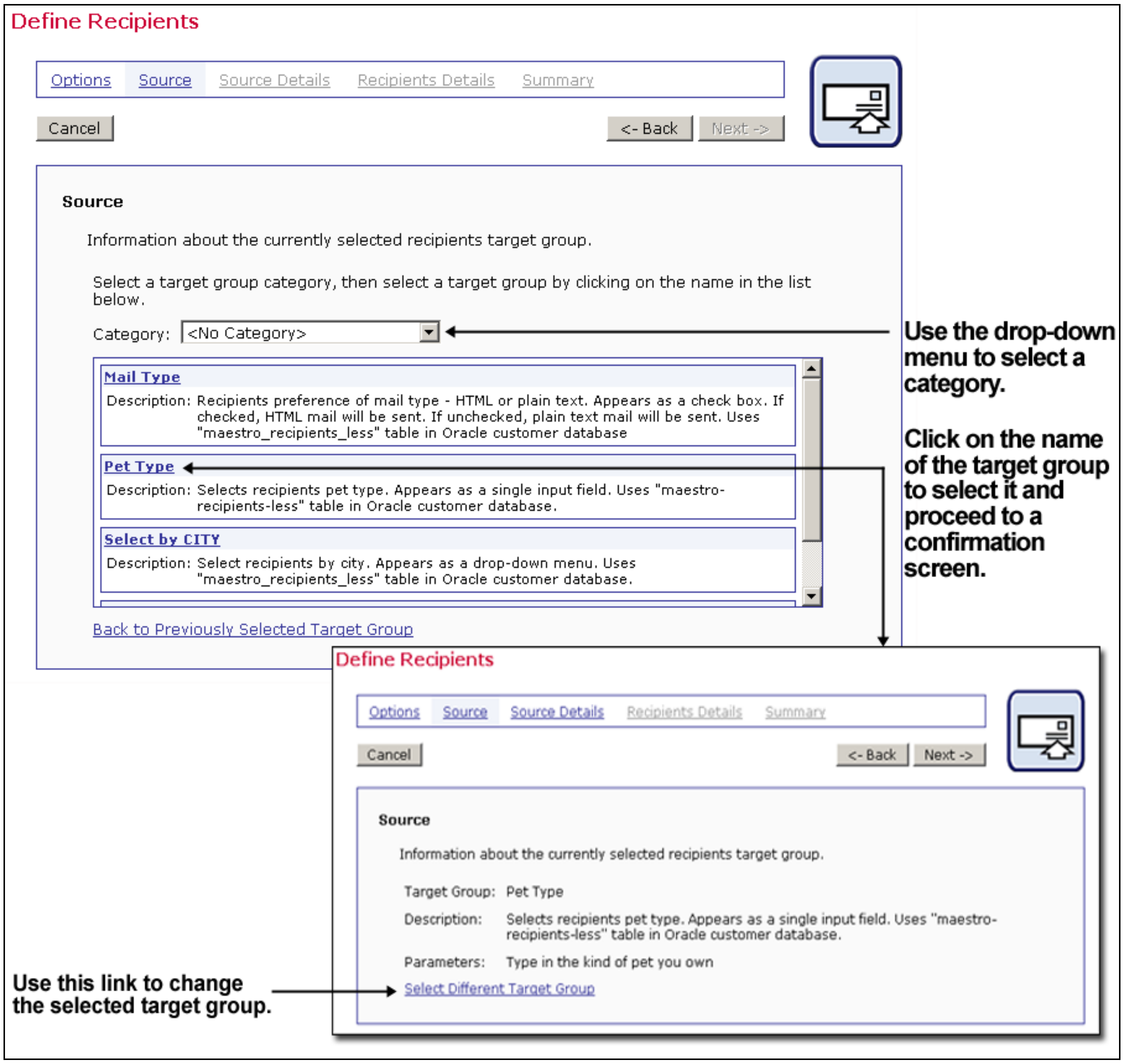
- They can be fixed – pulling recipients in a predefined fashion such as "all males" or "all cat owners above age 40."
- They can include parameters – giving the account holder the freedom to select a sub-set of data such as "all customers in a certain country" where country is a list of countries that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

The data administrator will set up what groups of recipients are available to users and how those groups are selected in the user interface. The recipient target group interface can be composed of drop-down menus, and/or check boxes for selecting groups of recipients. Ideas for additional target groups should be directed to the data administrator.

The Source screen for "Send to a Recipients Target Group" contains listing all of the available target groups. Target groups may be placed within categories by the data administrator for organizational purposes. Use the drop-down menu to select a category (if appropriate). Once the category is selected the target groups listed in the table will change to list only those in that category.

To select a target group to use for the recipients list, click on the name of the target group. The Source screen will confirm the selection. If the selection is correct, click the **Next ->** button. To change the target group, click the link **Select Different Target Group**, which will re-open the first source screen.

Figure 9 Source Screen for Recipients Target Groups



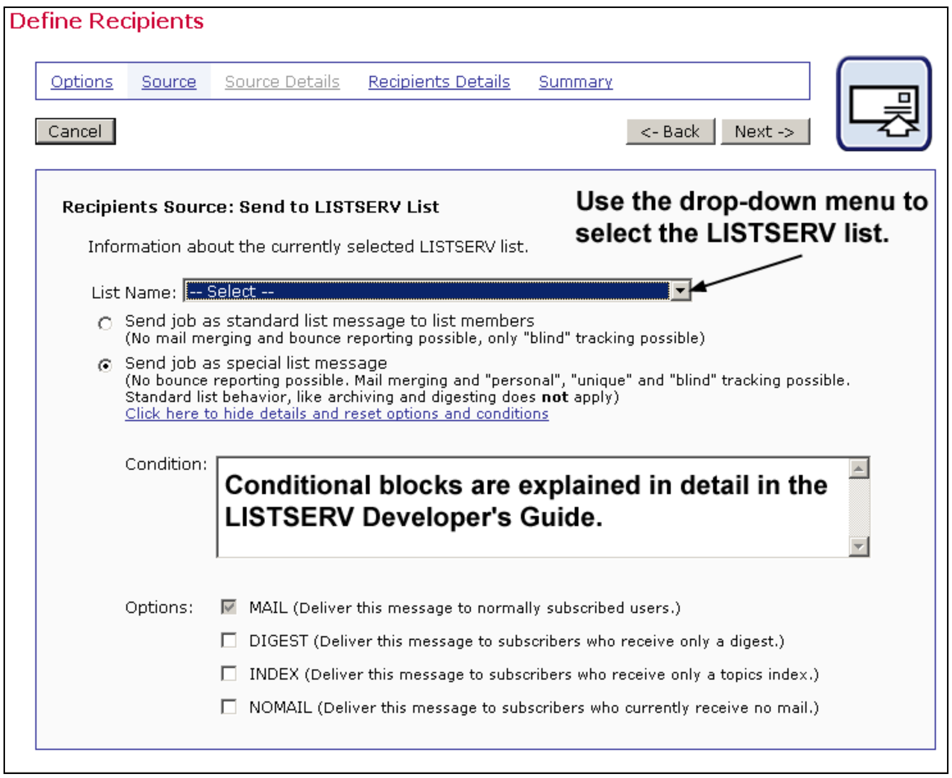
Click **Next->** to continue to the Source Details screen.

4.2.2 Send to an Existing LISTSERV List

The option "Send to an Existing LISTSERV List" uses the identified list's subscriber names and addresses to create the recipient list for the e-mail job. Select the list by using the drop-down menu. Contained in this menu are all the LISTSERV lists available to the LISTSERV Maestro instance. Two options for the type of list message are available: send the message as a "*standard list message*" to subscribers (which will limit the tracking options, but allow for the use of Topics, (see Section 4.3.1 LISTSERV Topics), or as a "*special list message*" that allows for mail merging and more tracking options.

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. If the message is sent as a special list message, then the LISTSERV Maestro e-mail address must be an owner of the list. By choosing "*Send job as special list message*" an additional link, **Special distribution options available here** becomes active. Click this link to expand the screen and display conditions and options for the list. The screen needs to remain expanded in order to use the selections made in the expanded version.

Figure 10 Define Recipients from a LISTSERV List



Setting a "Condition" is a means of creating a subset of recipients from the selected LISTSERV list based on the e-mail address, or, in the case of DBMS-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/manuals.html

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

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

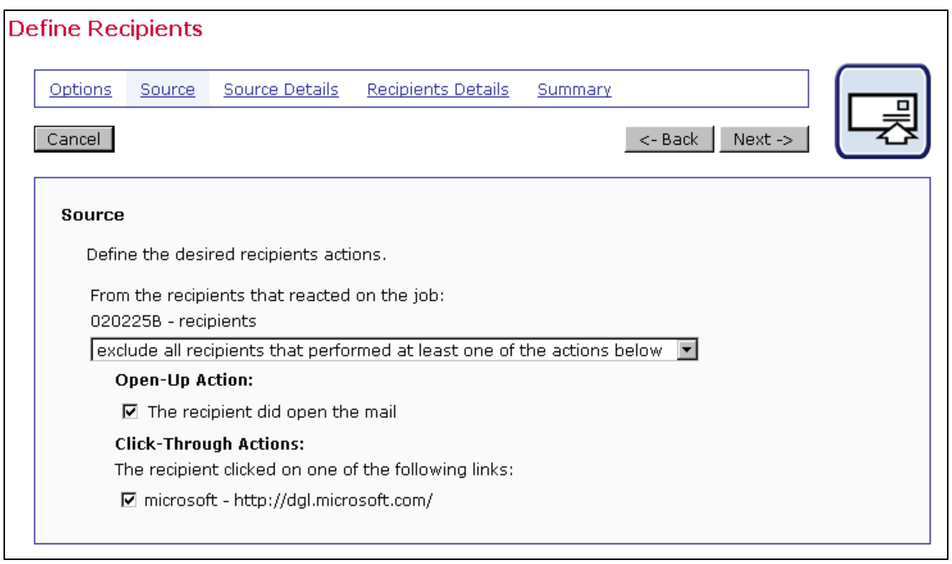
Click **Next ->** to continue.

Tip LISTSERV Maestro can take advantage of defined topics in a list to send mail to a specific topic or topics so that subscribers will only receive the message if they are subscribed to that topic(s). Topics are only supported for mail that is sent as "*standard list messages to list members*" in the recipients wizard. If there are topics for the list selected in the recipients wizard, they will automatically be displayed in the Source Details screen. See Section 4.3.1 LISTSERV Topics for more information.

4.2.3 Determine Recipients Based on Reaction to the Job

This option opens a Source screen that defines the original job and the conditions that potential recipients had to fulfill in the previous job to become eligible to receive the new message. The list of original jobs that may be selected only contains jobs that used personal tracking and were defined using an uploaded text file or a database.

Figure 11 Determine Recipients Based on Reaction to the Job



Select “*include only recipients that performed at least one of the actions below*” 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 “*exclude all recipients that performed at least one of the actions below*” 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 a specific action in a previous job. Click **Next ->** to continue.

4.2.4 Use Recipients Definition from Job

This option transfers all the data and settings from a previous job to the new job. Select the previous job from the drop-down menu. 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.

4.2.5 Upload a Recipients Text File

By choosing the option "Upload a Recipient Text File," the Source screen that opens contains two options: "Define recipients now" and "Load recipients just before sending from a server file."

Select the option button "*Define recipients now*" to enable the link **Upload a recipients file**. 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 E-mail and International Character Sets.

Figure 12 Define Recipients from an Uploaded File

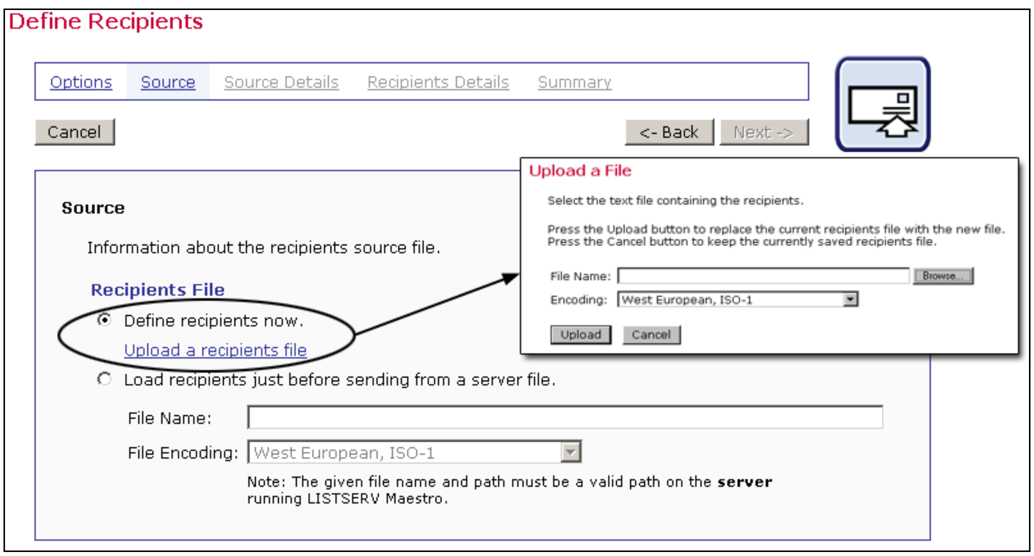
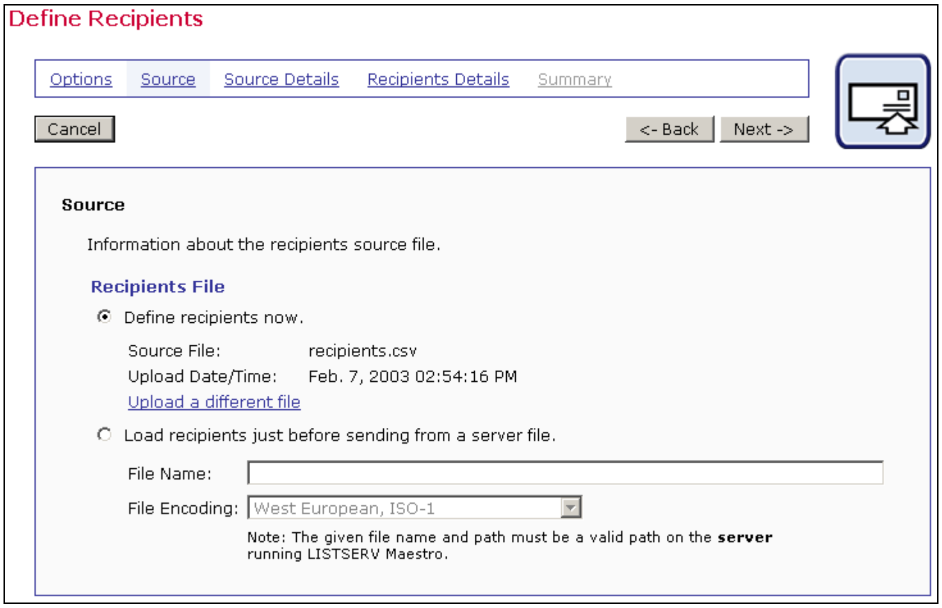


Figure 13 Uploaded File



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

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

4.2.6 Selecting Recipients from a Database

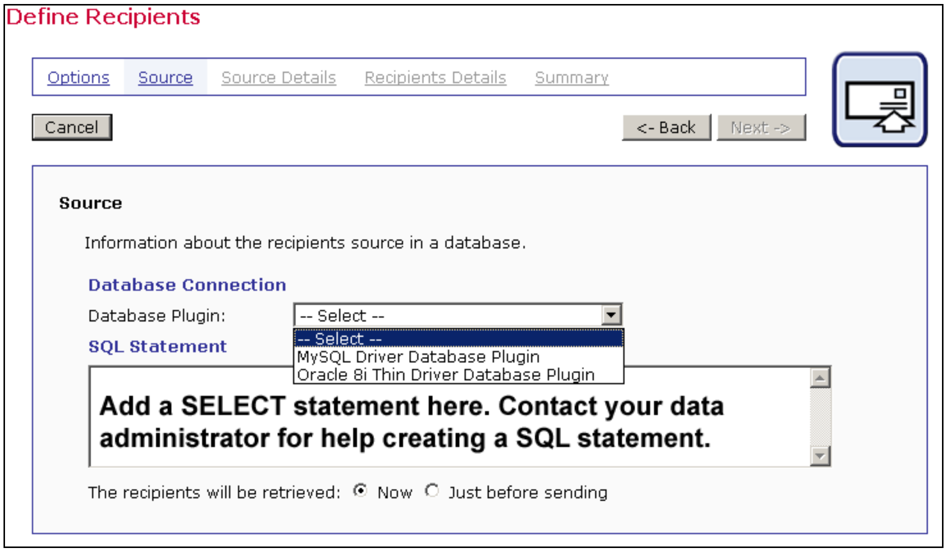
Choosing the option "*Select Recipients from a Database*" for a new job opens a Source screen that requires the selection of a database plugin, entering a SQL statement, and selecting whether to retrieve recipients "*Now*" or "*Just before sending*." The SQL statement is entered in the text box at the bottom. SQL statements can be copied and pasted into this text box from another source.

Database plugins are available from L-Soft and should be installed by the system administrator when LISTSERV Maestro is first installed. These plugins allow LISTSERV Maestro to communicate with many different types of databases. If there is any uncertainty about the selection of database plugins, contact the system administrator, the database administrator or see Section 5 in the LISTSERV Maestro Administrators Guide.

Retrieving recipients "Now" means building a complete recipient list by querying the database while in the define recipients wizard. The recipients will be gathered from the database and saved at the moment the wizard is finished 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.

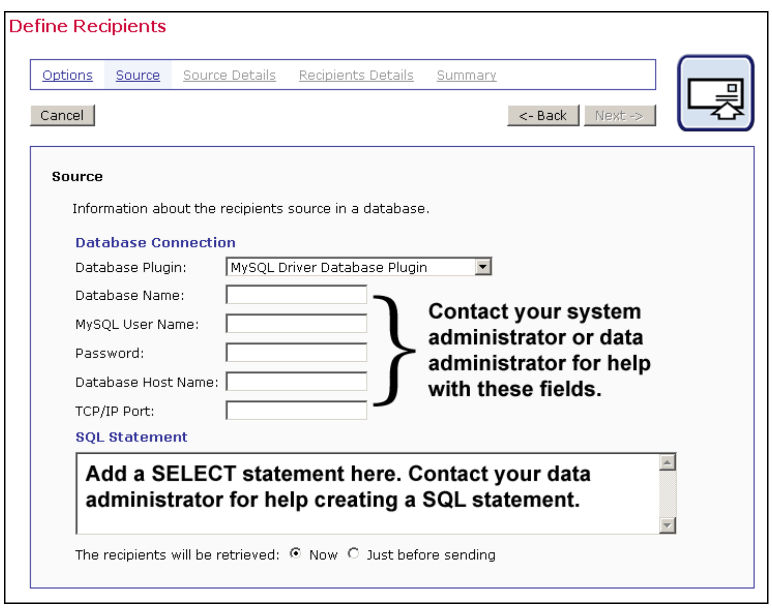
Retrieving recipients “Just before sending” means that the database will be queried for the complete recipient list just before the mail is sent for delivery. Any changes in the database that occurred between the time the recipients wizard was completed and the time the mail is scheduled for delivery will be reflected.

Figure 14 Define Recipients from a Database – Select Database Plugin



Once the database plugin has been selected, a longer Source screen opens requiring additional information. 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 recipients wizard. The wizard does not have to be completed in order to keep the plugin selected.

Figure 15 Define Recipients from a Database – Define Database Connection



Click **Next ->** to continue. 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 on the Recipient Details screen (see Section 4.4 Recipient Details). 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. If recipients will be retrieved just before sending, the SQL statement will be re-sent to the database right before the scheduled sending time.

Tip 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.

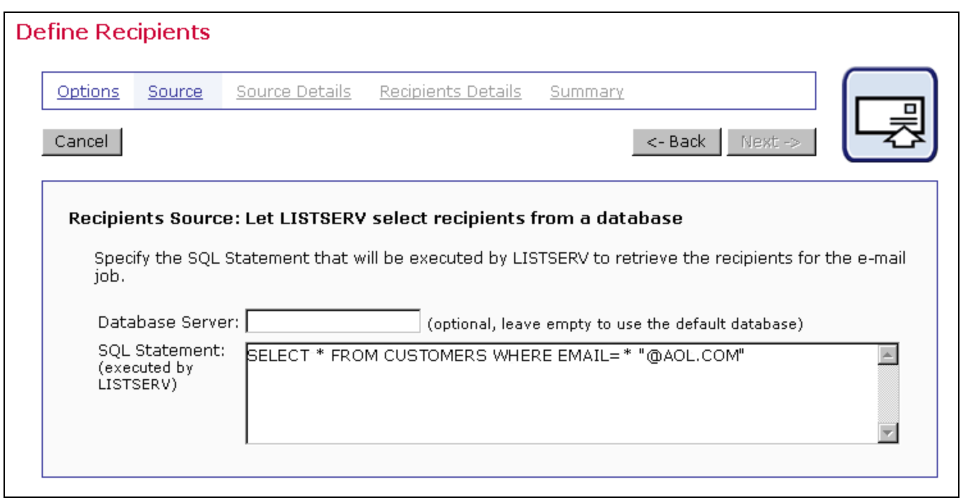
Tip To re-use SQL statements or build parameters into SQL statements, making them more flexible, consider creating and using recipients target groups. See Section 4.2.1 Recipient Target Groups for more information on using recipients target groups, and see the Data Administrator's Manual for how to create recipients target groups.

4.2.7 Letting LISTSERV Select Recipients from a Database

The option "Let LISTSERV Select Recipients from a Database" relies on a pre-existing configuration of LISTSERV connected to a database or databases, whereas 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.

If LISTSERV is connected to multiple databases, enter the "server name" defined in LISTSERV's configuration in the "Database Server" text box. Enter the SQL statement selecting the recipients in the "SQL Statement" text box.

Figure 16 Define Recipients from LISTSERV Connected Database



Click **Next ->** to continue.

4.3 Source Details

The Source Details link will only become active if LISTSERV Maestro needs to interpret or quantify data that has been uploaded or otherwise selected. If recipient data is taken from a database or a LISTSERV list without defined topics, the data has already been interpreted and no Source Details screen will display.

If recipients are being used from a LISTSERV list that has topics defined, then LISTSERV Maestro will have to know which topic(s) to send the message to. There is also the option of hiding the topic in the subject line of the message.

If recipient target groups are used that include parameters, the input values for those parameters will have to be selected in the Source Details screen by making selections in drop-down menus, checkboxes, or typing data in a field.

If a text file is uploaded, LISTSERV Maestro will have to attempt to understand the way the data is arranged and parse it according to separator and quote characters.

If recipient data is based upon reaction to a previous job, an optional time frame limitation for reaction can be defined. This time frame definition is optional. By default, time will not be considered when determining the reaction. Sometimes a time frame limitation might be needed, for example if the sender of a job wishes to offer special bonuses to all recipients that reacted very quickly.

4.3.1 LISTSERV Topics

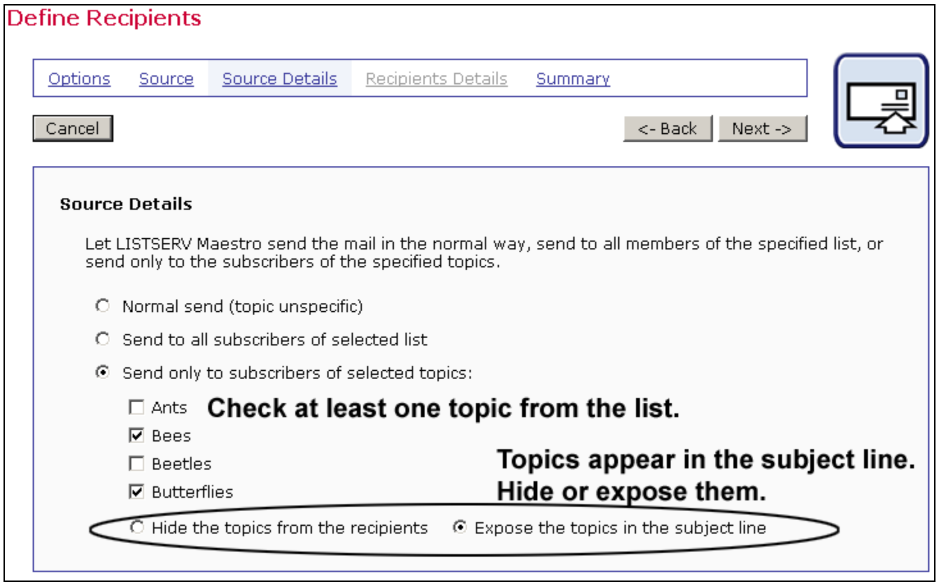
Large active LISTSERV lists often use "sub-groups" within the list to give subscribers the opportunity to receive only the posts to the list they are most interested in. Sub-groups are created in LISTSERV by defining the keyword `Topics` in the list header. Lists can have up to 23 topics defined in the header. List subscribers can elect to receive only those messages that fit into the topic(s) they are interested in reading. Similarly, list members can post their messages to only those topics their messages are relevant to. For example, a large list could have the general subject of Antique Autos. Topics could be defined by time period, by make and model of auto, or by geographic area. For more information on Topics, see the LISTSERV List Owner's Manual.

If there are topics defined for the list selected in the recipients wizard, they will automatically be displayed in the Source Details screen. There are three ways to send the message:

- **Normal send** – The message will be sent to all list subscribers that have selected the OTHER or the ALL list topic or that did not specify any list topic.
- **Send to all subscribers of the selected list** – The message will be sent to all list subscribers, regardless of their topic selections. This setting will override topic settings of the list subscribers and should be used with care.
- **Send only to subscribers of selected topics** – The message will be sent to only to those list subscribers that selected any of the checked list topics.

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

Figure 17 Using Topics



4.3.2 Recipients Target Groups that Include Parameters

Recipient target groups are pre-selected groups of recipients based on information in a database and arranged on the Source Details screen by a data administrator. The data administrator creates `SELECT` statements using SQL to extract groups of recipients from a database based on specific criterion. The `SELECT` statements may contain placeholders called parameters that will be replaced with actual SQL code during the definition of the recipients.

Each parameter in a `SELECT` statement is designed by the data administrator to appear as a drop-down menu, a checkbox, or a text input box. The Source Details screen allows the account holder to fill in those parameters by making selections as to what data will be extracted from the database. For example, to select recipients from certain cities as recipients, the recipients 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 database will be used in the recipients definition.

Figure 18 Drop-Down Menu Recipients Target Group

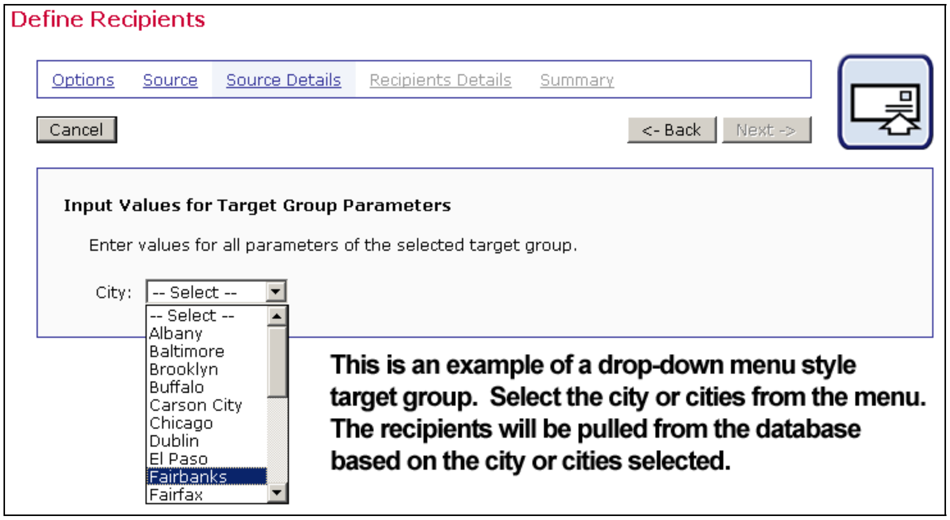
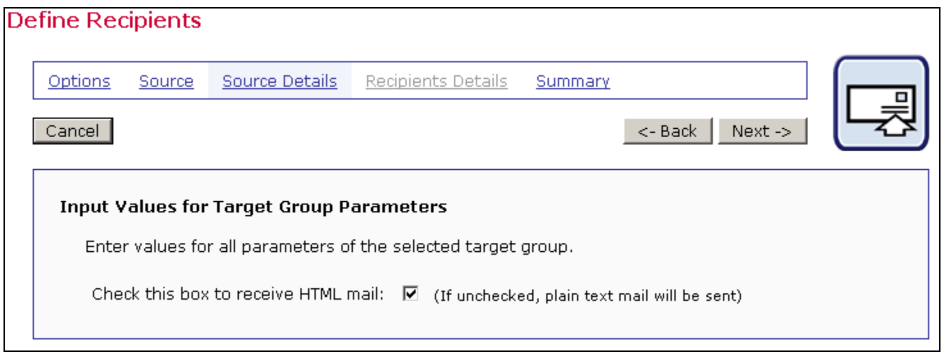


Figure 19 Checkbox Recipients Target Group

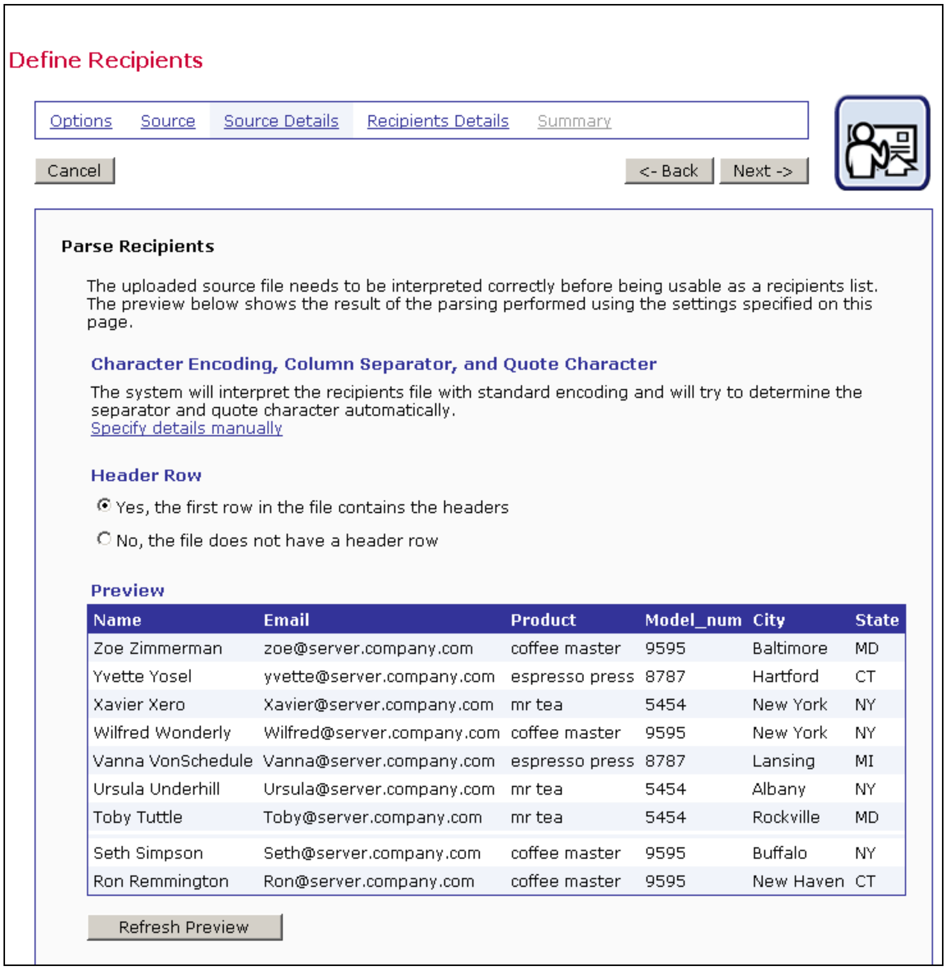


There can be more than one parameter on the Source Details page, so be sure to scroll down the page to make sure all values have been selected. After selections have been made, click the **Next ->** button and the `SELECT` statement will be run against the database. The Summary screen will appear listing all the recipients who matched the criterion and make up the recipients list.

4.3.3 Uploaded Text File

In the case of an uploaded text file, LISTSERV Maestro will try to determine how the columns of data are separated, and how each column or field of data is labeled. In order to send out an e-mail job, LISTSERV Maestro must correctly interpret which column is the name of the recipient and which column is the e-mail address of the recipient. Other fields may be included and will appear in the results table located on the lower half of the screen.

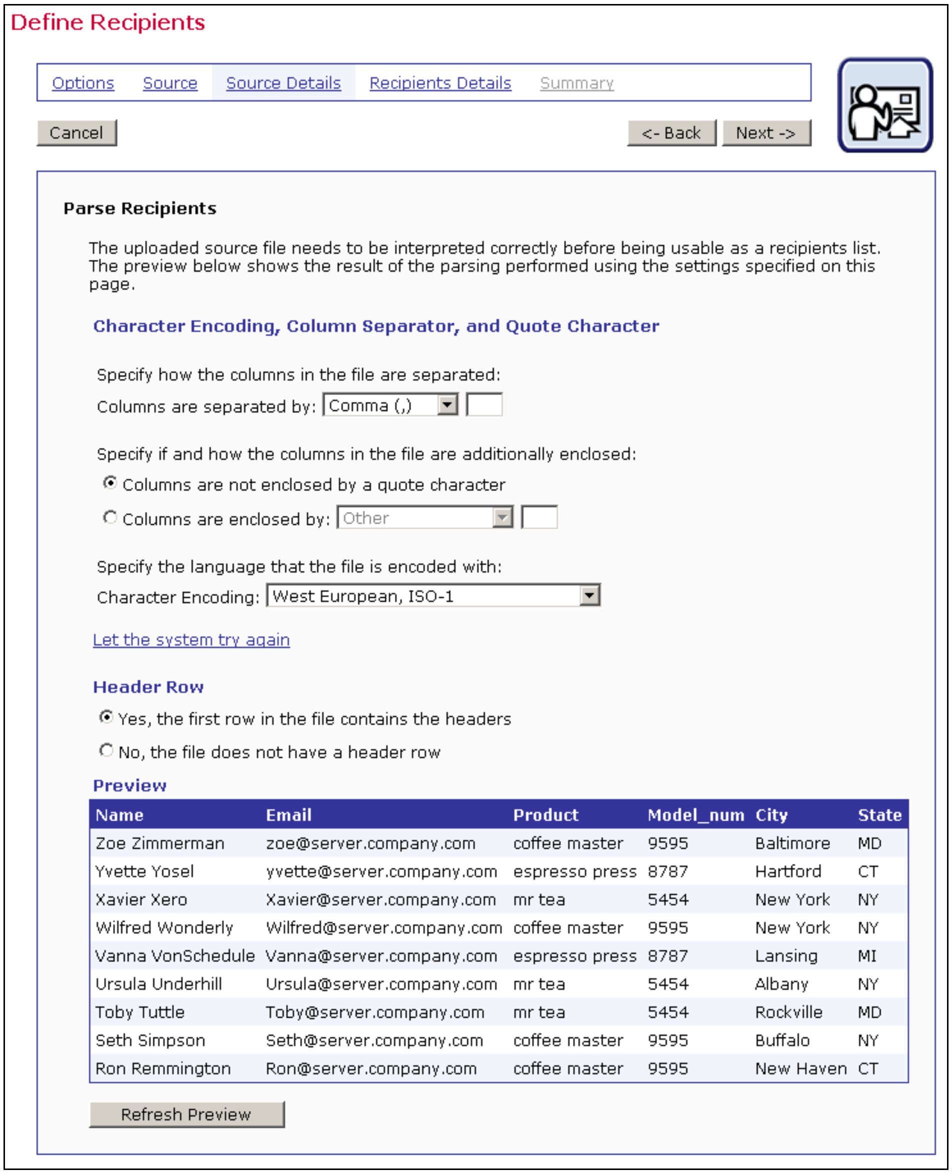
Figure 20 Define Recipients Source Details Parse Recipients



Click the **Next ->** button to continue if the parsing is correct. If LISTSERV Maestro has not interpreted the data correctly, or an unconventional delimiter and/or quote character has been used, click on the link **Specify details manually** to configure the data manually.

Use the Specify details manually link when the delimiter (separator character) or the quote character is used in some of the data fields. For example, if the NAME field contained Tom "the cool cat" Jones as an entry and double quotes was the quote character for the file, or if the LOCATION field contained the entry "Atlanta, GA" where the comma was the separator character, the details would have to be specified manually. See Appendix C About Comma Separated Format Recipients Files for more information.

Figure 21 Define Recipients Source Details Character Encoding



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.

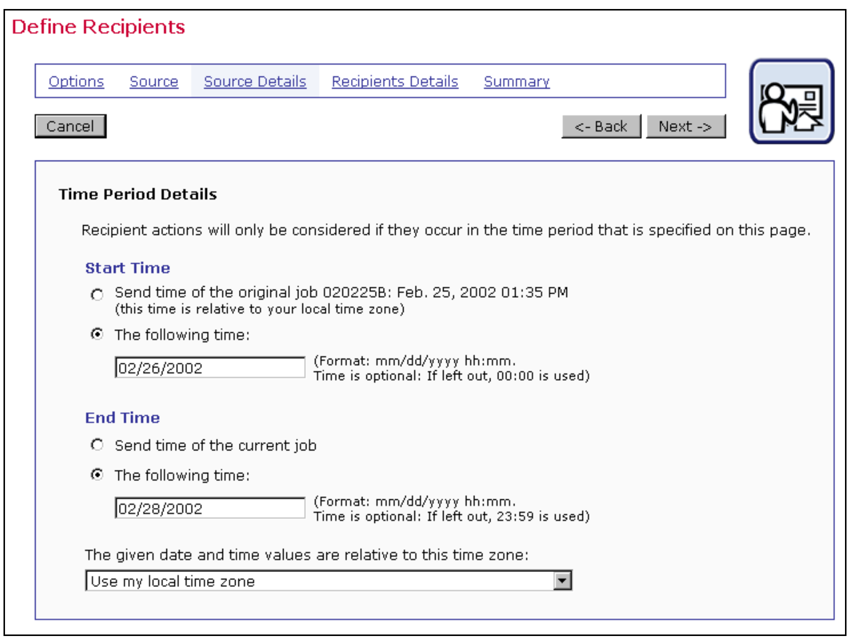
In addition to interpreting the separator character and the quote character, LISTSERV Maestro will select the encoding used to create the text file. If the original data file was created with a specific character set, such as Greek characters, the file encoding will have to be changed to match that character set. Use the drop-down menu to select the encoding for the file if it is different than the default. For more information on encoding, see Appendix B E-mail 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 Previe**w to see the new changes.

4.3.4 Time Period Details

In the case of a recipients list generated by 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.

Figure 22 Time Period Details



Select an option button for the “*Start Time*”. Use the original job’s send time or enter in another date. Select an option button for the “*End Time*”. Use the new job’s send time or enter in another date. Next, select the time zone that the time values are relative to from the drop-down menu. Click **Next ->** to continue.

4.4 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 e-mail address, decide whether to use additional recipients 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.

4.4.1 Usage of Recipients Data

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

If the "*Ignore additional recipient data and send job as bulk e-mail*" option button is selected, any additional columns that were uploaded with the file or that appear in the database will be ignored by the system. It will not be possible to use mail merging. Tracking for the message will be limited to "blind" tracking, meaning that the tracking data available from the job will not be associated with identifiable individuals or other demographic information. It is possible to enter an address and optional name for the "`TO:`" field in the message header (see Figure 23).

4.4.2 Recipient Identification Columns

In order to process an e-mail job, LISTSERV Maestro needs to know which column represents the recipients' e-mail addresses. If LISTSERV Maestro has used an uploaded text file, a database, or a LISTSERV defined database, it is necessary to identify the column for e-mail address, and optionally, the column for name. Use the drop-down menus to select the E-mail Column and the Name Column.

4.4.3 Header Definition

If a text file or a database was used to define recipients, it is possible to add or edit the "headers." Headers are specially defined rows in databases. Headers are used by database tables to label the columns of data so that the system and the user can correctly identify the columns. Recipient data files containing a header will be sorted or parsed by LISTSERV Maestro based on that header row, and the table reflected on the screen will have the columns labeled. If the recipient data file does not contain a header, it is possible to define a header within LISTSERV Maestro.

Figure 23
Recipients Details for Uploaded Text File with Additional Recipient Data

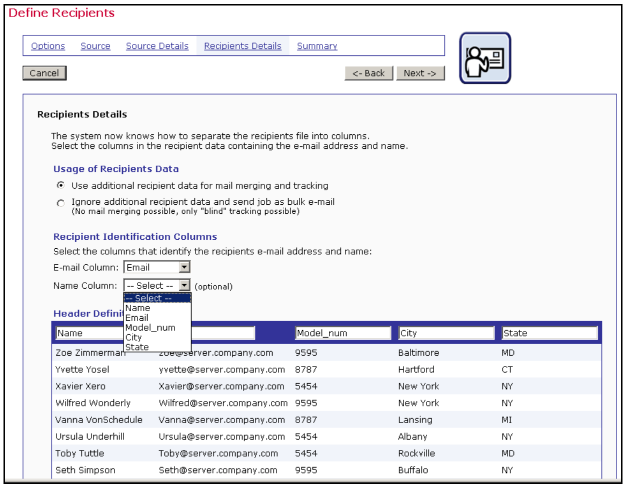
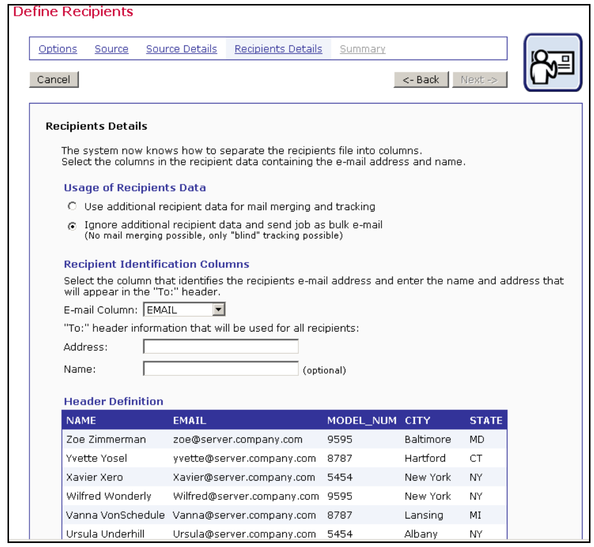


Figure 24
Recipients Details for Uploaded File without Additional Recipient Data



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

For a LISTSERV List, the E-mail column and the name column are preset to *TO and NAME, respectively. There is a text box to input additional mail merge columns. For a LISTSERV selected database, fill in the name of the e-mail column and the name column in the text boxes. Additional columns (if any) will have to be identified as well if they are to be used for merged content.

Figure 25 Recipients Details from LISTSERV List

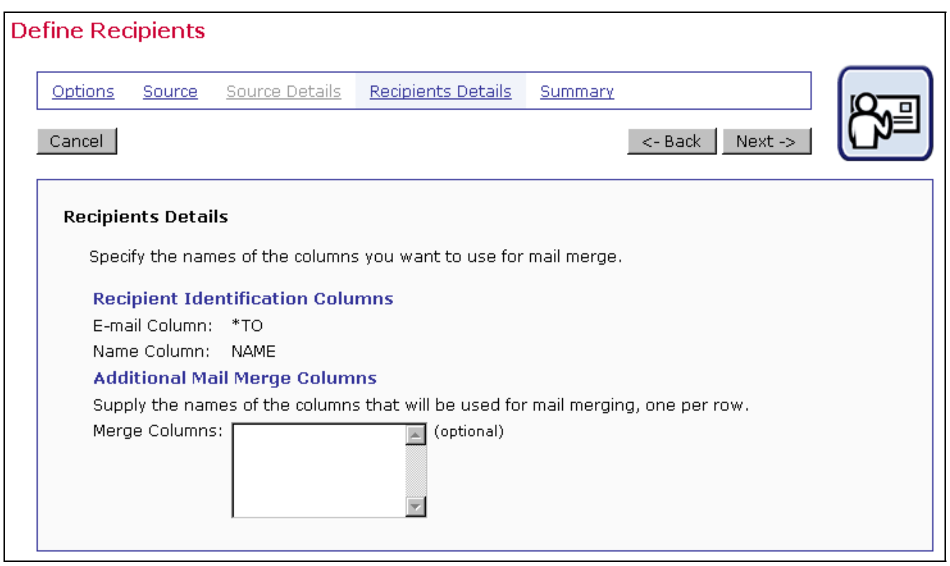
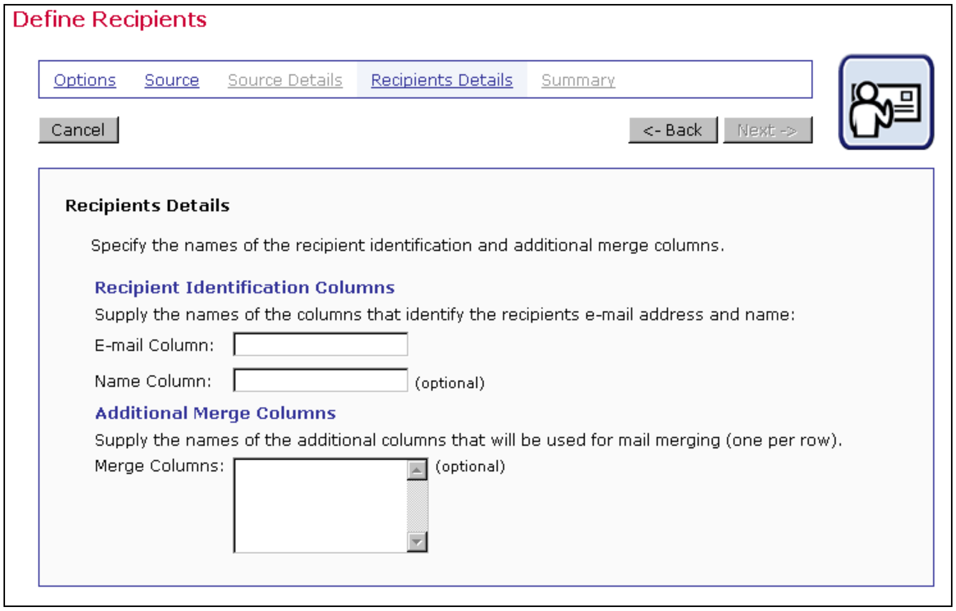


Figure 26 A LISTSERV Selected Database



Click the **Next ->** button to continue. An "*Operation in Progress*" message will appear during the processing time. When the operation has concluded successfully, the Summary screen will open.

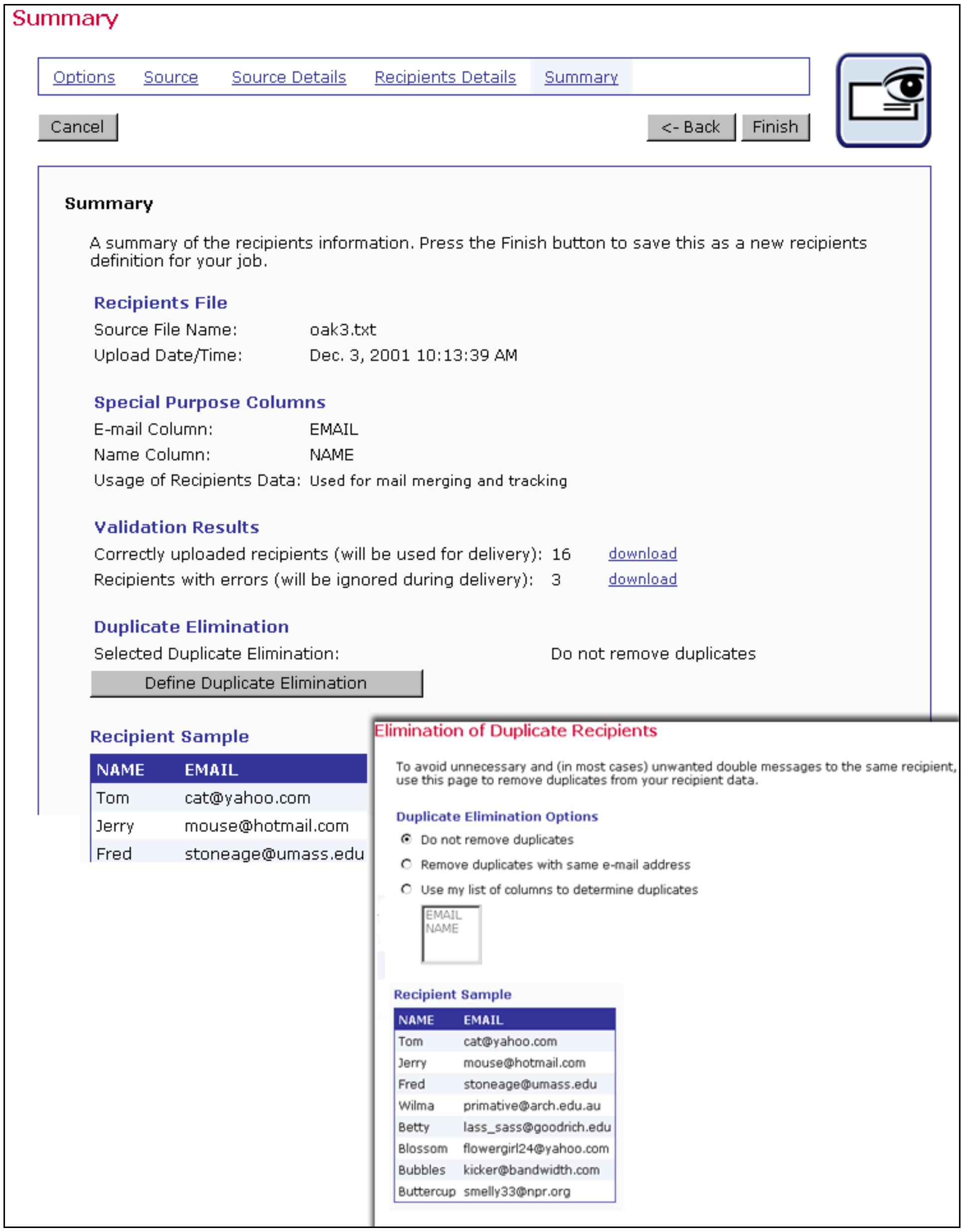
4.5 Summary

A Summary of all the recipient list selections is shown on the last page of the define recipients function. LISTSERV Maestro will validate the recipient list data file, checking for errors in the e-mail addresses that would prevent the e-mail 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. The sample recipient list will not show up for a LISTSERV list or for a LISTSERV selected database. For job response recipients, the sample list from the original job is displayed.

LISTSERV Maestro can also eliminate duplicate recipients. 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 e-mail address, for example, a work e-mail address and a personal e-mail address. By creatively selecting one or more criteria to remove duplicates, it is possible to avoid sending multiple messages to the same person with different e-mail addresses. Similarly, several recipients may use the same e-mail address, for example, family members sharing an ISP may also share an e-mail address. In this case, it might be desirable to send multiple messages to the same address shared by multiple recipients, but addressed to each individual using the e-mail account.

Figure 27 Recipient Summary and Duplicate Elimination



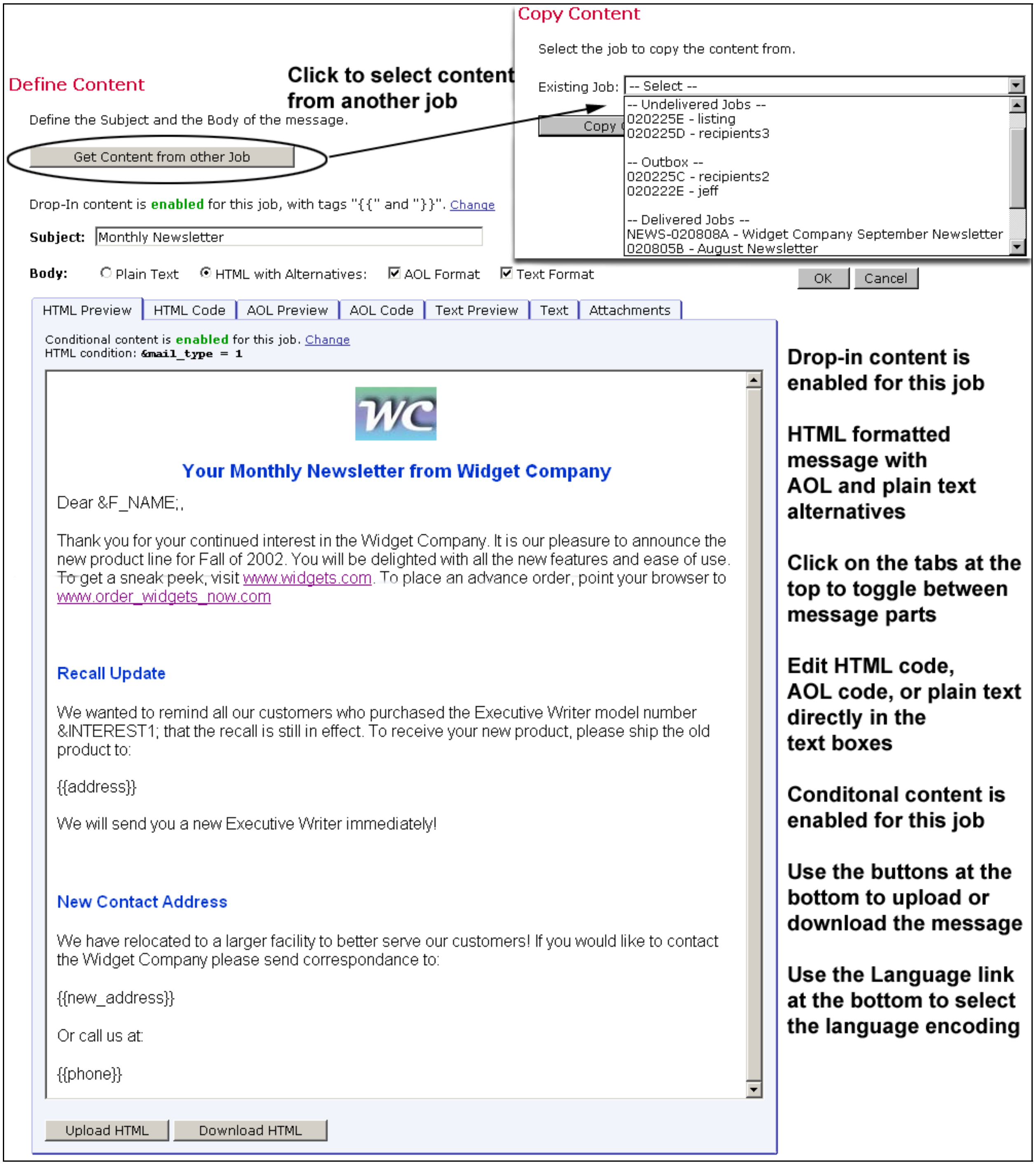
Click **Finish** to save all settings and return to the Job Details screen and to the Summary or Workflow diagram. The recipients can always be edited by selecting the **Edit** link from the Summary diagram or clicking on the **Define Recipients** icon from the Workflow diagram.

Section 5 Defining and Editing Content for an E-mail Job

The next phase of creating a new e-mail job is defining the content of the e-mail message to be sent to the recipient list. LISTSERV Maestro will copy content from a previously defined e-mail job, original content can be uploaded or entered as plain text, as HTML, AOL rich text, or a combination of formats can be used.

Special “Drop-In Content” elements, consisting of predetermined pieces of content 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 28 Define Content



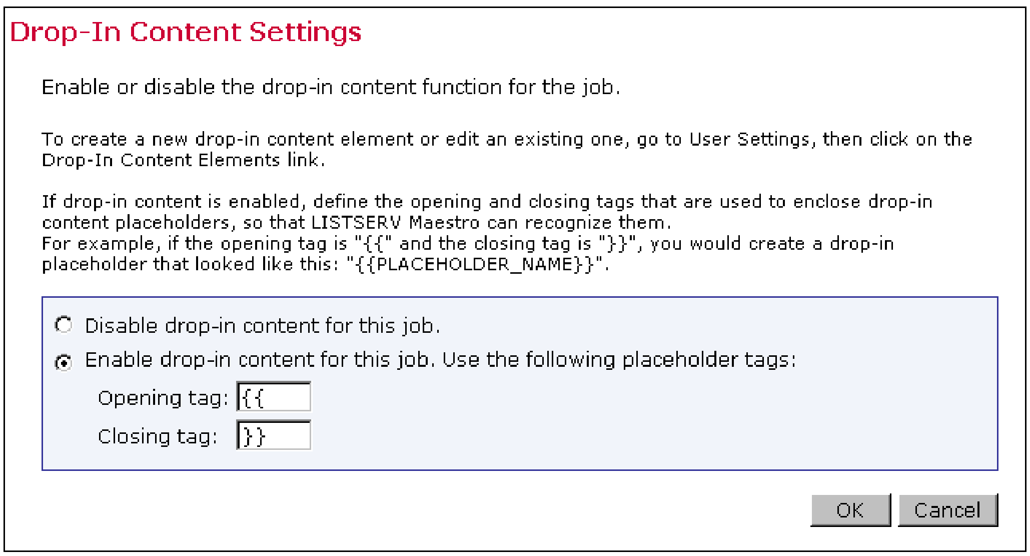
5.1 Drop-In Content

Drop-in content is similar to merging fields, except that the same content is merged into the e-mail message for all recipients. For more information on merging fields see Section 5.6 Merging 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 logo and easily added to all the outgoing e-mail messages simply by including the name of the drop-in element in the content. For more detailed information about creating drop-in content elements, see Section 11.2 User Settings Drop-In Content Elements.

Drop-in content must first be enabled before it can be used in a message. The Define Content page 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.

When enabled, special tags need to be defined so that LISTSERV Maestro will recognize drop-in elements if they appear in the message. 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*".

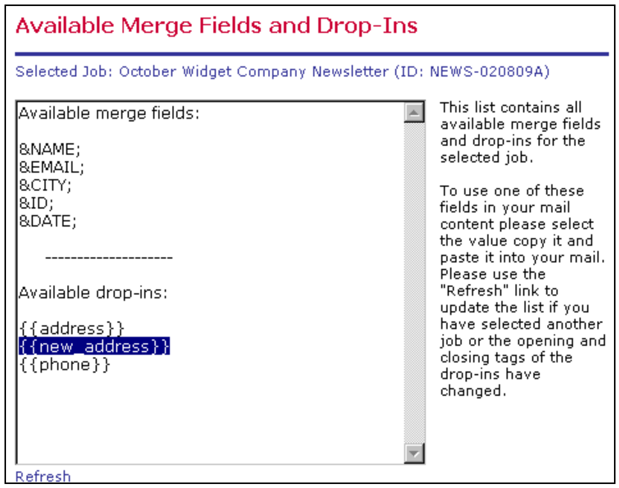
Figure 29 Drop-In Content Settings



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. For instance, if the name of a file to be used as a drop-in element were "`dec_header`", 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.

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 link **Show Merge Fields and Drop-Ins** 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 30 Available Merge Fields and Drop-Ins



5.2 Creating Text Messages

To add a plain text message to LISTSERV Maestro, select the “*Plain Text*” option button next to “*Body:*” Type in the Plain Text box or click **Upload Plain Text** to upload a text file. If drop-in content has been enabled, a third tab labeled “*Plain Text Preview*” 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 advantageous 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 the message.

Important Note: 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.

5.3 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, as in the example below:

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

In order to upload HTML files into LISTSERV Maestro, it is necessary to have either 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 already installed. If a system does not, download The Java Virtual Machine from: http://java.sun.com/getjava/index.html

The first time a file is uploaded after the Java Virtual Machine is installed, a Security Warning dialogue box will appear asking for permission to use the L-Soft applet to upload HTML. Grant permission and check the box “*Always trust content from L-Soft international inc.*” so that the grant dialog box will not re-appear. If this box is not checked, it will be necessary to grant permission to use the applet every time HTML files are uploaded in a new browser session. Another dialogue box will appear to browse for the file. Select the file to upload and click **OK**. If there are any image files that are linked remotely or embedded from local files, a dialogue box will appear listing each and asking whether to proceed with the upload. Click **Yes**. The HTML message will then appear in the HTML box.

1. Click **Upload HTML** from the Define Content screen.
2. Grant permission to install and run HTML Upload Applet (for the first time only). Check the box “*Always trust content from L-Soft International*” to prevent the dialog box from re-appearing.

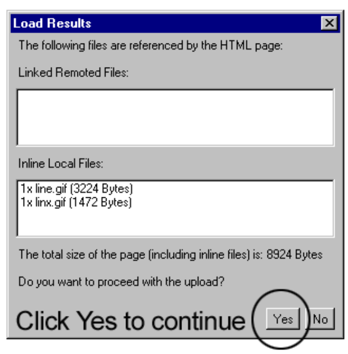
Figure 31 Grant Permission to Install Applet

3. Browse a local drive for the file and then click **OK**.

Figure 32 Browse for File

4. Review Load Properties and then click **Yes** to continue.

Figure 33 Load Results



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 (inline) are sent with the message. One advantage of using linked files is that the message will be smaller in size. However, a live Internet connection is necessary to view linked files. If the image server is down, they will not be visible. Also, 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. LISTSERV Maestro will continue uploading the HTML file even if it contains link errors if **Yes** is clicked. 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 e-mail message is being created. Once the linked site is complete, the message will be valid and can be sent out.

Table 2 Advantages and Disadvantages of Linked and Embedded Files

	Advantages	Disadvantages
Linked Files	Smaller message size Mail servers will most likely not refuse a small message Links can be tracked Drop-in content can be used	Recipients must have a live Internet connection Some firewalls strip HTML content linking to outside sources Image server must be available
Embedded Files	No image server needed Firewall will not strip content Visible without a live Internet connection Drop-in content can be used	Large message size Some mail servers may refuse or delete large messages Fewer links to track

Tip Make clicking each link for linked files a part of the testing procedure. For more information on testing an e-mail job, see Section 7.2 Delivery Testing for a Job.

5.4 Alternative Content and Conditional Content

Some e-mail clients do not receive HTML messages well, if at all. To include those recipients who cannot receive HTML e-mail in a job, create an alternative text message to be sent with the HTML message. HTML messages that include content in another format are referred to as "multi-part" messages. This means that all parts of the message are sent to each recipient, and the e-mail client decides what format of the message to open for the recipient.

Many people elect not to receive HTML e-mail for a variety of reasons. Recipients who prefer plain text messages usually do not want to receive multi-part messages either. By using the "*Conditional Content*" it is possible to send an HTML message with alternatives to those who wish to receive it, and send a plain text alternative without the multiple parts to those who wish only to receive plain text. In order to take advantage of this feature however, it is necessary that recipient data is available in the form of a merge field that determines which format each recipient prefers to receive.

5.4.1 Alternative Text for HTML Messages

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

1. Select the "*HTML with Alternative*" option button next to "*Body:*" on the Define Content screen.

2. Check the box next to "*Text Format*". This activates the additional tabs "*Text Preview*" and "*Text*".

3. Click on the tab labeled "*Text*" to add the alternative text message. The message can be uploaded, pasted, or keyed 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.

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 5.1 Drop-in Content and 5.6 Merge Fields and Conditional Blocks.

5.4.2 AOL Alternative Text for HTML Messages

Recipients who use older AOL e-mail clients (version 5.0 and older) cannot receive HTML messages, but can receive AOL Rich Text messages. AOL Rich Text is a specialized e-mail format that uses a sub-set of HTML tags to create text formatting. Rich Text is not compatible with newer AOL e-mail 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. To include recipients using older AOL e-mail 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 button next to "*Body:*" on the Define Content screen.
2. Check the box next to "*AOL Format*". This activates the additional tabs "*AOL Preview*" and "*AOL Code*".
3. Click on the tab labeled "*AOL Code*" 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 5.1 Drop-in Content and 5.6 Merge Fields and Conditional Blocks.

Table 3 AOL Rich Text Formatting Tags

Big: <big>	Body: <body>	Bold: <b>
Break: 	Center: <center>	Font: <font>
Headers 1-3: <h1>, <h2>, <h3>	Hyperlink: <a>	Italics: <i>
Paragraph: <p>	Small: <small>	Strong: <strong>
Superscript: <sup>	Subscript: <sub>	Underline: <u>

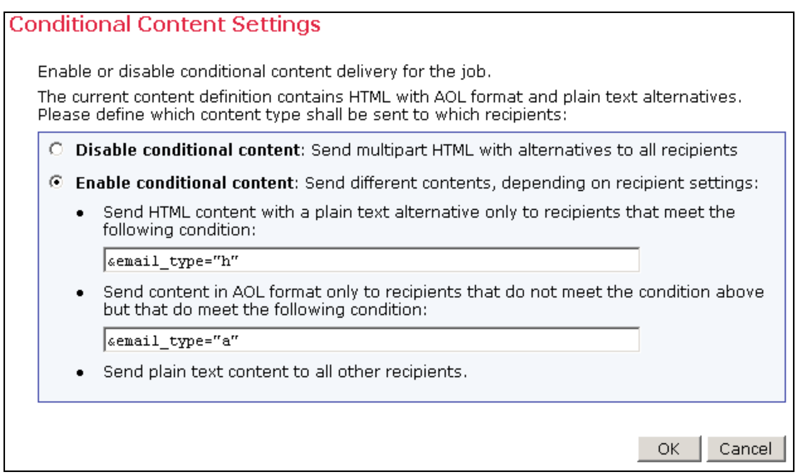
5.4.3 Conditional Content

In the event that recipient data is available that somehow determines the format each recipient prefers to receive, the 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 it is 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 Content screen when HTML content with alternatives is selected (see Figure 28). The Conditional Content Settings screen opens. Select the option button next to "*Enable conditional content*".

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 Appendix E Using Conditional Blocks for more information on constructing conditional blocks. 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. More information on using recipient data can be found in Section 4.4 Recipient Details.

Figure 34 Conditional Content Settings



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 e-mail including the plain text alternative is delivered to that recipient.
  - If the recipient does not fulfill the condition, a simple plain text e-mail 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 e-mail with no alternatives is delivered to that recipient.
  - If the recipient does not fulfill the condition, an e-mail 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 e-mail, 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 e-mail 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 e-mail is delivered, containing only the plain text alternative.

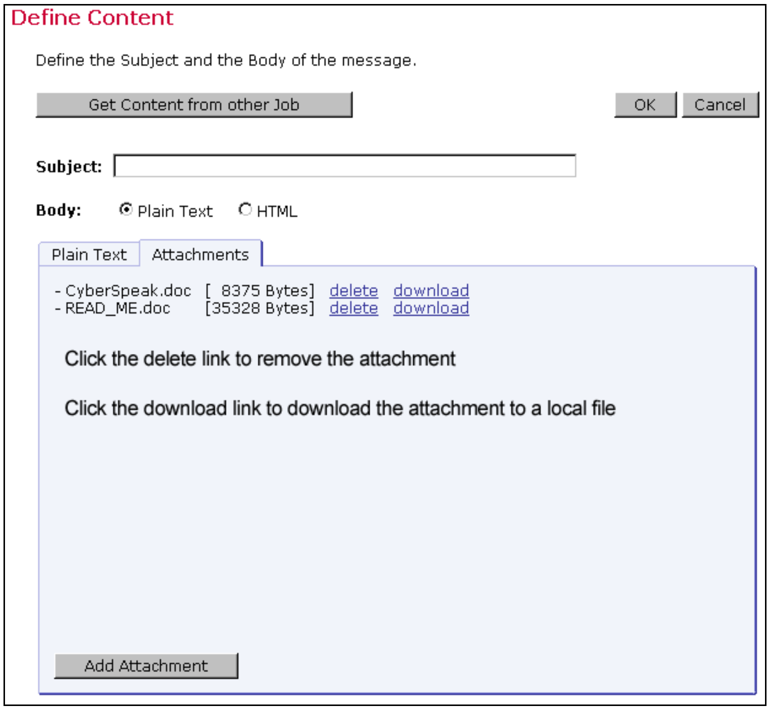
If attachments are present, then LISTSERV Maestro adds the attachments to each of the messages, without applying conditions.

5.4.4 Adding Attachments

Any type of file can be included as an attachment to an e-mail 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, if possible, 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 Content 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 35 Define Content Attachments



5.5 Setting the Language Character Set

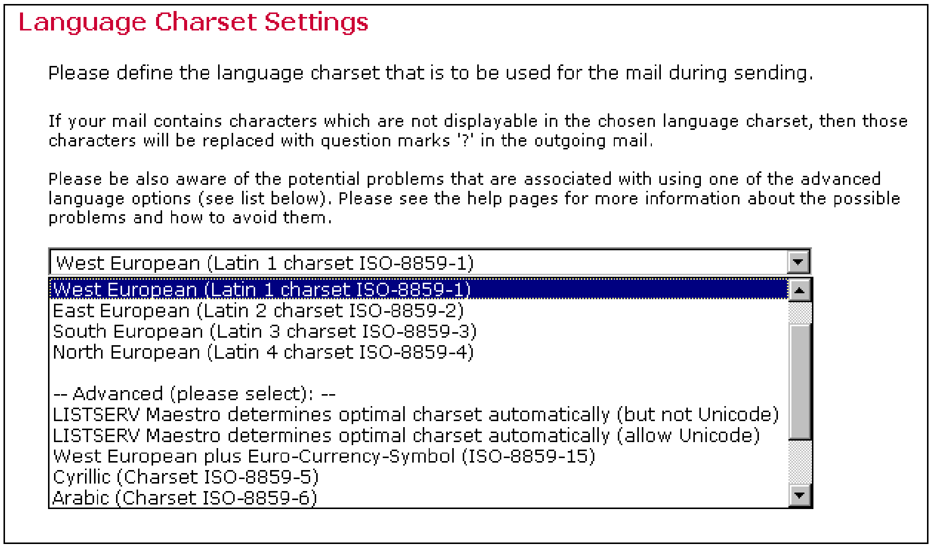
A character set (also called charset, character encoding, code page, or character page) is simply a table that matches numbers (the digital information sent by computers over the Internet) to letters, or more precisely, characters. Due to the nature of digital information and e-mail (all data is reduced 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 Δ. 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 in this guide.

LISTSERV Maestro defaults to the ISO-8859-1 (Latin 1) character set for encoding e-mail 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 sentence "***Language:*** *Mail will be sent with language charset for…*" on the Define Content 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 after "*Language:*" The Language Charset Settings screen will open. Select a charset from the drop-down menu and click **OK**.

Figure 36 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 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 required for most West European languages, like 'ö', 'å', 'ç' and others.

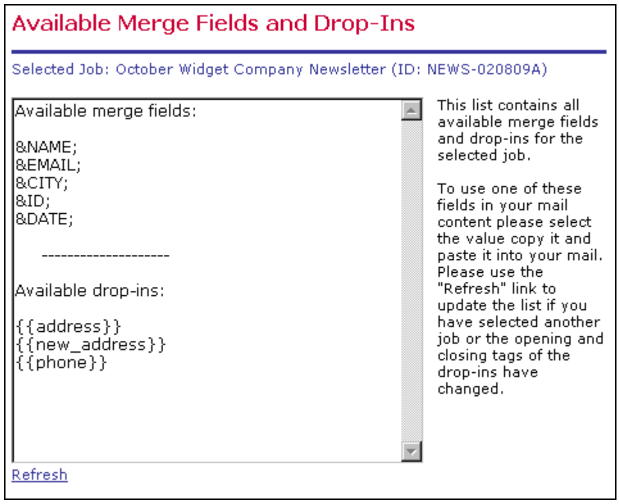
It is not always necessary or possible to change the charset for e-mail messages. Using other charsets can become quite complex, especially when merged data is involved. Each charset has advantages and disadvantages that are described in greater detail in the online help and in Appendix B E-mail and International Character Sets.

5.6 Merging 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 are taken from columns that are present in the recipient data.

To merge a field into the message, simply enter the field name (or header name in the case of an uploaded file) 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 LISTSERV list not connected to a database, then the only merge substitution fields available are &*TO; for the e-mail address and &*NAME; for the name. For a list of available merge fields, click the link **Show Merge Fields and Drop-Ins** at the bottom of the text box on the HTML Source or the Alternative Text screen. Copy and paste the name of the merged field into the message to ensure the correct name and formatting.

Figure 37 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 38 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 e-mail was sent to &EMAIL; --if you wish to change the e-mail settings for library ID &IDNUM;, please visit “http://library.example.com/mylibrary”

****

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

Conditional blocks are coded by using the "`.BB`", "`.ELSE`", and "`.EB`" directives. These directives must each be on a line by itself. The "`.BB`" directive begins the conditional block, and a "condition" follows "`.BB`" on the same line. The "`.ELSE`" directive is optional and starts a text block to be used for the opposite condition as was used for the "`.BB`". The "`.EB`" directive ends the conditional block. Fields used in a conditional block should be preceded by the ampersand, but should not be followed by a semicolon. Lines that start with dot asterisk "`.*`" are used as comments and do not appear in the final message to the recipients.

Figure 39 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
```

If conditional blocks are used in an HTML message, first create the basic HTML message, then go into the HTML source code and correctly insert the conditional statements, making sure to maintain proper HTML syntax once the directives are followed. The HTML page will now look incorrect because the directives are interpreted as part of the HTML source. It is important to test all possible conditional values in the testing stage (see Section 7.2 Delivery Testing for a Job) to make sure that the HTML code works correctly in all cases.

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

5.7 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 like ”`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 URL. 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 “usr18” 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, how can such a URL be written in the text of the message?

By using field merging, 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, then the sample URL of above 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`

Next follows the question mark, 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 e-mail that appears to the recipient. Instead, it will have been replaced by the merge value of 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 e-mail 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 e-mail messages. LISTSERV Maestro is able to track all of these URLs if they are marked for tracking. 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 e-mail messages that are sent out, the URL is replaced by a special tracking URL, that points to the server running the Maestro Tracker component, so that LISTSERV Maestro can count each click on the URL and then redirect to the actual target URL. So for the user with the ID “usr15” the URL in the mail would look 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).

5.7.1 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, 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 all merge values are not be URL safe, then use the special LISTSERV function “`&*URLENCODE()`” to make them so. Simply enclose the merge field in the URL in the parenthesis of this function. In the example, if there were any doubt that the ID merge field’s values were URL safe, 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, then apply the “`&*URLENCODE()`” function to it, that is to encode all unsafe characters, 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 looked like:

```
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 6 Tracking

The ability to track information about e-mail 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 who the recipients are opening messages, when they are opening them and 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.

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 10.3 Using the Excel Add-In.

Note: It is not necessary for tracking to be enabled to send out an e-mail 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.

6.1 Defining Tracking Behavior for a Job

There are five basic steps to define tracking for a single e-mail job:

- Turning tracking on or off
- Selecting the tracking details
- Selecting the type of tracking to record
- Selecting the type details
- Generating a summary of the tracking selections for the job

To begin defining tracking for an e-mail job, click on the **Define Tracking** icon from either the Workflow or Summary diagram on the Job Details screen. Select the option button "*Yes, Enable tracking for this job*" and then click **Next ->**.

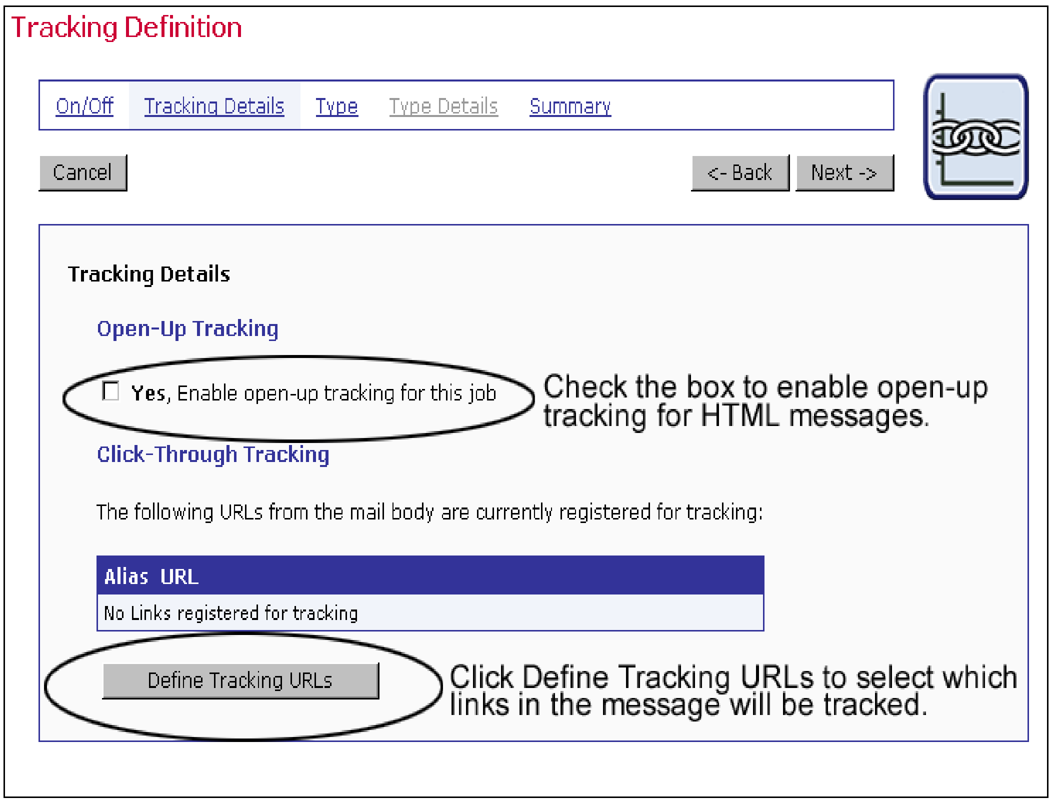
Figure 40 Tracking On or Off

6.1.1 Tracking Details

LISTSERV Maestro will track two different types of recipient interaction with a message, “Open-Up” and “Click-Through” tracking.

- **Open-Up Tracking** – LISTSERV Maestro will register each time an e-mail message is opened by its recipient and will log each event, together with date, time, and recipient information (who opened the e-mail). Open-up tracking is only available for HTML messages.
- **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). Only those links that are specified in the e-mail body will be tracked. To specify which links to track, click **Define Tracking URLs**.

Figure 41 Tracking Definition



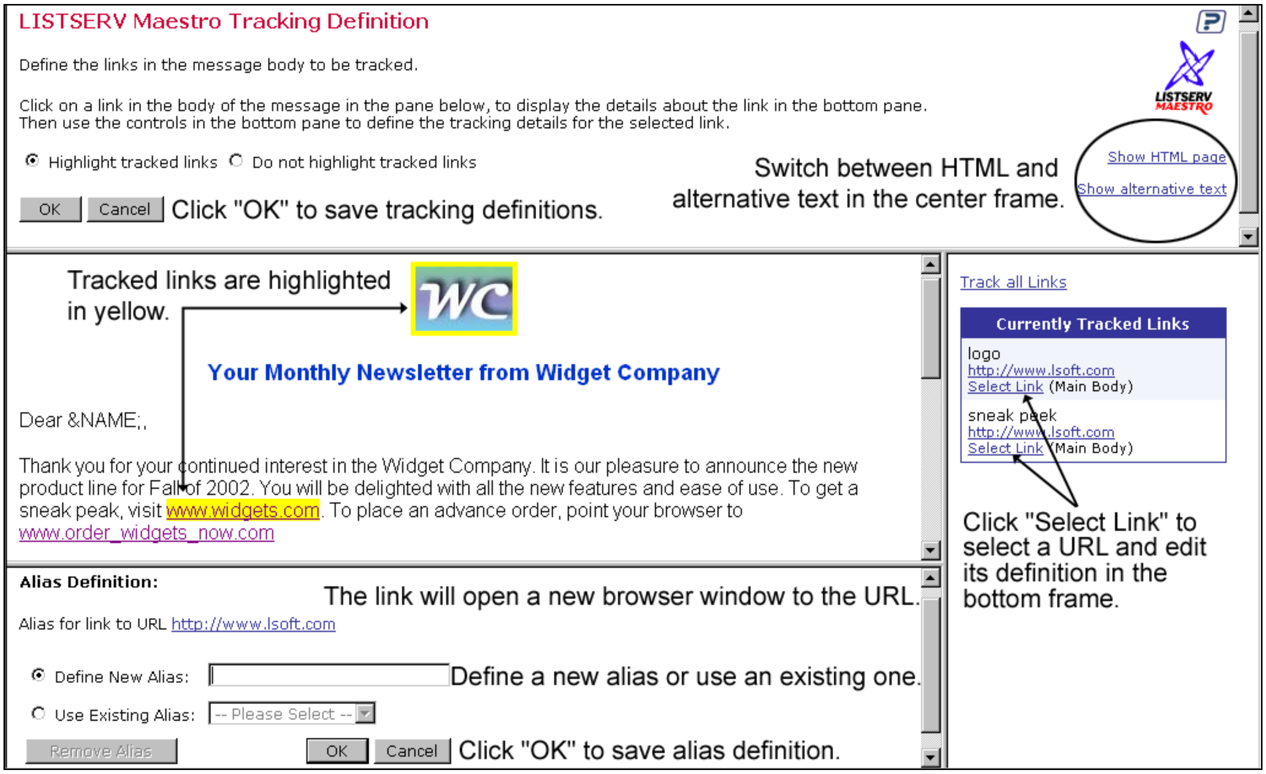
Click **Next ->** to continue or Define Tracking URLs to define click-through URLs.

6.1.2 Defining Tracking URLs

This page defines the links in the e-mail 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:
  - **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 the button to save all the tracking selections and return to the Tracking Details screen.
  - **Cancel** – Click this button to discard any tracking selection and return to the Tracking Details screen.
- **Main Center Frame** – Displays the body of the e-mail 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 under “*Selected Link:*”. 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 start with “http://” or “https://”are clickable.
- **Right Center Frame** – Contains the link **Track all Links**, a fast way to select all links for tracking. Records each selected link to be tracked and an alias if one has been created. Edit an alias or remove a tracked link by clicking **Select Link** under the URL.
- **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, define aliases 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.

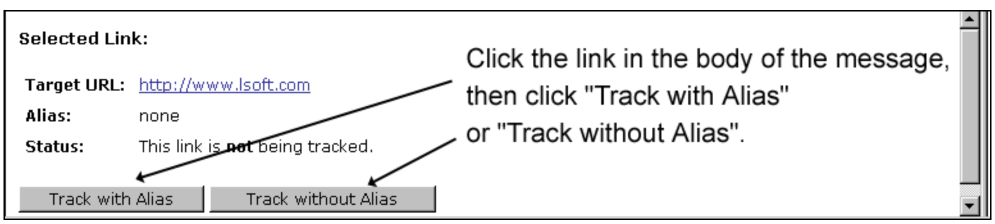
Figure 42 Click-Through Tracking Definition



To track a link:

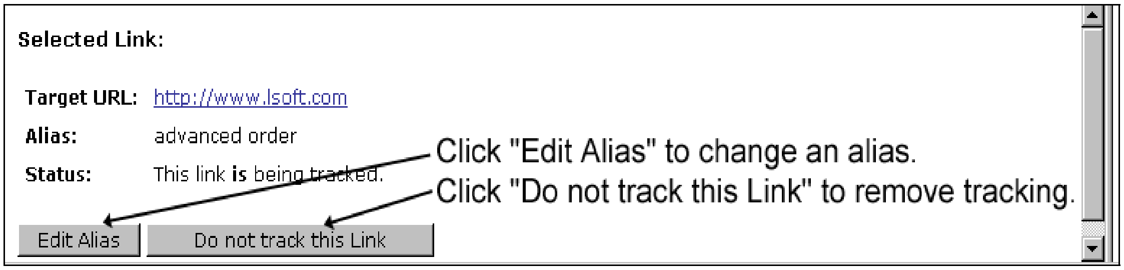
1. Click on the link in the message in the main center frame. If the link is a form submission, click on the "submit" button of the form. The link will appear in the bottom frame.
2. Click **Track with Alias** or **Track without Alias**.

Figure 43 Track with or without Alias



3. For tracking with an alias, enter an alias in the text box labeled "*Define New Alias*" 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. Links tracked without an alias will appear in the right frame. It is possible to add an alias by clicking **Select Link** under the URL in the "*Currently Tracked Links*" table in the right frame and then following step three.
5. To edit or remove a tracked link, click **Select Link** under the URL in the "*Currently Tracked Links*" table in the right frame and then click the **Edit Alias** or **Do not track this Link** button in the bottom frame.

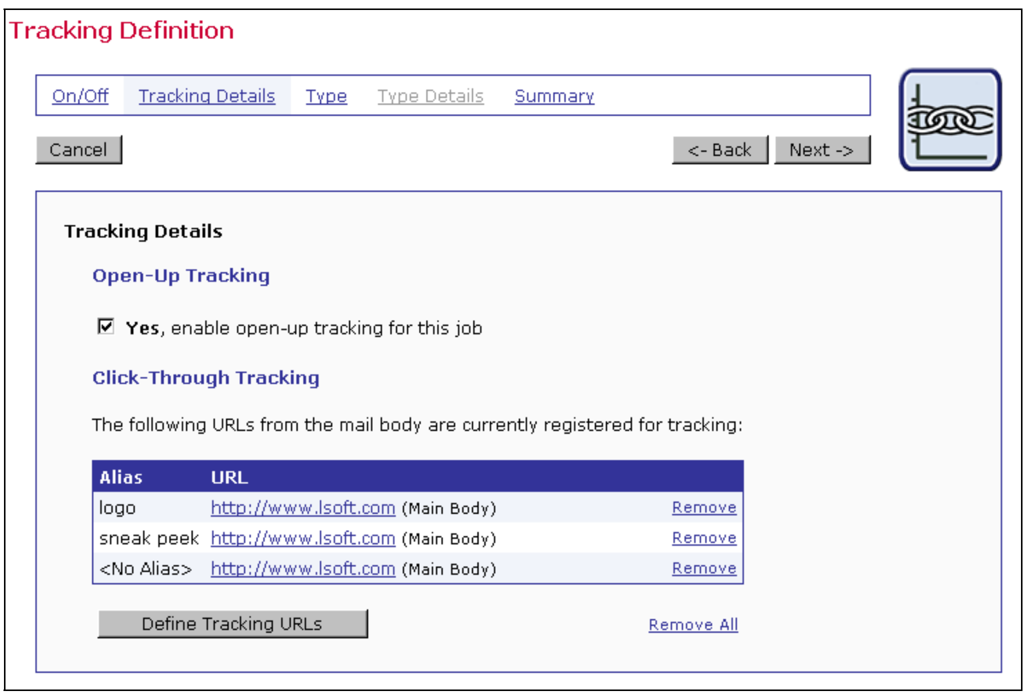
Figure 44 Edit Tracked Link



Tip Selecting "*Highlight tracked links*" 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.

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, 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.

Figure 45 Tracking Details



Click **Next ->**to continue.

6.1.3 About Link Aliases

A link alias gives each tracked link a special name that can be distinguished from other links, even if they go to the same URL. This becomes significant when there is more than one link to the same URL in a message, and if it is important to find out which links have been clicked.

If aliases for tracked links are not defined (which is possible, since aliases are optional), LISTSERV Maestro will only be able to find the URL of the link in the tracking data. This is adequate if each URL appears only once in the e-mail 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 defined aliases.

For example, a message may have both an image link and a textual link in the running text body, both of which link to a company homepage. When looking at the tracking data, the company would 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 bright flashing animated GIFs motivated more people to click on a link than smaller, more conservative images. Aliases can also be used to group links with different target URLs. 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 to determine if people click on image links or text links more often.

Important: To track links in a plain text message (or in the alternative text of a HTML message), enclose them in quotation marks <"> (“http://www.lsoft.com”). This formatting tells LISTSERV Maestro that this is a link that can be tracked in a plain text message. The quotation marks will be removed from the message before it is delivered if the link is actually selected for tracking.

6.2 Types of Tracking

LISTSERV Maestro supports four different levels of tracking information about e-mail recipients. 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 recipients. 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.

- **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 option “*Use additional recipient data for mail merging and tracking*” is selected from the “*Recipients Details*” page in the recipients wizard.
- For recipients selected from a database by LISTSERV Maestro and the option “*Use additional recipient data for mail merging and tracking*” chosen on “*Recipients Details*” page in recipients wizard.
- For recipients defined by a LISTSERV list with the option “*special list message*” chosen on the “*Source*” page in recipients wizard.
- For recipients defined by a database selected by LISTSERV.
- For recipients defined “*Based on Reaction to a Previous Job*” chosen on the “*Options*” page in recipients wizard.

When personal tracking is used, LISTSERV Maestro creates a profile for each individual mail recipient and stores this information in an internal or external 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, if the data contains one zip code that corresponds to just one recipient, then the zip code becomes identifying data for that recipient and should not be used, unless the input data is changed so that sparsely populated zip codes are all lumped together into an “other” category for the purposes of tracking. Anonymous tracking is available:
    - For recipients uploaded as a text file and the option “Use additional recipient data for mail merging and tracking” chosen on the “Recipients Details” page in recipients wizard.
    - For recipients selected from a database by LISTSERV Maestro and the option “Use additional recipient data for mail merging and tracking” chosen on the “Recipients Details” page in recipients wizard.
    - For recipients defined “Based on Reaction to a Previous Job” chosen on the “Options” page in recipients wizard, as long as “Use additional recipient data for mail merging and tracking” is chosen on the “Recipients Details” page in recipients wizard.

    - When anonymous tracking is used, LISTSERV Maestro creates a profile for each individual mail recipient and stores this information in an internal or external 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 anonymous profiles, use unique tracking instead because the processing time is much faster.

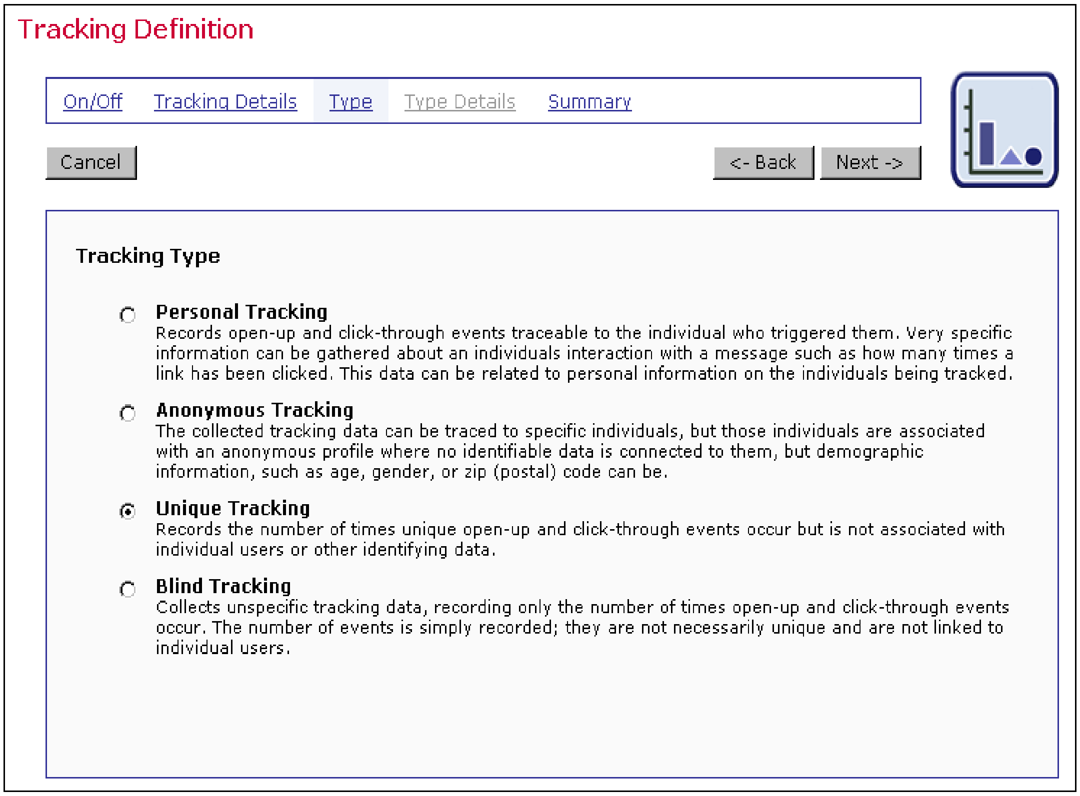
- **Unique Tracking** – Records the number of times open-up and click-through events happen to unique recipients but is not associated with individual users or other identifying data. Unique tracking is available:
    - For recipients uploaded as a text file and the option “Use additional recipient data for mail merging and tracking” chosen on “Recipients Details” page in recipients wizard.
    - For recipients selected from a database by LISTSERV Maestro and the option “Use additional recipient data for mail merging and tracking” chosen on “Recipients Details” page in recipients wizard.
    - For recipients defined by a LISTSERV list with the option “special list message” chosen on the “Source” page in recipients wizard.
    - For recipients defined by a database select by LISTSERV.
    - For recipients defined “Based on Reaction to a Previous Job” chosen on the “Options” page in recipients wizard, as long as “Use additional recipient data for mail merging and tracking” is chosen on the “Recipients Details” page in recipients wizard.
- **Blind Tracking** – Collects unspecific tracking data, recording only the number of times open-up and click-through events occur. In other words, blind tracking cannot discern between one person clicking a link 100 times and 100 people 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 “Sum of Events” report types. See Section 7.3 Running Test Reports and Section 10.1 Tracking Reports for more details. Blind tracking is always available.

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

Table 4 Types of Tracking Available Based on Recipient Definition

Recipients defined from:	Types of tracking available			
	Blind	Unique	Anonymous	Personal
Uploaded text file with non-identifying fields with only identifiable fields	 X X	 X X	 X 	 X X
Database Connected to LISTSERV Maestro with non-identifying fields with only identifying fields	 X X	 X X	 X 	 X X
LISTSERV list Standard list message Special list message	 X X	 X		 X
LISTSERV connected database	X	X		X
Based on a previous job	X	X	X	X

Figure 46 Selecting Tracking Type



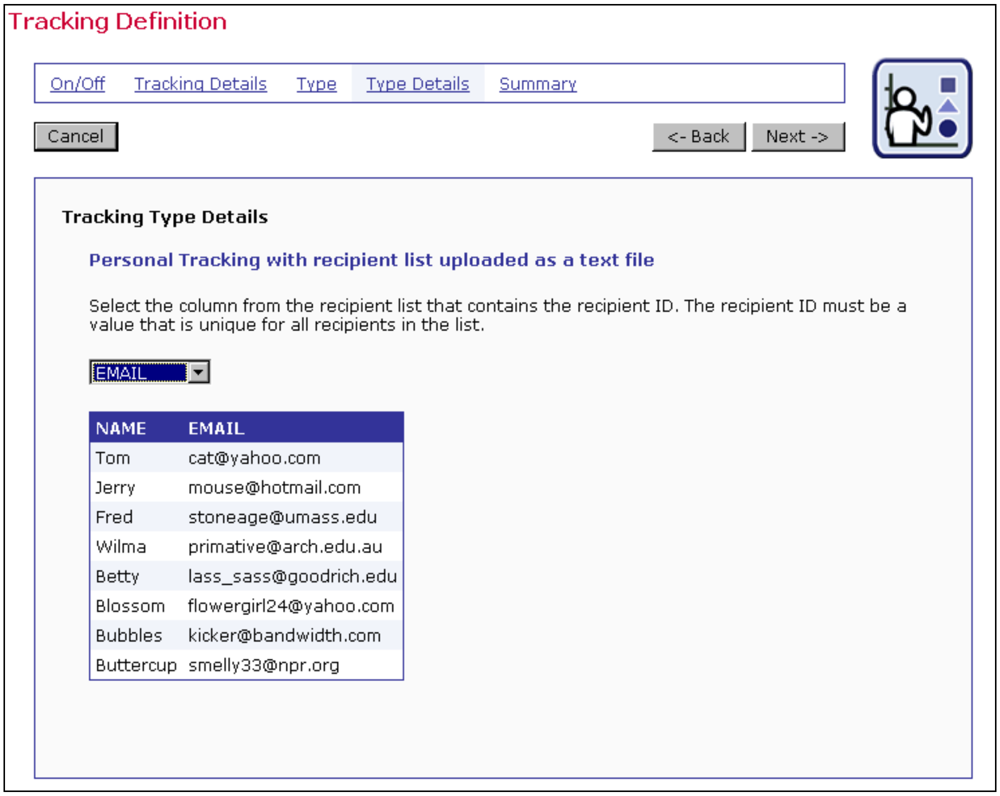
Click **Next ->** to continue.

If Personal Tracking or Anonymous Tracking is selected, the Type Details screen appears. For Personal Tracking, Type Details is used to select a value that is unique for each recipient. For Anonymous Tracking, Type Details 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 Type Details screen:

This version is for personal tracking when the recipients are defined from a text file or from a LISTSERV Maestro selected database:

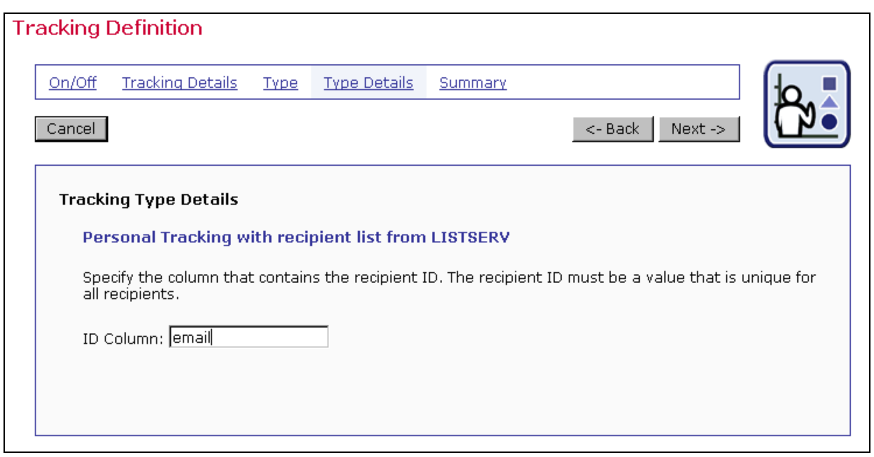
Figure 47 Tracking Type Details



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. Click **Next ->** to continue.

This version is for personal tracking when the recipients are defined from a database selected by LISTSERV or by a LISTSERV list with the option "*Special list message*" selected.

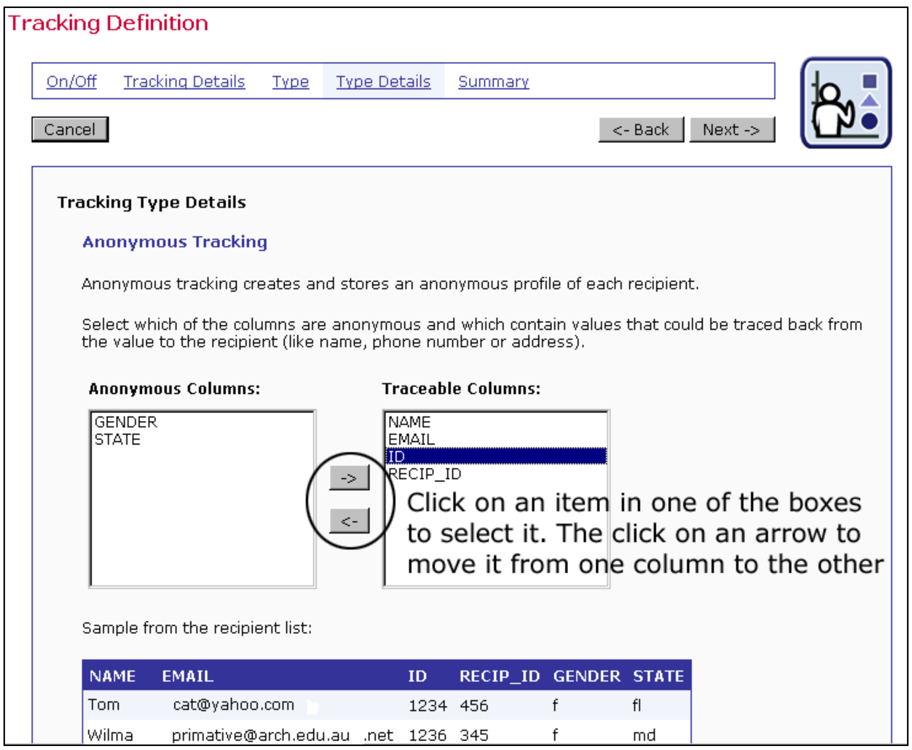
Figure 48 Personal Tracking Type Details



Type in the column that contains the unique recipient ID in the box labeled "*ID Column:*" Click **Next ->** to continue.

Anonymous tracking is independent of recipient type, but columns have to be selected as either anonymous or traceable. Traceable columns contain information about individual recipients than can be used to identify them, such as name and telephone number. Using traceable 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 10.2.3 Recipients Details Reports for more information on running reports from anonymous tracking jobs and downloading demographic information.

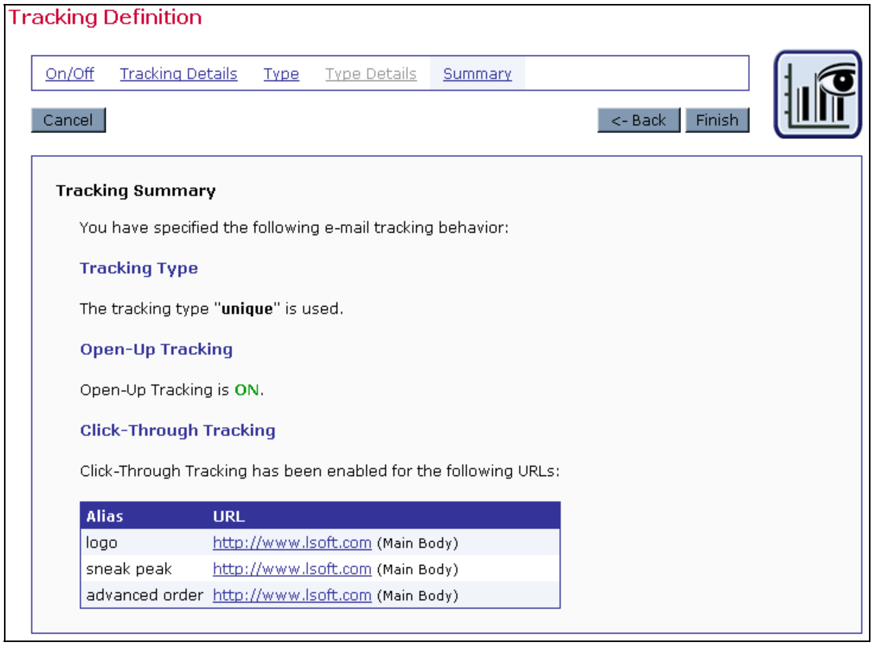
Figure 49 Anonymous Tracking Type Details



Click **Next ->** to continue.

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 and the Workflow or Summary diagram.

Figure 50 Tracking Definition Summary



Section 7 Sender and Delivery Options

Defining the sender of an e-mail 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 and authorization to deliver the message can take place.

7.1 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 next to "*Sender*" in the Summary diagram. Enter the sender information by loading a saved sender profile or typing in new information.

7.1.1 Using Merge Fields in the Sender Information

It is possible to use merge fields when entering sender information for "*E-mail Address*", "*Sender Name*" and "*Reply-To Address*" in order 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 of the name of the field being proceeded by an ampersand "&" and followed by a semi-colon ";". See Section 5.6 Merging 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.

It is critically important that the sender and reply-to addresses resolve into authentic Internet e-mail addresses when the merge fields have been replaced with corresponding data. Failing to provide a valid working Internet e-mail address violates the law in certain countries. It will also disable the reply functionality of the e-mail, hurting the reputation of the sender. The user must verify that merged addresses are valid; LISTSERV Maestro cannot accomplish this.

7.1.2 Bounce Handling

Bounced e-mail (e-mail that is not accepted by the server holding the e-mail address) 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. Click **OK** to continue.

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

7.1.3 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.

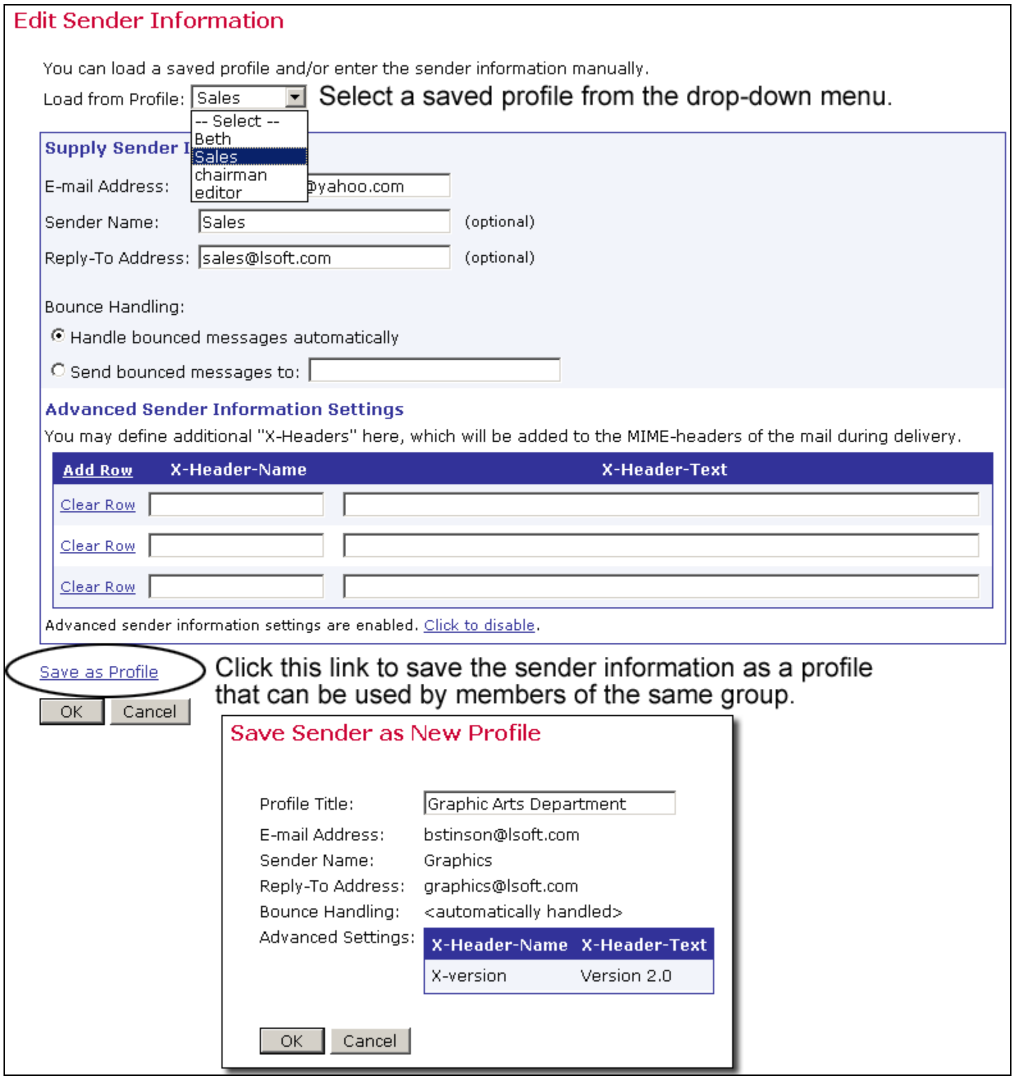
Advanced Sender Information Settings allows user defined MIME mail headers to be added to the end of the MIME header part of the mail. These headers follow the X-Header convention as described in RFC822. The X-Headers will appear just before the actual mail content, and will appear in the order that 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 added additional headers.

7.1.4 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 e-mail 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 than the sender's e-mail address.

Figure 51 Sender Information



7.2 Delivery Testing for a Job

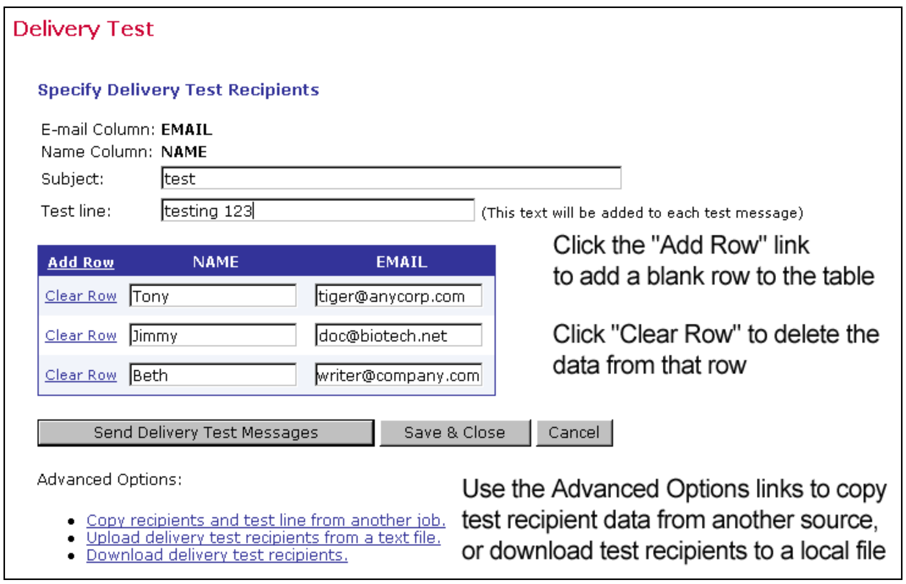
It is critically important to test an e-mail job thoroughly before sending it, especially if it is a large job being distributed to many recipients or a message containing a large amount of data. Large jobs take up a lot of server time and space and affect many e-mail hosts and individual recipients. 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 authorize an e-mail job to be delivered before a test of the job has been sent out and approved.

LISTSERV Maestro will allow 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 and the columns displayed depend on the columns that were defined in the “Define Recipients” stage. If the recipients were defined from an uploaded text file, the columns in the test screen are the same as those present in the text file. If the recipients were defined from a LISTSERV list, the test screen displays the *TO and *NAME columns that are available in a LISTSERV list, as well as any fields for additional merge columns, if those were defined in the recipients wizard for a LISTSERV list.

Valid Internet e-mail addresses are necessary for all the fields in the column that is specified as the e-mail column. The test messages will be sent to these addresses. This works very similarly to the define recipients functions.

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 more easily 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 e-mail job.

Figure 52 Delivery Test



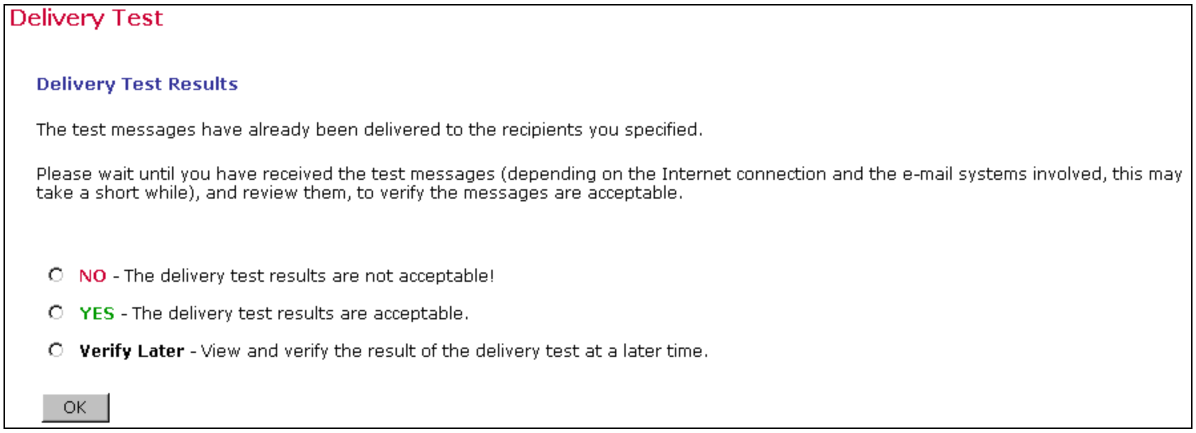
Note: It is not necessary to fill out all rows. Only those rows where the e-mail column field is filled in are used, the other rows are ignored.

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.

Select the option button next to "*No*" and click **OK** if the test results were not as expected. This will prevent the job from being approved for sending and allow the user to make any necessary changes by bringing up the Job Details screen. Select the option button next to "*Yes*" and click **OK** if the test results were as expected. This will allow the job to be authorized for delivery.

Select the option button next to "*Verify Later*" and click **OK** to view and verify the delivery test results at a later time. If this option is selected, the job will not 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. Click the link **Go directly to the validation page, without another delivery test** under "*Advanced Options*" to return to the validation screen of the test that was saved for later verification. Click the option button next to “*Yes*” and then click **OK** to proceed.

Figure 53 Delivery Test Results



It is useful to have a good understanding of the actual recipients 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? Then, 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 e-mail accounts running different e-mail clients. A message that looks fine in one client may look messy or unreadable in another.

If the recipients are defined as a LISTSERV list, send the job as a standard list message. The recommended method for testing mailings is to create a clone of that list within LISTSERV (such as TEST-listname), making 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. In LISTSERV Maestro's "Test" interface, enter the full address of the test list as the sole test address. Remember though, when using a standard LISTERV sending, no mail merging is possible, and only blind tracking is available.

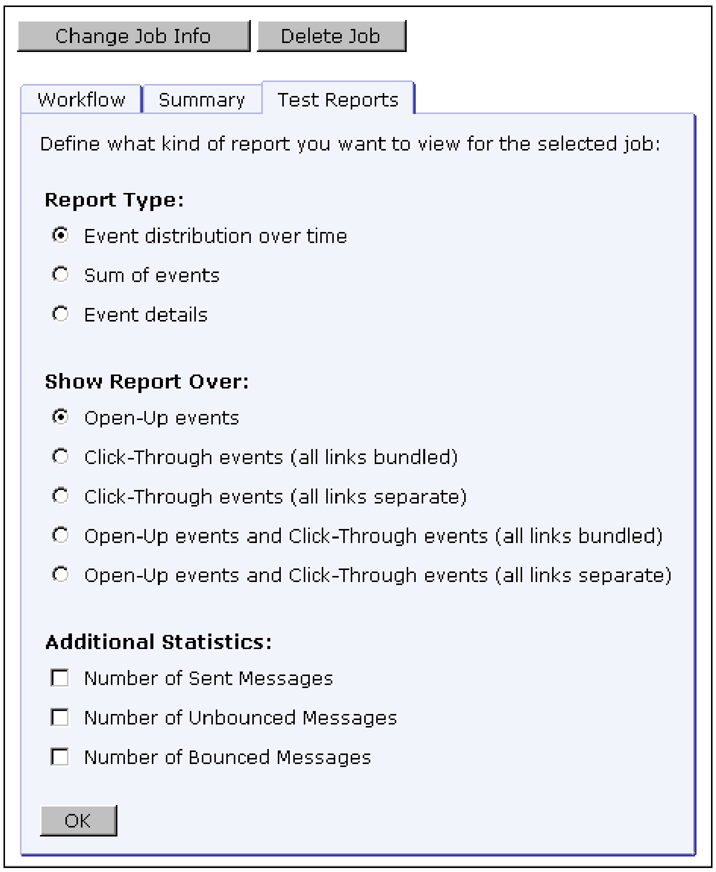
It is important to test every facet of an e-mail job including bounce settings. To test bounce settings, send a test message to an undefined address on a mail server. Look at the bounce report if LISTSERV is handling bounces and download the address to make sure it corresponds to the one used in the 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 one is specified. To test the `From:` address and the `Reply-To:` addresses try replying to both from the test message and examine the results.

7.3 Running Test Reports

Once a test message containing tracked data has been delivered and the test recipients have opened the message, 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 e-mail job.

Figure 54 Test Reports



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

- **Event distribution over time** – Produces a simple line graph showing 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 number of recipients is plotted on the y-axis and the number of events is plotted on the x-axis.

Two types of sum 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, 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 Excel or other statistical software to create detailed reports. Event detail reports are available for personal, anonymous, unique, and blind tracking jobs.

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 link 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 each of 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 types 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 depending

on the type of bounce LISTSERV detected. This option is only available if LISTSERV handles bounces automatically (selected during the sender definition).

Select a report type, a source data type, and any additional statistics using the option buttons. 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. Icons that are unavailable will appear grayed out. These icons appear on all test report, quick report, and regular report pages.

Table 5 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. From here it is possible to save a quick report as a normal report by clicking the **Save & Execute** button. For delivery tests, it is not possible to save a quick report as a regular report, so this icon is disabled (grayed out).

For more information on quick reports see Section 9.2 Delivered Jobs Reports. For more information on creating and editing reports, see Section 10 Tracking Statistics and Reports.

7.4 Scheduling Delivery of a Job

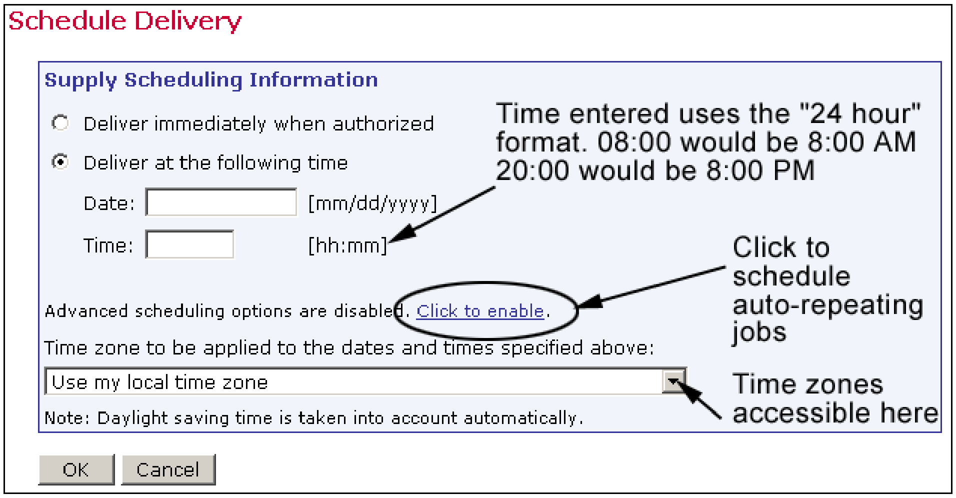
LISTSERV Maestro allows the user to immediately send out an approved e-mail job or schedule a job for future sending. Jobs can be scheduled to be sent only once or to automatically repeat during programmed intervals. Scheduling the delivery of a message can take place at any time during the creation of the e-mail job; however, final delivery is still subject to delivery testing and delivery authorization.

7.4.1 Scheduling Information for Normal Jobs

The Schedule Delivery screen opens input 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 option button for "*Deliver immediately when authorized*" or "*Deliver at the following time*". 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. See Appendix A for a conversion table for formatting AM and PM times to be compatible with LISTSERV Maestro.

Figure 55 Scheduling Delivery



Click **OK** to continue. Jobs scheduled for future sending will be available in the "*Outbox*." It is possible to edit jobs in the Outbox up until the delivery time. 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.

7.4.2 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 Schedule Delivery screen. If you want to disable the advanced options at a later time, 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.

The advanced options available are:

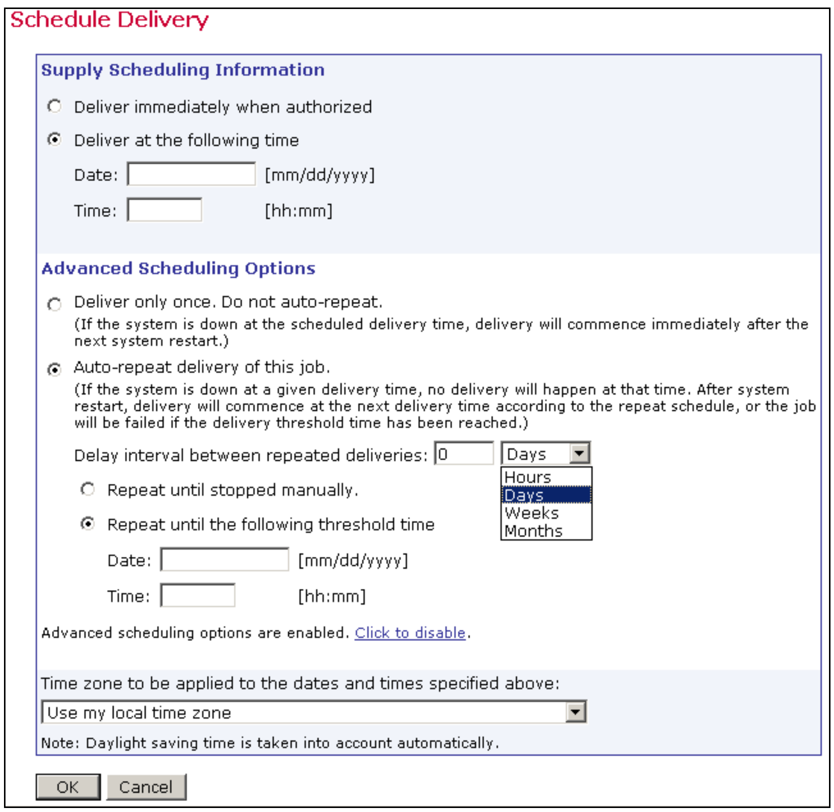
- **Deliver only once. Do not auto-repeat** – With this option, the job will be delivered only once, at the delivery time specified in the basic options at the top of the screen. This is the default setting for delivery. It is also used when the advanced delivery options are disabled.
- **Auto-repeat 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. Right after 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 field labeled "*Delay interval between repeated deliveries*" and choosing an appropriate time unit from the selection list. Choose between "hours", "days", "weeks" and "months". In addition, an end condition must be entered to stop the auto-repeat sequence. Select one of the 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 Outbox 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.

Figure 56 Advanced Scheduling Options



7.4.3 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.

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 page (see Section 7.4.1 Scheduling Information for Normal Jobs).
- 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 advanced options as the "*Delay interval between repeated deliveries*".

Here are some examples:

- If "*Delivery Immediately*" 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 11/24/2003*" is specified (which happens to be a Monday) 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 Monday of every second week after the initial delivery.
- If "*Deliver at 12:00h on 1/1/2004*" 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.

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 text upload or 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:

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 (probably 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 "*1*

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.

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 "*1 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.

Auto-Repeat Jobs and Delivery Failures

If delivery of an auto-repeat job fails for any reason, the failure is handled slightly 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 8 Outbox for more information on delivery failures.

Important Note: "*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 to 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.

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 Outbox 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 Auto-Repeat Jobs and Delivery Failures).

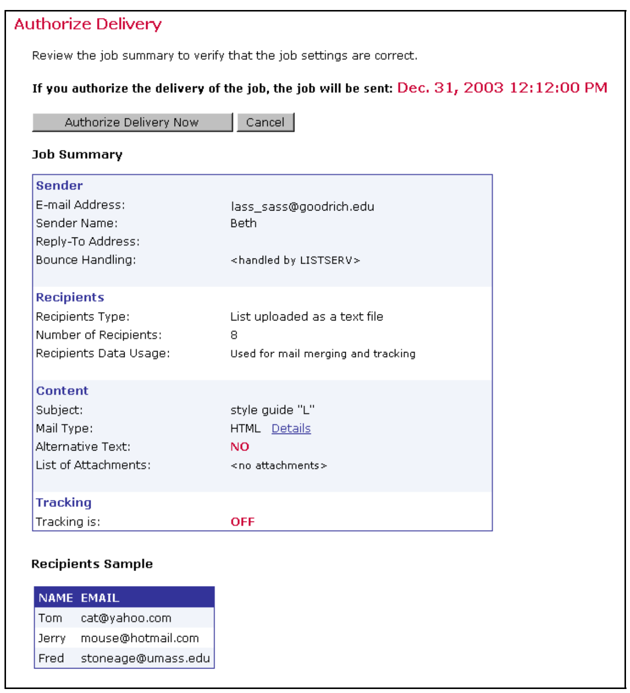
For example:

If a job is scheduled to be delivered at 8:00h, with an auto-repeat delay interval of "12 hours" (the job is supposed to repeat itself at 8:00h and 20:00h of each day), but the system is down at that time, then during the next system startup, the job will be re-scheduled from 8:00h to 20:00h. Or if the next system startup occurs after 20:00h of that day, the job will be re-scheduled to 8:00h of the next day, or even 20:00h 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 itself at a time that has passed before the system startup, 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.

7.5 Authorizing a Job for Delivery

In order for an e-mail 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 schedule delivery – 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.

Figure 57 Authorizing Delivery



The summary screen lists all the selections that make up the e-mail job. Above the **Authorize Delivery Now** and **Cancel** buttons, at the top of the Authorize Delivery screen, a message will appear summarizing 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.

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. The **Details** link will display a copy of the message, alternative text, attachments, and tracking information. The message can be downloaded to a local file as well.

If a job is authorized for delivery at a future date and time, delivery authorization may be revoked by going to the Outbox and selecting the job. For more information see Section 8 Outbox.

The scheduled delivery time shown on this screen is always displayed relative to the local time of the user. If the user selected a time zone different from his/her location on the schedule page, then the time displayed in the job summary may, at first glance, appear incorrect. For example, if the user enters the time 10:00 with zone GMT as the scheduled delivery time, but the user's location is not in the GMT zone, the delivery time displayed on the Authorize Delivery page will be different than the 10:00 time selected, because the user's local time is in a different time zone than the scheduled delivery time. So the time may look incorrect at first, but when converted to absolute time it is correct. Even more important, this 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 may appear as 23:30 on the 31st of December on this page if the local time zone is before GMT.

7.5.1 Re-Authorizing Auto-Repeat Jobs

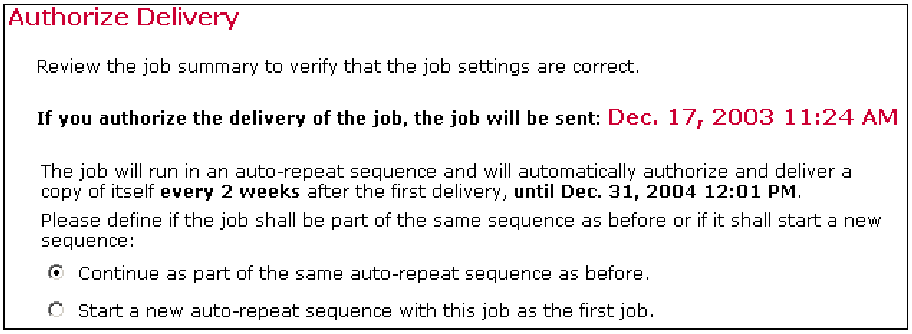
Any auto-repeat job currently in the Outbox awaiting its scheduled delivery time can have its delivery authorization revoked just like a normal job. If authorization is revoked, the job will be put back into the "Resume Jobs" list, where it can be edited again.

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.

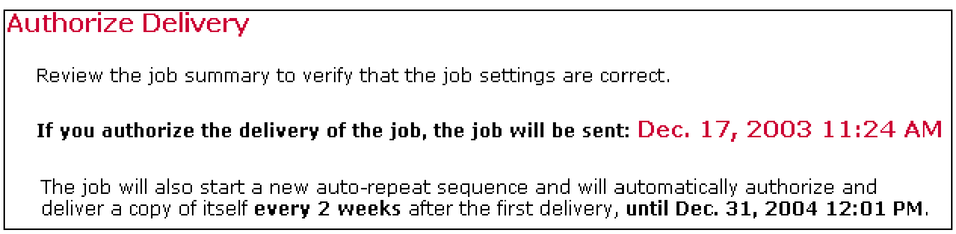
- **The job is not the first job of the auto-repeat sequence but has not been changed since the delivery authorization was revoked** – This means that this job is already an automatically created copy that is part of an auto-repeat sequence. The delivery authorization of this job was revoked, but the job has not changed the job since then. When re-authorized, the job can either 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.

Figure 58 Auto-Repeat Re-Authorization



- **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, by itself, be the first (and still only) job of a new auto-repeat sequence.

Figure 59 Auto-Repeat Authorization for a New Sequence

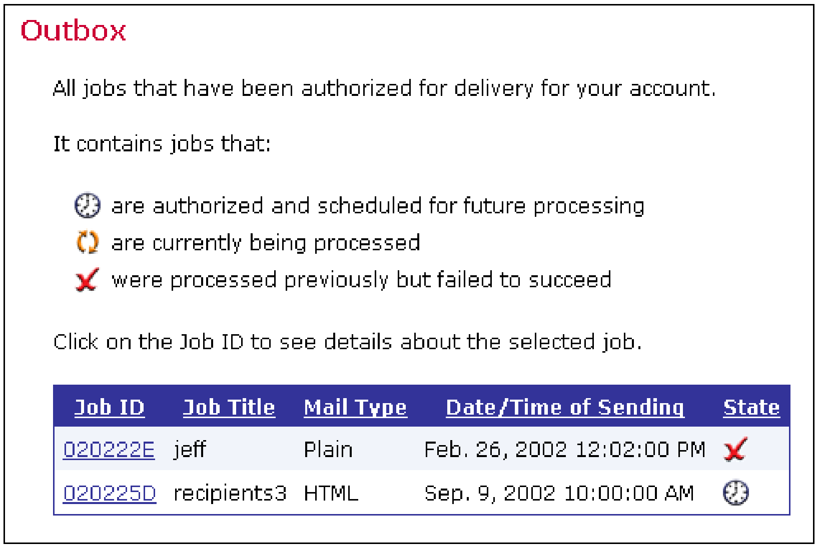


Note: A job is defined as "changed since authorization was revoked" if the recipients definition, content definition, tracking definition, or sender definition of the job has changed since the delivery authorization was revoked. If these four parts remained unchanged, the job is interpreted as unchanged.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

Section 8 Outbox

The Outbox is a repository of e-mail jobs that have been approved for final delivery but have not reached their targeted delivery date, are in the process of being delivered, or have encountered a problem during delivery. Open the Outbox by clicking on the **Outbox** icon from the opening screen or the side navigation bar. Jobs in the Outbox can be edited as long as they are not being processed or have not reached the scheduled delivery date and time. Scheduled delivery time is always shown relative to the local time of the current user. If a job is edited from the Outbox, it is subject to re-testing and re-authorization before it can be delivered.

Figure 60 Outbox



Jobs in the Outbox 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 the Job ID to open the Outbox 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. It is not possible to edit any selection until the send authorization is revoked. At that point the job is removed from the Outbox and once again put into the list of Undelivered Jobs, just as if it had never been authorized. It now 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 may 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. A summary page 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 "*Sending has failed state*" (see below).

- A red "X" represents jobs that have failed to be sent. Click the ID of such a job to get to the summary page. Three buttons appear, **Re-Open Job**, **Close Job**, and **Retry Sending**. Click **Re-Open Job** to move the job back from the Outbox into the list of undelivered jobs, where it can once again be edited. Click **Close Job** to move the job from the Outbox to the list of delivered jobs. It will then appear in this list just as any other delivered job, only that its status will be "failed" instead of "successful". Click **Retry Sending** to immediately restart the sending of the failed job (the job stays in the Outbox and goes back to the "authorized" and immediately into the "being processed" state).

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.

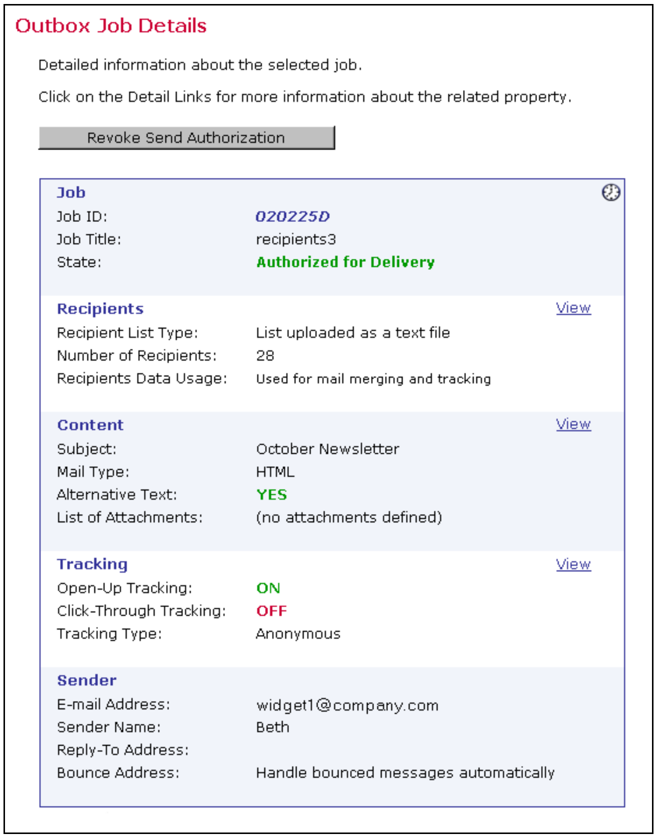
Important: If a job contains a virus, it will fail during delivery. It will be rejected by LISTSERV. The job will remain in the Outbox, in the "failed" state. The reason for the failure (a message about the detected virus) will be visible when clicking on the job to view the job details. From there,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

8.1 Auto-Repeat Jobs and Delivery Failures

If delivery of an auto-repeat job fails for any reason, the failure is handled slightly differently than with normal jobs. A normal job that fails remains in the Outbox and is marked as failed. From there, the job can be closed, transferring it into the list of delivered jobs, or delivery can be retried, or the job can be re-opened for editing. 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.

As a result, if at a given delivery time some condition that causes failure (that may exist outside of LISTSERV Maestro, for example the accessibility of a database) exists, 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 probably fail as well. But the copy after that (if there is one) may have a chance to get through if conditions change, and so on.

Figure 61 Outbox Job Details



Section 9 Delivered Jobs

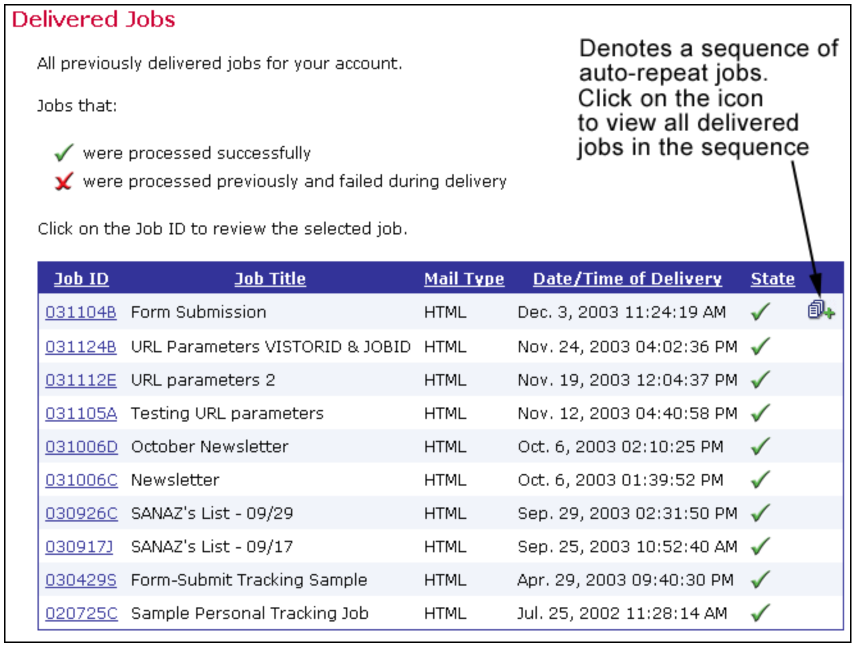
Delivered Jobs is a listing of all the e-mail jobs that have attempted delivery and the present state they are in - processed successfully or failed during delivery. Click on the Job ID of an individual job to open the “*Delivered Job Details*” screen. This screen is composed of two tabbed pages, “*Summary*” and “*Reports*”. The Summary screen lists details for the selected job. The Reports screen contains options and links to generate a “quick report” on the selected job.

9.1 Auto-Repeat Sequences in the Delivered Jobs List

Only the first job of an auto-repeat sequence is normally shown in the list of delivered 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 shown next to the list entry: 

By clicking on the sequence icon, the sequence is "unfolded" and displays all jobs in that sequence. From there, select any of these jobs by clicking on its Job ID. To hide the sequence jobs, simply click on the sequence icon again or click on the icon of a different sequence, which will "unfold" that other sequence and hide the sequence that was previously unfolded. Only one sequence can be unfolded at a time.

Figure 62 Delivered Jobs



Delivered Jobs

All previously delivered jobs for your account.

Jobs that:

- ✓ were processed successfully
- ✗ were processed previously and failed during delivery

Click on the Job ID to review the selected job.

Job ID	Job Title	Mail Type	Date/Time of Delivery	State	
031104B	Form Submission	HTML	Dec. 3, 2003 11:24:19 AM	✓	
031124B	URL Parameters VISTORID & JOBID	HTML	Nov. 24, 2003 04:02:36 PM	✓	
031112E	URL parameters 2	HTML	Nov. 19, 2003 12:04:37 PM	✓	
031105A	Testing URL parameters	HTML	Nov. 12, 2003 04:40:58 PM	✓	
031006D	October Newsletter	HTML	Oct. 6, 2003 02:10:25 PM	✓	
031006C	Newsletter	HTML	Oct. 6, 2003 01:39:52 PM	✓	
030926C	SANAZ's List - 09/29	HTML	Sep. 29, 2003 02:31:50 PM	✓	
030917J	SANAZ's List - 09/17	HTML	Sep. 25, 2003 10:52:40 AM	✓	
030429S	Form-Submit Tracking Sample	HTML	Apr. 29, 2003 09:40:30 PM	✓	
020725C	Sample Personal Tracking Job	HTML	Jul. 25, 2002 11:28:14 AM	✓	

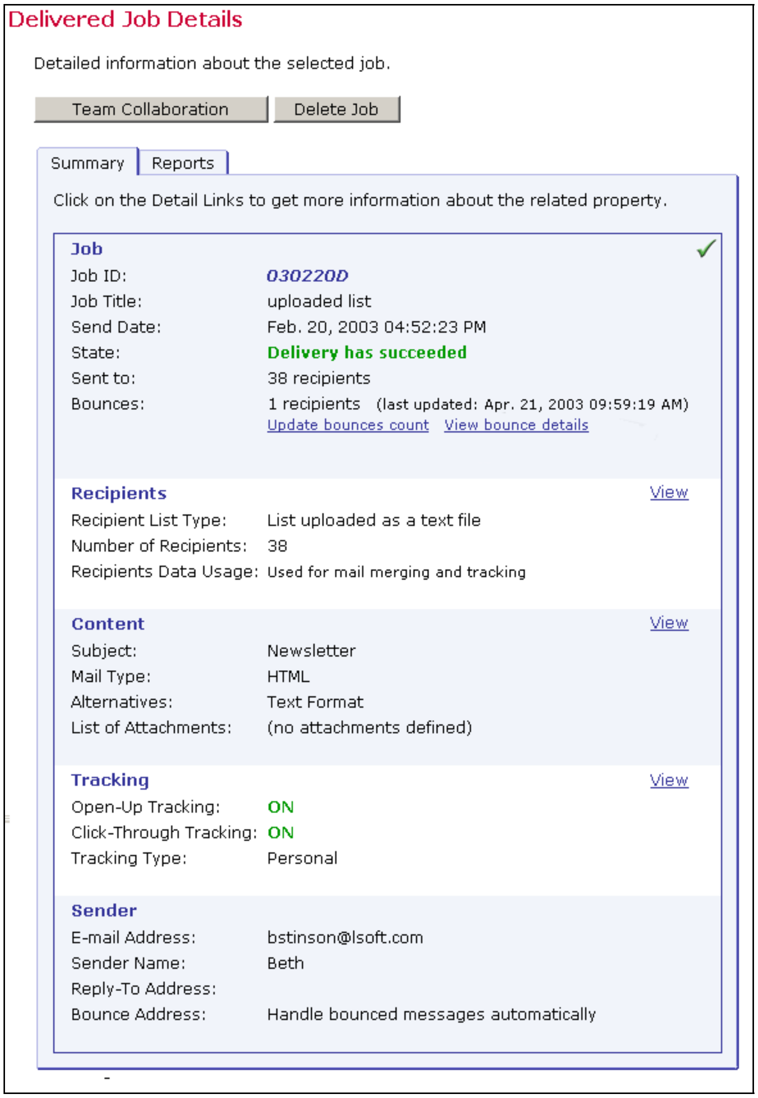
It should be noted that a job might be processed successfully but still fail to be delivered. The processing state only describes the success or failure of the act of transferring the job to LISTSERV®. If LISTSERV then for some reason fails to actually deliver the job, no messages will be sent, but the 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, the job will be successful, but LISTSERV sends an error message to the non-authorized e-mail 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 L-Soft recommends that the system administrator check the LISTSERV logs to find out what happened to the job.

9.2 Delivered Jobs Summary

The Summary tab of the Delivered Jobs Details screen displays information about the delivered job. Click on the **View** link adjacent to a property to see more information on that particular property. Two additional links are available here, one to update the bounce count and one to view bounce details (See Section 9.1.1 View Bounce Details for more information). Click **Delete Job** to permanently delete the job. Click **Team Collaboration** to change the team collaboration settings for the job.

Figure 63 Delivered Jobs Summary



9.2.1 View Bounce Details

From the Summary screen of Delivered Jobs 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 al bounces. The bars below represent the total number of bounces divided into different bounce types or "reasons." Bounce types are based on RFC error codes that define the characteristics of why the message bounced. The codes are documented in RFC 821 "*Simple Mail Transfer Protocol*", RFC 1893 "*Enhanced Mail System Status Codes*" and RFC 1894 "*An Extensible Message Format for Delivery Status Notifications*". For more information on RFCs, see http://www.ietf.org/rfc.html.

LISTSERV Maestro groups bounces into "reasons" based on these current e-mail RFCs.

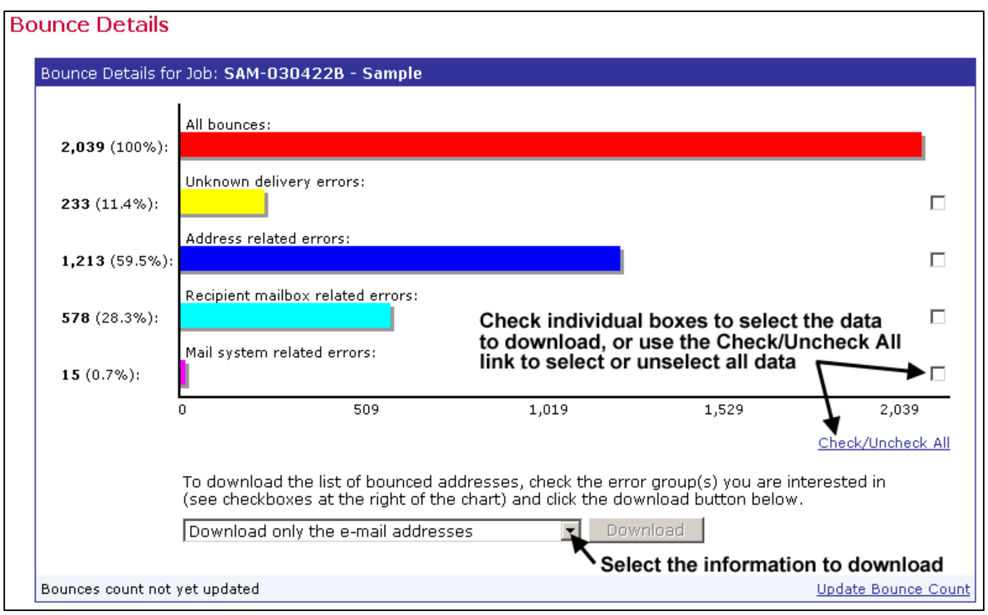
The reason groups LISTSERV Maestro uses are:

- **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 RCFs, see Appendix D E-Mail Related RFCs.

Use the check box adjacent to each bar to select it for download. Use the drop-down menu to download the just the e-mail addresses that bounced, or the e-mail addresses with the delivery failure information included.

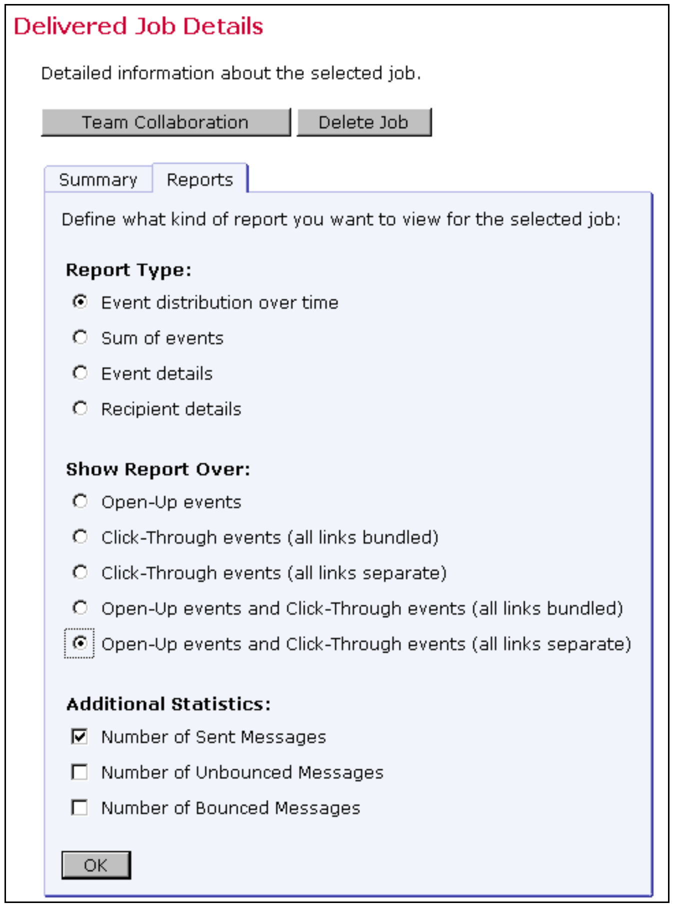
Figure 64 Bounce Details



9.3 Delivered Jobs Reports

Click on 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 e-mail job.

Figure 65 Delivered Jobs Quick Reports



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 number of responses over time. Time is plotted on the x-axis of the chart and events are charted on the y-axis. For more information on event distribution reports, see Section 10.2.1 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 e-mail message. The number of recipients is plotted on the y-axis and the number of events is plotted on the x-axis.

  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. For more information on sum of events reports, see Section 10.2.2 Sum of Events Report.

- **Recipients details** – Recipients details reports are 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 column data from the define recipients file. 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 Excel or other statistical software to create detailed reports. For more information on Recipient Details reports, see Section 10.2.3 Recipients Details Report.
- **Event details** – Event detail reports are 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. Click the **download** link to download 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 event details reports, see Section 10.2.4 Event Details Report.

Click **OK** to save the column selections and return to the Recipients Details report screen. 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 type of data source is 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 "*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 types 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 depending on the type of bounce LISTSERV detected. This option is only available if LISTSERV handles bounces automatically (selected during the sender definition).

Select a report type, a source data type, and any additional statistics using the option buttons. 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 Delivered Jobs screen), unless the **Create Report** icon, located at the bottom right of the screen, is clicked. This will open the "*Define Report*" screen where it is possible to save the quick report as a regular report, using the quick report's settings as a template.

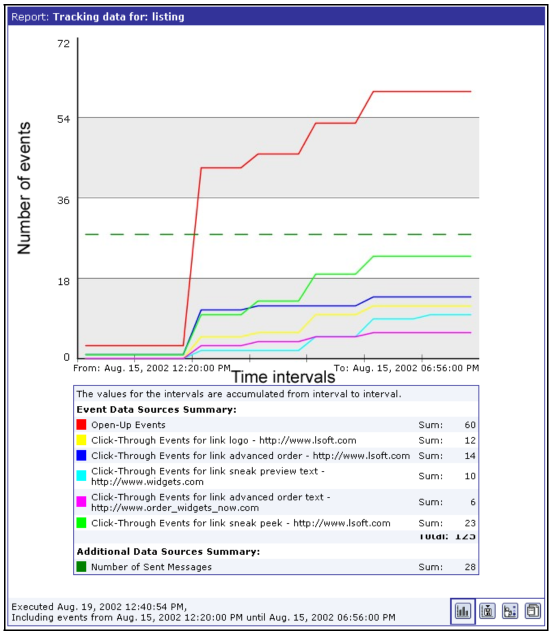
Located at the bottom right side of the delivered jobs reports are four icons. Each icon opens a page with different functions and options. The currently selected icon will be highlighted with a blue border. Icons that are unavailable will appear grayed out. These icons appear on all test report, quick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

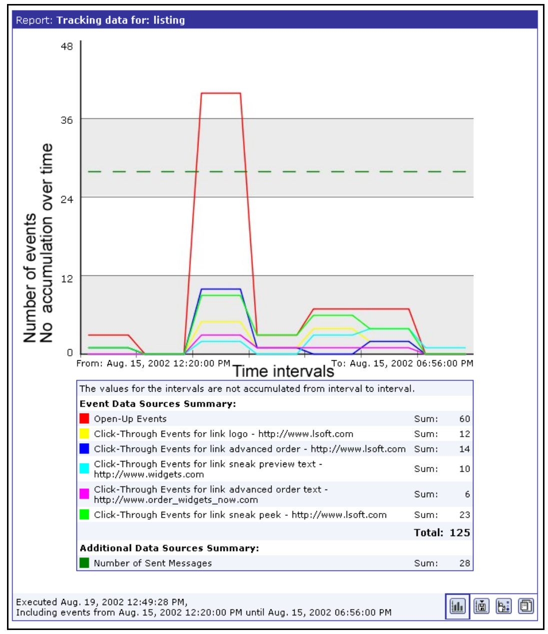
Table 6 Delivered Jobs Report Icons

	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 on the report.
	Create Report / Edit Report – This icon is called Create Report only if the report is a quick report. In that case, the "*Define Report*" screens with a new report that is pre-filled with the settings from the quick report. From here it is possible to save the quick report as a normal report by clicking the **OK** button, or by clicking the **Save & Execute** button, which will display the report again as well as save it as a normal report. For delivery tests, it is not possible to save a quick report as a regular report, so this icon is disabled (grayed out).  If an existing report from the reports list is executed by clicking its title or by clicking the **Save & Execute** button, this icon is called **Edit Report**. The "*Define Report*" screen opens, but a new report is not created, the existing report is simply opened, the same way it is opened from the report list when the **Edit** link next to the report title is clicked.

For more information on creating and editing reports, see Section 10 Tracking Statistics and Reports in this guide.

Figure 66 Line Chart Report of Events Distributed Over Time





The same data is shown below in a different report form.

Figure 67 Bar Chart Report of the Sum of Unique Events – Count

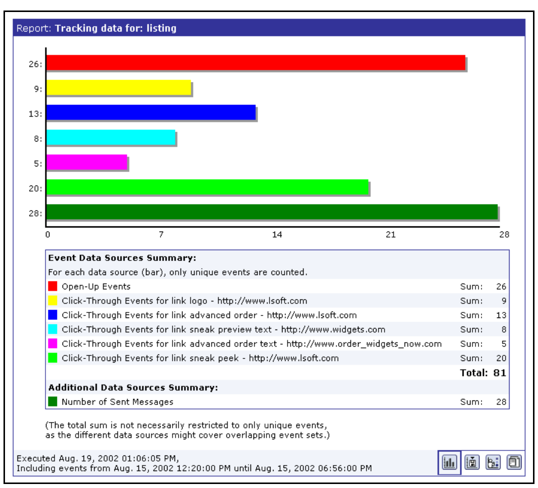
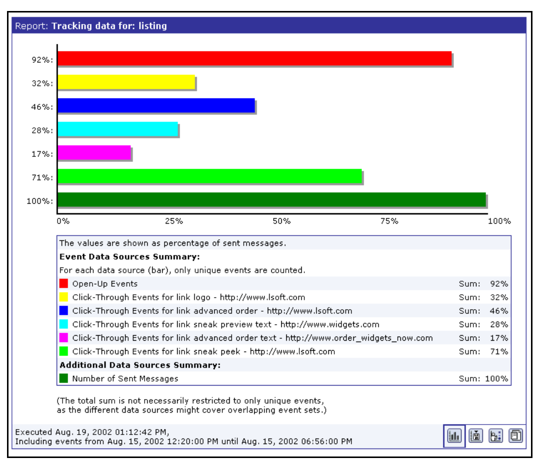


Figure 68 Bar Chart Report of the Sum of Unique Events – Percentage



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 tracking reports are covered in Section 10 Tracking Statistics and Reports.

Section 10 Tracking Statistics and Reports

Once an e-mail job has been sent and enough time has gone by to reasonably 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 two ways. The first way is by clicking on the **Delivered Jobs** icon (covered in Section 9.2 Delivered Job Reports). The second way is by clicking the **Tracking Reports** icon. Both of these methods are available from the home page or on the left side of most screens.

- **Delivered Jobs** – Lists all of the e-mail jobs that have been delivered in a tabbed table format. The first tabbed page contains a summary table listing details about each job. The second tabbed page contains access to predefined reports ("quick reports") for that job, available only if tracking is switched on for the job in question. Click on the type of report desired and a temporary report is automatically generated based on the selected settings. This temporary report is not automatically saved. To save the quick report, click on the **Create report** icon at the bottom of the report. This opens the Define Report screen. Click on **OK** to save the report and return to the reports list or **Save & Execute** to execute the report again (display it) and save the quick report as a regular report.
- **Tracking Reports** – Opens the list of current reports, if any. Clicking the **New Report** button opens a series of pages that guides the user through the process of building a new customized report by defining data to collect and how to view or download that data. Clicking on the **Edit** link of an existing report opens a series of pages that guides the user through the process of editing the report.

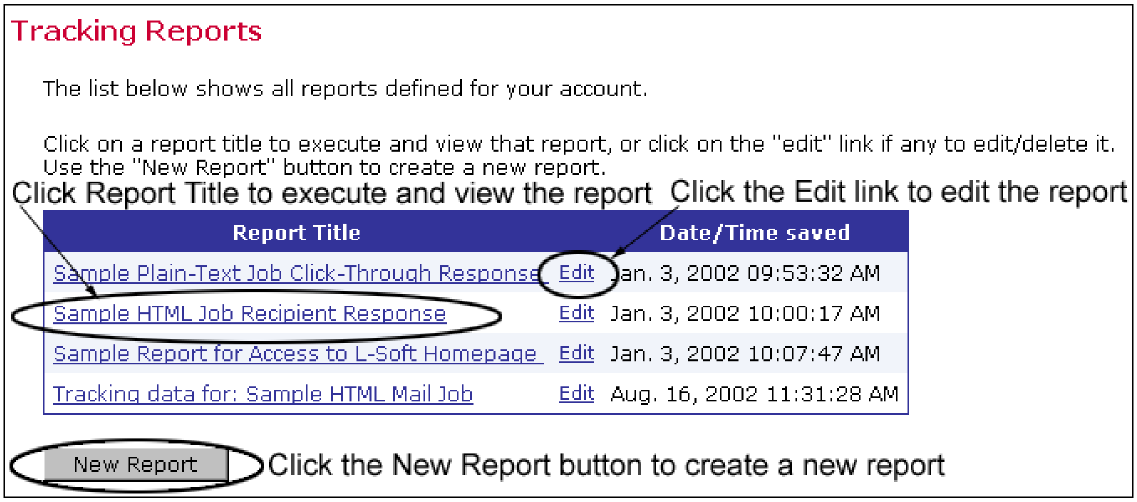
LISTSERV Maestro can generate several different types of reports with either of these methods, or data can be downloaded for use in other statistical analysis programs. For quick reports on delivery tests, click on the Test Reports tab on the Job Details screen For more information on test reports, see Section 7.3 Running Test Reports.

Tip In many cases, it is easier to start from one of the quick reports available from the Delivered Jobs interface, save it, and then make changes using the edit reports pages, rather than to start from scratch.

10.1 Tracking Reports

Editing tracking reports is a more detailed way to generate custom reports. Unlike the quick reports available from Delivered Jobs (or Test Reports for delivery test data), it is possible to combine data from multiple jobs as well as custom design the color of each data source. To create a new report or edit an existing report, click on the **Tracking Reports** icon. A listing of previously created reports appears, unless no reports have been generated. Click on a report title to execute and view that report. Click on the **Edit** link to open an existing report, or click the **New Report** button to create a new report.

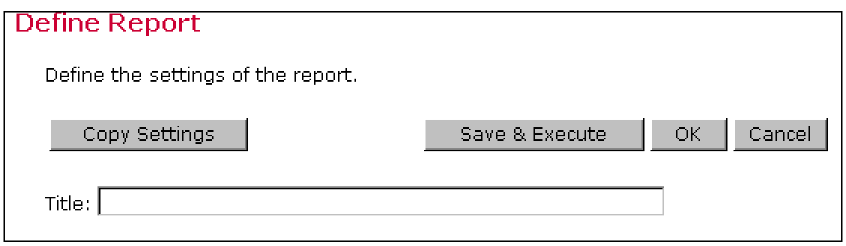
Figure 69 Tracking Reports



Clicking the **New Report** button or the **Edit** link will open the "*Define Report*" screen. There are four top buttons and a text box to type in a report 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.

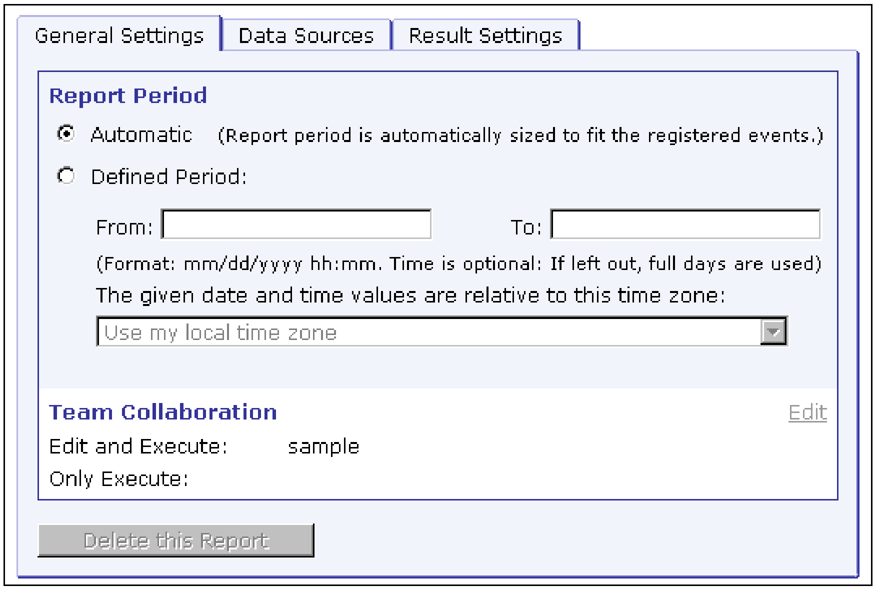
Figure 70 Define Report Top Part of Screen



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.
- **Data Sources** – Opens the data source wizard, a series of screens that leads the user through the process of creating new data sources.
- **Result Settings** – Defines the type of report and how the data from the job is displayed.

Figure 71 Define Report – General Settings



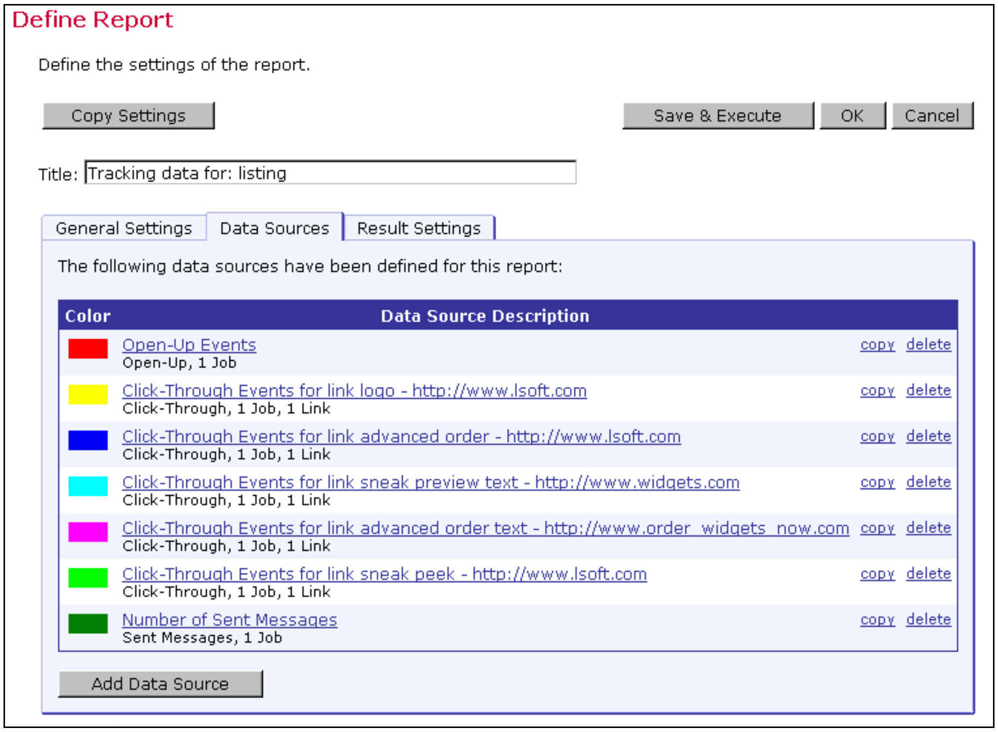
- **Report Period** – Determines the earliest and the latest points in time that are considered when the events are retrieved from Maestro Tracker.
  - Automatic – LISTSERV Maestro will determine the time period to fit the registered events. From all the events of all of the jobs and/or URLs that are 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.
- **Team Collaboration** – Click on the **Edit** link to change the team collaboration settings for the report.

Delete this Report will delete the report presently open, if the user has permission.

10.1.1 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. In Figure 71, there are seven different variables that will be plotted on the report, so the data source wizard was engaged seven times to record each one. To begin defining a data source, click on the Data Sources tab.

Figure 72 Define Report – Data Sources



- **Data Source Description** – 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.

- **Add Data Source** – Opens the data source wizard, a series of screens that leads the user through the process of creating or editing a data source.

There are five screens to the data source wizard:

- **Type** – Defines the type of event to report on.

- **Jobs** – Defines which job or jobs those events are from.

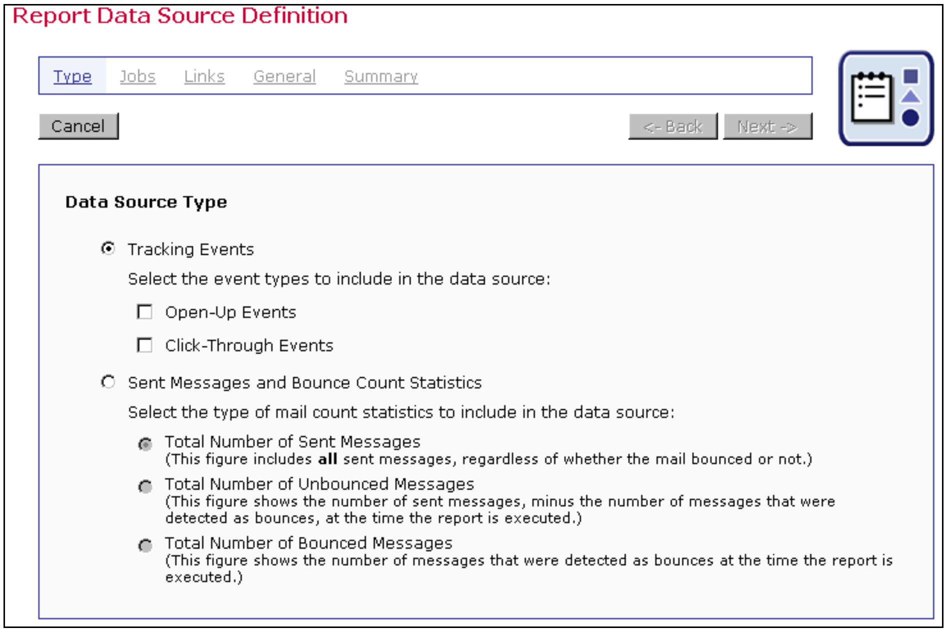
- **Links** – Defines which URLs to include from click-through events.

- **General** – Defines the color for the data source.

- **Summary** – Displays a summary of the selections for the newly defined data source.

The first screen of the wizard defines the data source type. Select the type of tracking event: Open-Up or Click-Through. Or, select one of the three "*Sent Messages and Bounce Count Statistics*" options to be the data source type.

Figure 73 Data Source Type



Click **Next ->** to continue.

The next screen in the wizard is "Data Source Job Selection". Select the e-mail job or jobs to report on. Only jobs for which the chosen event type is possible will be listed. For example, if only "Open-Up" events were selected on the previous page, 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.

Unlike the "quick reports" from Delivered Jobs, it is possible to combine data from different jobs into one report from this screen. Different jobs can be combined into one data source by checking the boxes for the desired jobs listed under "Job-ID". The data from each selected job is aggregated, and produces one line or bar on the graph. For example, to produce a report that charted the total number of click-through events for three jobs, first select click-through events on the "Type" screen. Next, select each of the three jobs from the Jobs screen. From the Links screen select all the click-through links contained in the job, and on the General 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 Type screen. Next, select one job from the Jobs screen. Continue through the Links and General 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.

Figure 74 Data Source Jobs

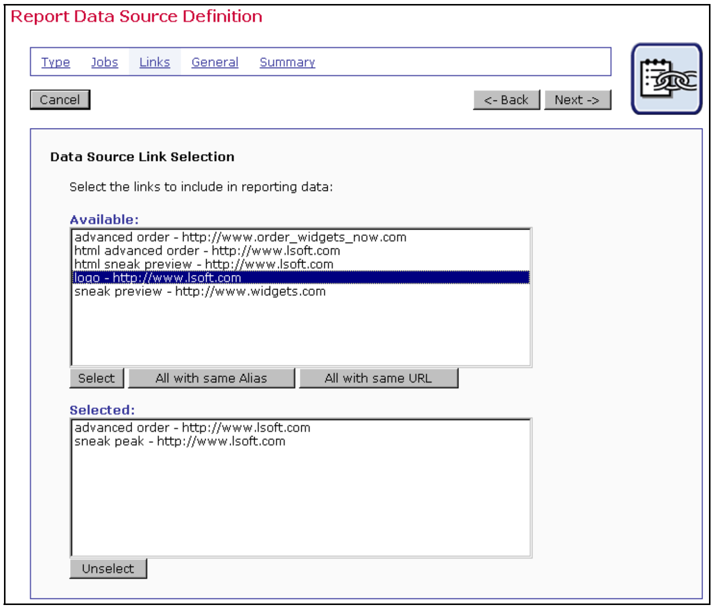
Click **Next ->** to continue.

The third screen, "*Data Source Link Selection*" is only engaged if "*Click-through events*" is chosen on the "*Data Source 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*" box to highlight it. Next, click the **Select** button to place the highlighted link in the "*Selected*" box.

Use the **All with same Alias** button to select a group of links that share the same alias that was defined during the Tracking Definition phase of defining a job. See Section 6.1.2 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*" box to highlight it. Next, click the **Unselect** button to replace it in the "*Available*" box. To highlight several links at once, hold down the SHIFT or CTRL key while clicking.

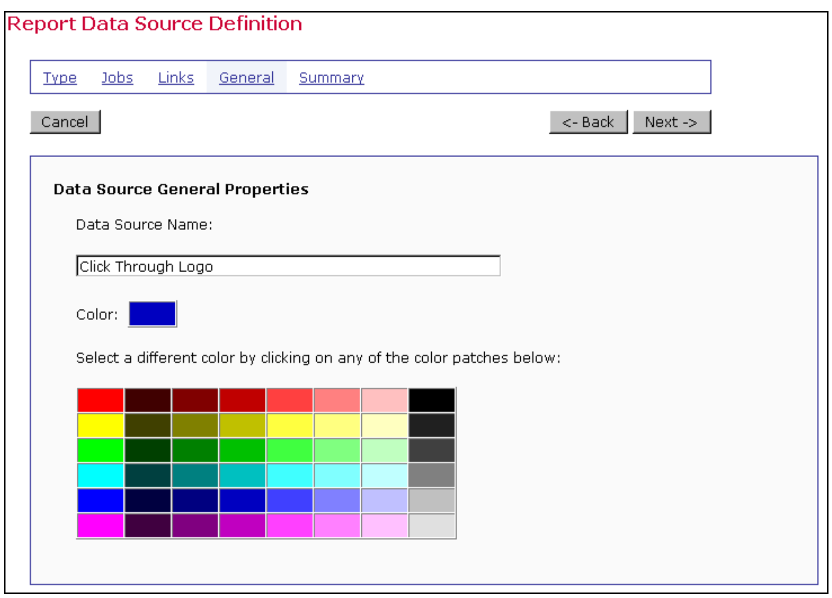
Figure 75 Data Source Links



Click **Next ->** to continue.

The fourth screen, “Data Source General Properties”, 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.

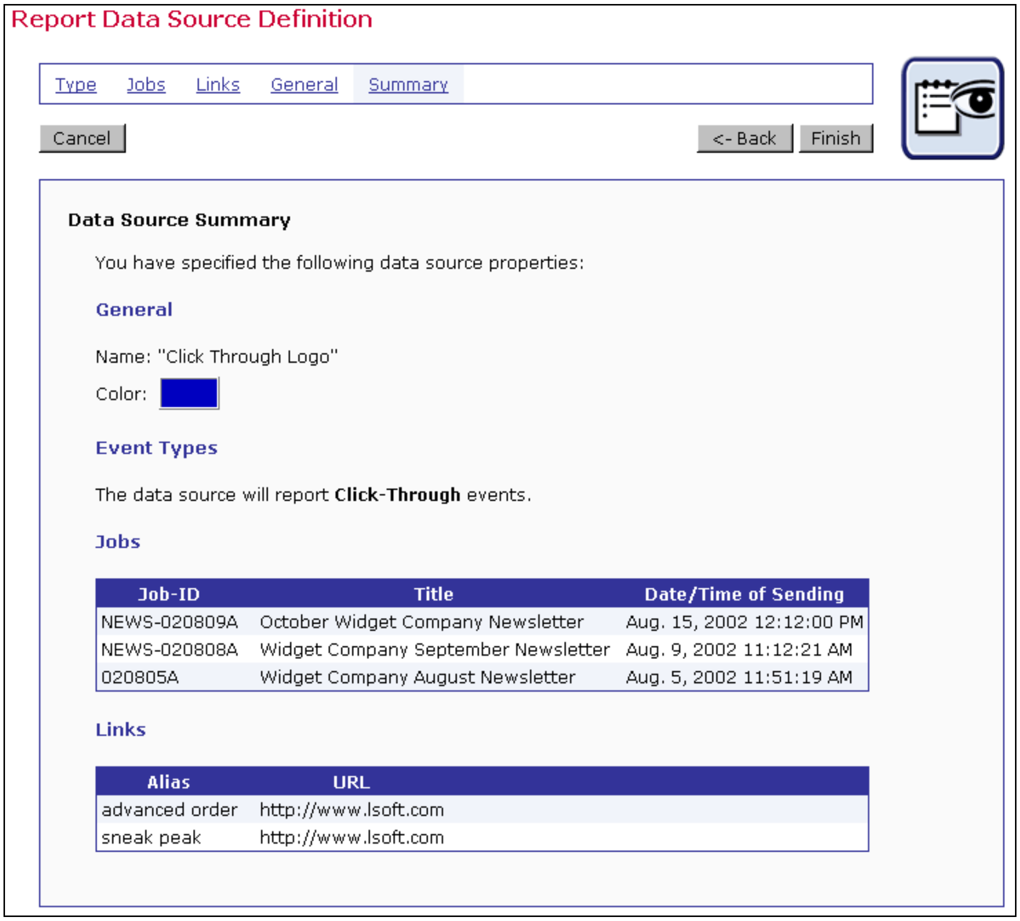
Figure 76 Data Source General Properties



Click **Next ->** to continue.

The last screen of the data source wizard is "*Data Source Summary.*" A summary of the selections made on the previous pages is displayed. 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 77 Data Source Summary



10.1.2 Result Settings

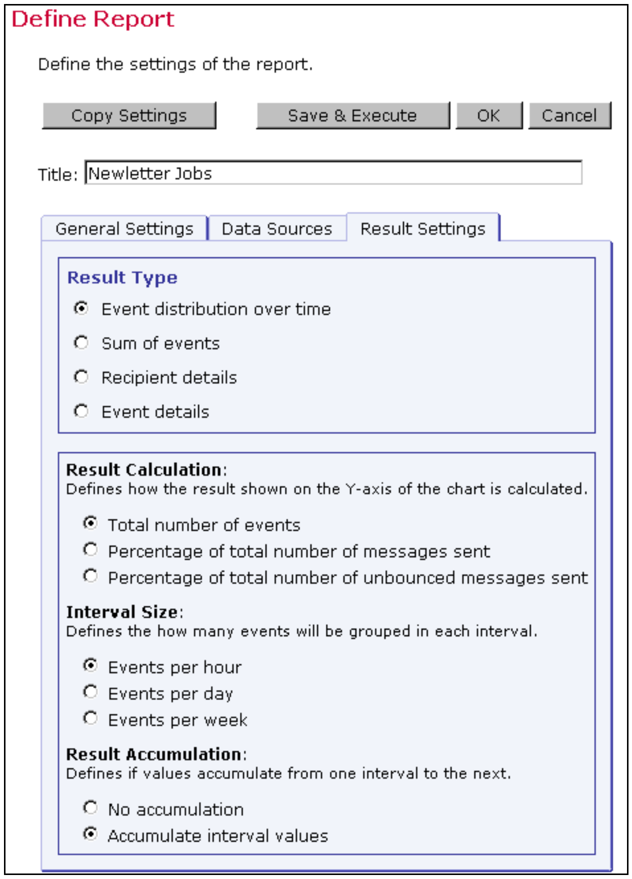
The third tab of the Define Reports screen is Result Settings. Select the type of report to generate as well as how the report data will be displayed. There are four basic types of report listed under "Result Type". The type of report selected will determine the other options that appear in the lower 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.

Result Settings for Event Distribution Over Time

The "Event distribution over time" Result Type produces a simple line graph showing number of responses over time. Time is plotted on the x-axis of the chart and events 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 unbounced 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 a total of 250 unbounced 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. Intervals 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 bar, or whether they will display as non-cumulative intervals, creating a series of peaks and valleys.

Figure 78 Result Settings – Event Distribution Over Time



Result Settings for 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 e-mail message. For each job defined as a data source, all events of the selected type (open-up and/or click-through), and the selected links (in the case of click-though), are summed up and displayed in the form of a colored bar.

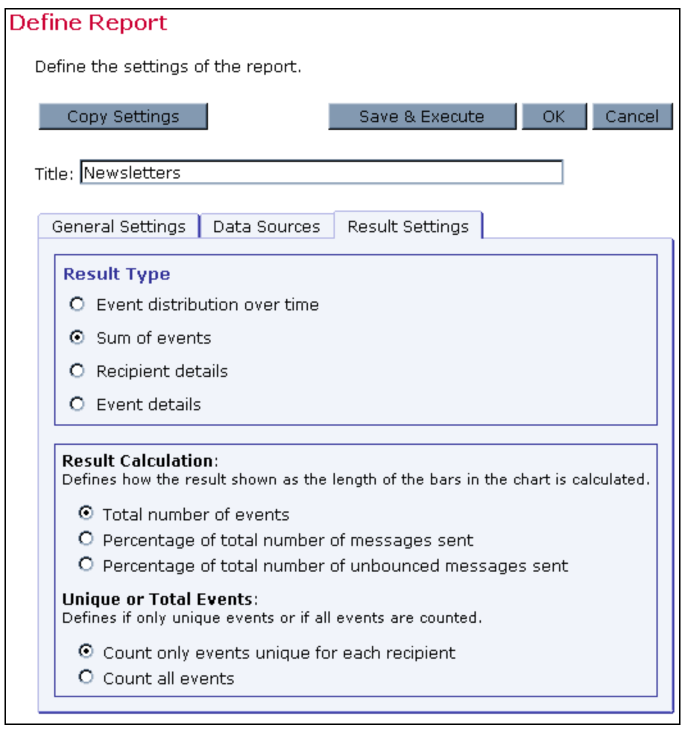
Options available for this report type include:

- **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 line 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 line length will be 50% (because 150 is 50% of 300).

- Percentage of the total number of unbounced 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 a total of 250 unbounced messages. And if 150 events have been counted, then the line 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.

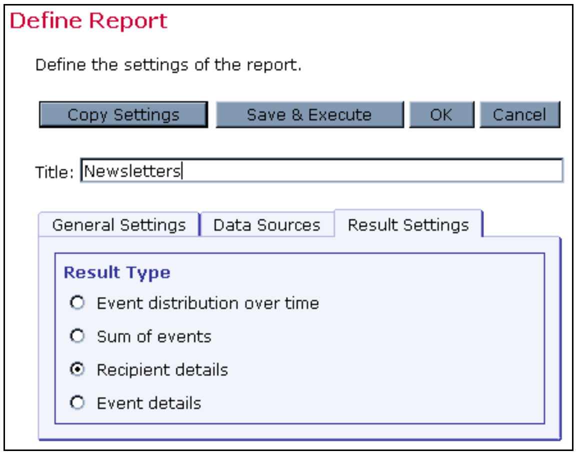
Figure 79 Result Settings - Sum of Events



Result Settings for Recipient Details

Recipient details reports are 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 column data from the define recipients file. There are no other options available for this report type.

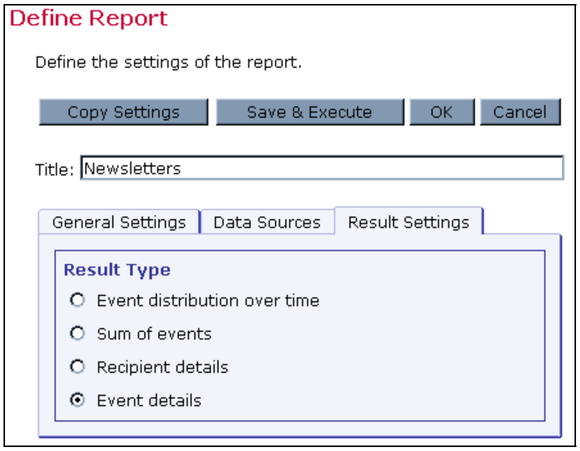
Figure 80 Result Settings - Recipient Details



Result Settings for Event Details

Event detail reports are 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. There are no other options available for this report type.

Figure 81 Result Settings - Event Details



10.2 Executing Reports

There are several ways to execute reports using LISTSERV Maestro. LISTSERV Maestro can produce “quick reports” that are instantly viewable on the screen from the Test Report tab on of the New Jobs screen (see Section 7.3 Running Test Reports for more information) and from the Reports tab of the Delivered Jobs screen (see Section 9.2 Delivered Job Reports for more information). LISTSERV Maestro can also produce reports from the Tracking Reports page as described in Section 10 Tracking Statistics and Reports.

Each of the four basic types of reports, Event distribution over time, Sum of events, Recipient details, and Event details, has its own unique appearance. Each report type also has its own set of options for viewing, downloading, manipulating, and editing represented by four icons located at the bottom right side of each report. Click on an icon to access the options of 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 7 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 on the report.
	Create Report / Edit Report – This icon is called **Create Report** only if the report is a quick report. In that case, the "*Define Report*" screens with a new report that is pre-filled with the settings from the quick report. From here it is possible to save the quick report as a normal report by clicking the **OK** button, or by clicking the **Save & Execute** button, which will display the report again as well as save it as a normal report. For delivery tests, it is not possible to save a quick report as a regular report, so this icon is disabled (grayed out).  If an existing report from the reports list is executed by clicking its title or by clicking the **Save & Execute** button, this icon is called **Edit Report**. The "*Define Report*" screen opens, but a new report is not created, the existing report is simply opened, the same way it is opened from the report list when the **Edit** link next to the report title is clicked.

10.2.1 Event Distribution Report

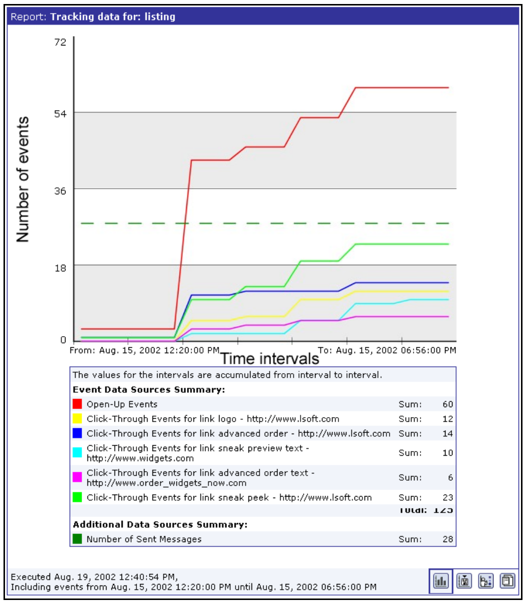
An event distribution report plots the occurrence of events (open-up and/or click-through) over time. A simple line graph shows the number of responses over time. Time is plotted on the x-axis of the chart and can be measured in intervals of hours, days, or weeks. Events are charted on the y-axis and 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 sent.

Viewing Event Distribution Reports

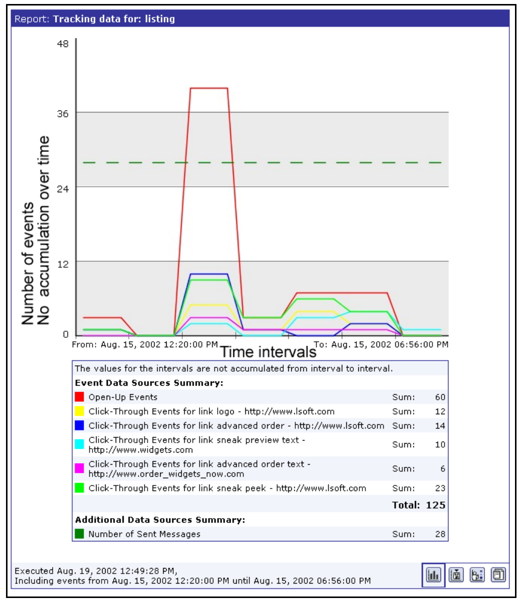
The View page of an event distribution report displays the collected data in a chart format. The View page of this report type changes to reflect different options set on the "Change Result Settings" screen. Depending on what options are set, events on the y-axis can reflect the total number of events, 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 events stop and a plateau is reached. Or, events occurring over time can be reflected as unaccumulated numbers, plotting the data as a series of peaks and valleys.

Figure 82 Events Distributed Over Time Report Variations

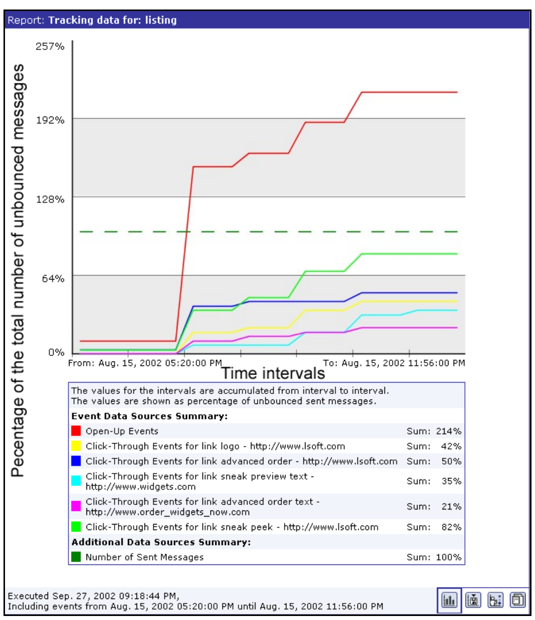
Event distribution over time chart with accumulation of events



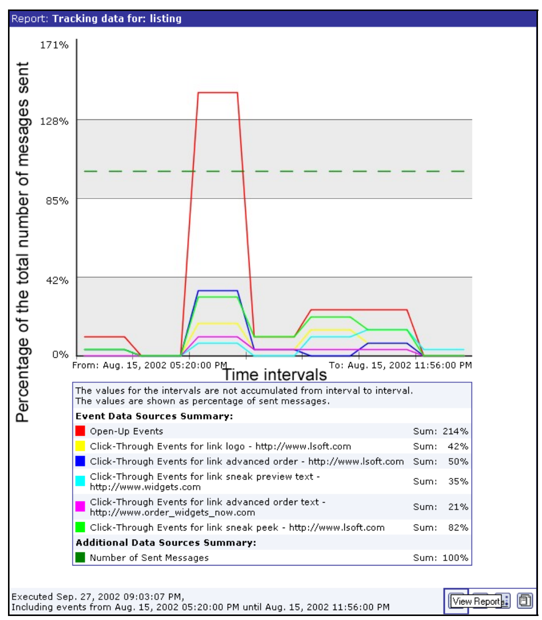
Event distribution over time chart with non-accumulation of events



Events distribution over time chart with the percentage of the total number of unbounced messages sent and accumulation of events



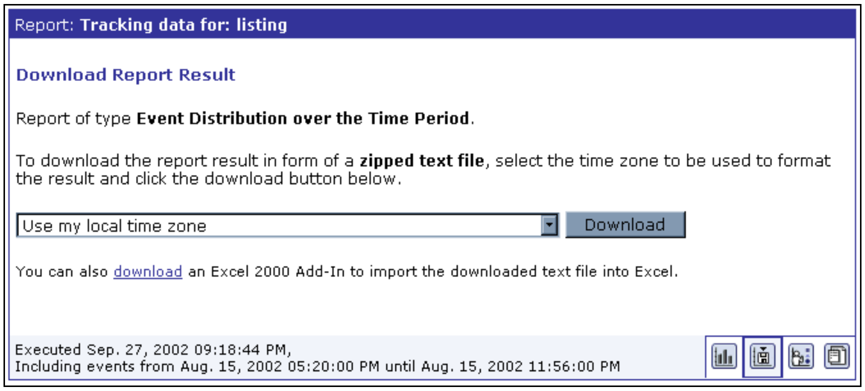
Events distribution over time chart with the percentage of the total number of messages sent and non-accumulation of events



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. Click the **download** link to download an Excel Add-In to import the data into Excel. See Section 10.3 [Using the Excel Add-In]() for more information.

Figure 83 Downloading Event Distribution Report Data



Change Result Settings

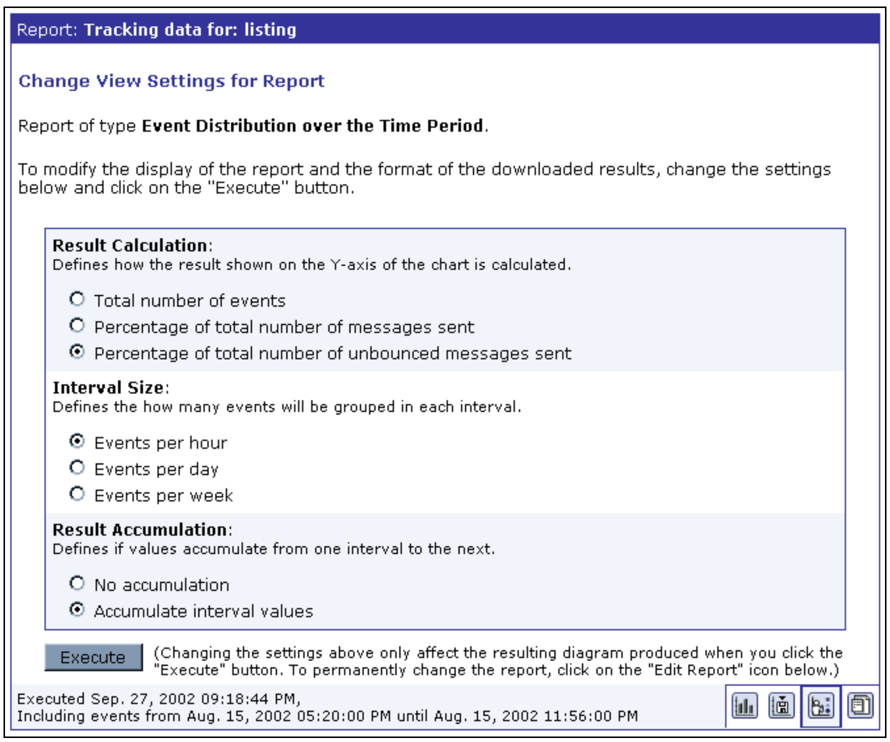
The Change Result Settings screen allows the user to change specific options and as a result change the appearance of the report on the View page and change the data that is downloaded on the Download Report page. Any changes made on the Change Result Settings screen do not change the actual report definition; they are only temporary, allowing the user to see different views and download different data. To permanently change the report, changes need to be entered on the "*Result Settings*" tab of the report definition page and then the changed report must be saved. See [Edit Report / Create Report]() 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 a total of 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 300.

- **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.

Figure 84 Change View Settings



Click the **Execute** button to change the View screen (the appearance of the chart or graph), and change the downloadable data.

Edit Report / Create Report

To change the definition of the current report, click the **Edit Report** icon. 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. See Section 10.1 Tracking Reports and Figures 68 and 69 for more details.

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 the quick report. Type in a title for the report and then click the **OK** button to save the quick report as a regular report. Or, click the **Save & Execute** button 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 9.2 Delivered Jobs Reports for more information.

10.2.2 Sum of Events Report

This report type produces a bar graph that shows the number of recipients who clicked on each URL and/or opened up the e-mail message. For each job defined as a 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.

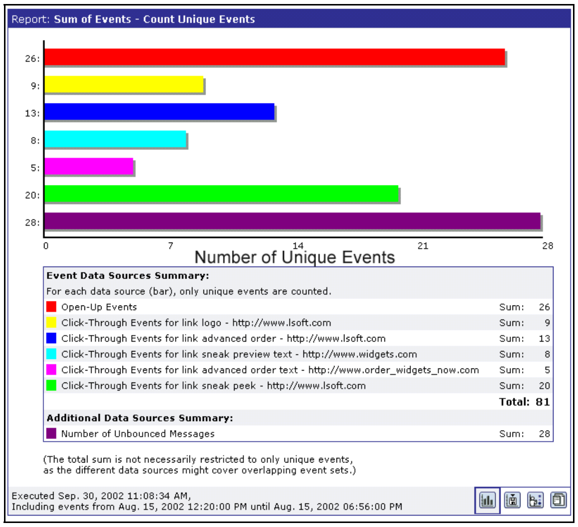
The Sum of all events will give an overall picture of how many events were generated. When compared to the Sum of unique events, the report gives an idea of how well the overall number of events was distributed over the individual recipients. It is possible to discern whether many recipients generated 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).

View

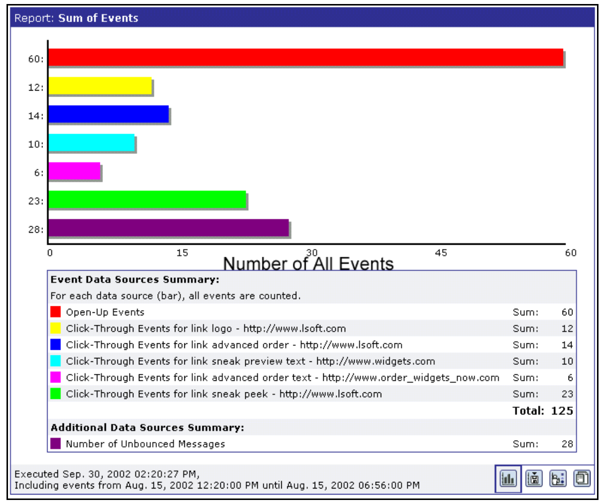
The View page of a sum of events report displays the collected data in a bar graph format. The View page of this report type changes to reflect different options set on the “Change Result Settings” screen. Depending on what options are set, the number of recipients can reflect the total number of all recipients, or a percentage of the number of recipients who triggered an event.

Figure 85 Sum of Events Report Variations

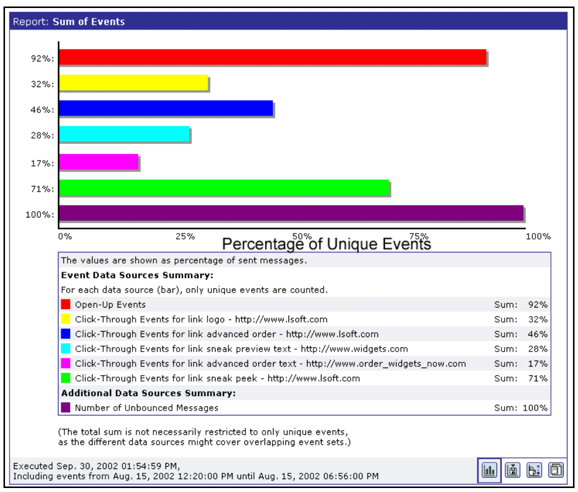
Sum of Unique Events



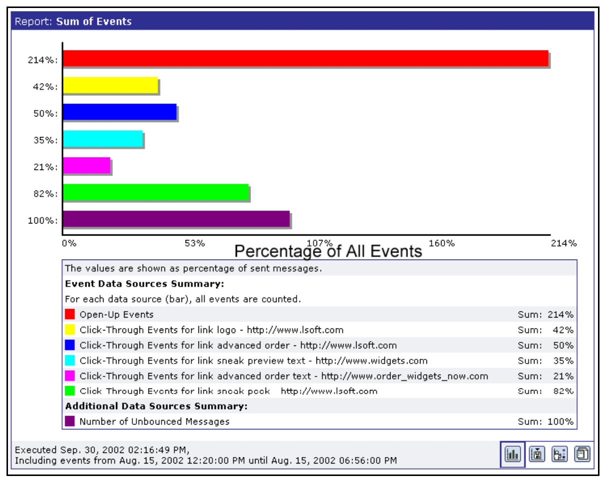
Sum of All Events



Sum of Unique Events as Percentages



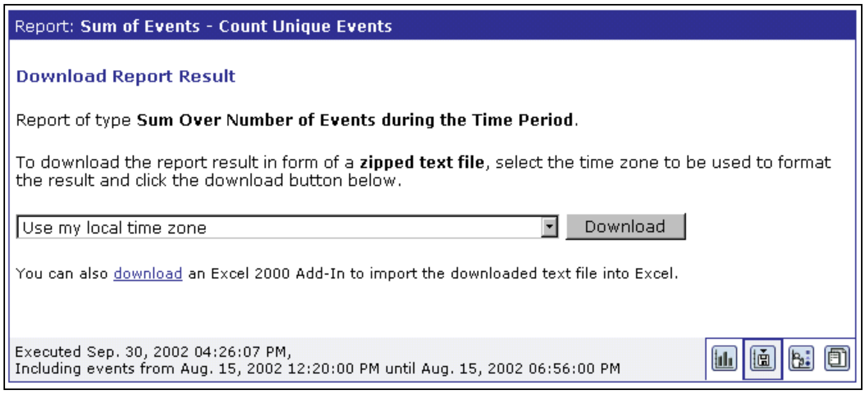
Sum of All Events as Percentages



Download

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. Click the **download** link to download an Excel Add-In to import the data into Excel. See Section 10.3 Using the Excel Add-In for more information.

Figure 86 Download Sum of Events Data



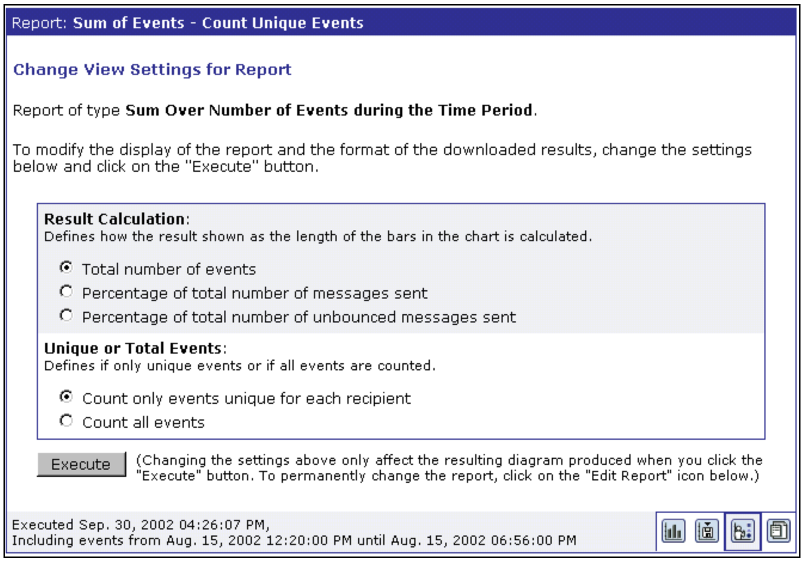
Change Results Settings

The Change Result Settings screen allows the user to change specific options and as a result change the appearance of the report on the View page and change the data that is downloaded on the Download Report page. 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 permanently change the report, changes need to be entered on the "*Result Settings*" tab of the Define Report page and then the changed report saved. See Edit Report/Create Report 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 a total of 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 87 Change View Settings for Sum of Events Report



Click the **Execute** button to change the View screen (the chart or graph), and change the downloadable data.

Edit Report / Create Report

To change the definition of the current report, click the **Edit Report** icon. 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. See Section 10.1 Tracking Reports and Figures 68 and 69 for more details.

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 the quick report. Type in a title for the report and then click the **OK** button to save the quick report as a regular report. Or, click the **Save & Execute** button 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 9.2 Delivered Jobs Reports for more information.

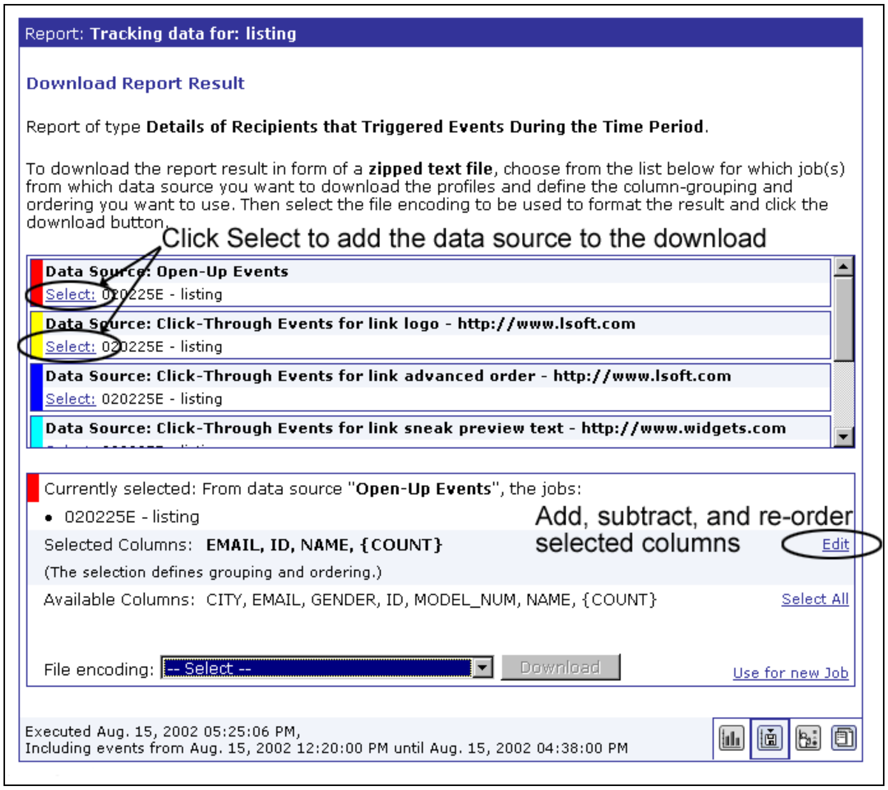
10.2.3 Recipients Details Reports

Recipients details reports are 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 column data from the define recipients file. Use the table to select which data sources and which columns will be downloaded. Data must be downloaded and imported into a statistical software program to generate charts and graphs.

Select the data sources from the top frame in the table by clicking the **Select** link. If a data source contains more than one job, all the jobs that have recipients with the same number of columns with the same column labels forming a "profile structure," will be grouped together into one "job-group." If the data source has more than one job and the recipients do not share the same profile structure, these jobs will have their own "job-groups" inside the data source.

The currently selected data source will appear in the lower frame along with the recipient column data for that job-group. Select the column data from the bottom frame using the **Edit** link or the **Select All** link. Select the file encoding for the download from the drop-down menu.

Figure 88 Recipients Details Report

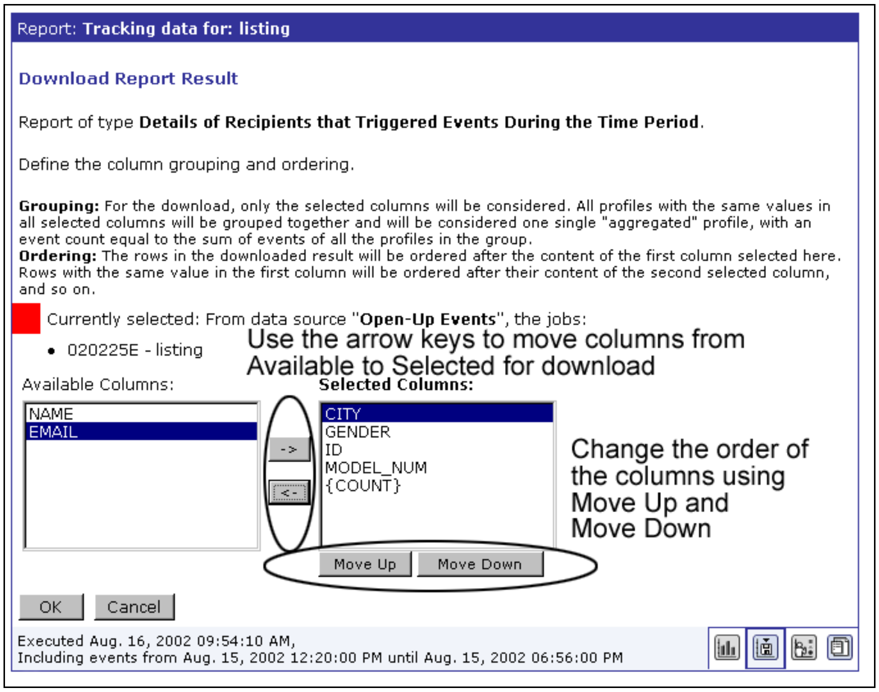


Downloading Recipients Details Report Data

The collected data available for download is selected from the upper and lower frames of the report. Data sources for tracked events are selected from the top frame and column data pertaining to the recipient profiles is selected from the bottom frame.

Click the **Select All** link in the bottom frame to select all the columns of recipient data for download. Click the **Edit** link to add specific columns, subtract columns, and re-order the selected columns to change the data that is downloaded.

Figure 89 Recipient Details Report Column Selection



Click **OK** to save the available columns and the order they appear. The Download Report Details screen will reopen. Choose the file encoding for the download from the drop-down menu. Click the **Download** button to begin downloading the data.

The rows in the downloaded data table are generated in a particular 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 specific recipient, and are placed in their matching columns. However, only those profile values that match the columns selected will be used. All columns not selected are ignored. If all the columns are not used, recipients may not retain a unique profile. This happens only if the differences in the profiles of recipients are contained in columns that are not selected.

For example, if the columns "EMAIL", "GENDER", "CITY", were part of the recipients data, then each recipient probably has a different profile, because the combination of "EMAIL", "GENDER" and "CITY" is most likely unique for each recipient. But, if the column “EMAIL” is not selected, and the columns "GENDER" and "CITY" are selected, in all likelihood several recipients will have the same profile, namely all those of the same gender that live in the same city. Previously each profile was different because of the inclusion of the "EMAIL" column.

If, during the creation of the report, several recipients are found to have the same "condensed" profile (created by omitting columns that make up the recipient 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 profile).

In the special purpose column "{COUNT}" each instance of an event for the same profile is recorded. If this column is included, 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. The "{COUNT}" column can be used to find out interesting demographic statistics such as how many males from a certain city have clicked on a certain link, and similar information. The order in which the columns are used can provide information as well, because the rows in the table are sorted in ascending order on the first column. If there are profiles with the same values in the first column, they will be sorted after their second column, and so on.

For example:

Assume that the full profile has the three columns from above: "EMAIL", "GENDER" and "CITY". Assume also that all columns plus the special purpose column "{COUNT}" are selected. The downloaded 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. The sort order is apparent after first, second, and third columns. Now, if the "EMAIL" column is omitted, the result would be:

CITY,GENDER,{COUNT}
New York,female,1
New York,male,2
Washington,female,1
Washington,male,1

John and Robert from New York, which differed only in their e-mail addresses, are now aggregated into the profile "male from New York", and there are now two events shown as coming from recipients that match this profile, one from John and one from Robert. If the "GENDER" column is omitted as well the result would be:

CITY,{COUNT}
New York,3
Washington,2

The resulting data table shows that three events were counted that fit the New York profile and two events were counted that fit the Washington profile.

Click the **Use for new job** link at the bottom right of the screen 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 selecting all columns in alphabetical order, but not the "{COUNT}" column, downloading that report, and then uploading it as the recipients list of a newly created job. The link takes the user to the Start New Job screen where it is only necessary will to type in a title for the new job. After that, a new job with recipients already defined is created.

Edit Report / Create Report with This as Template

To change the definition of the current report, click the **Edit Report** icon. The Define Report screen opens if the user has the right to edit reports. The current report's General Settings, Data

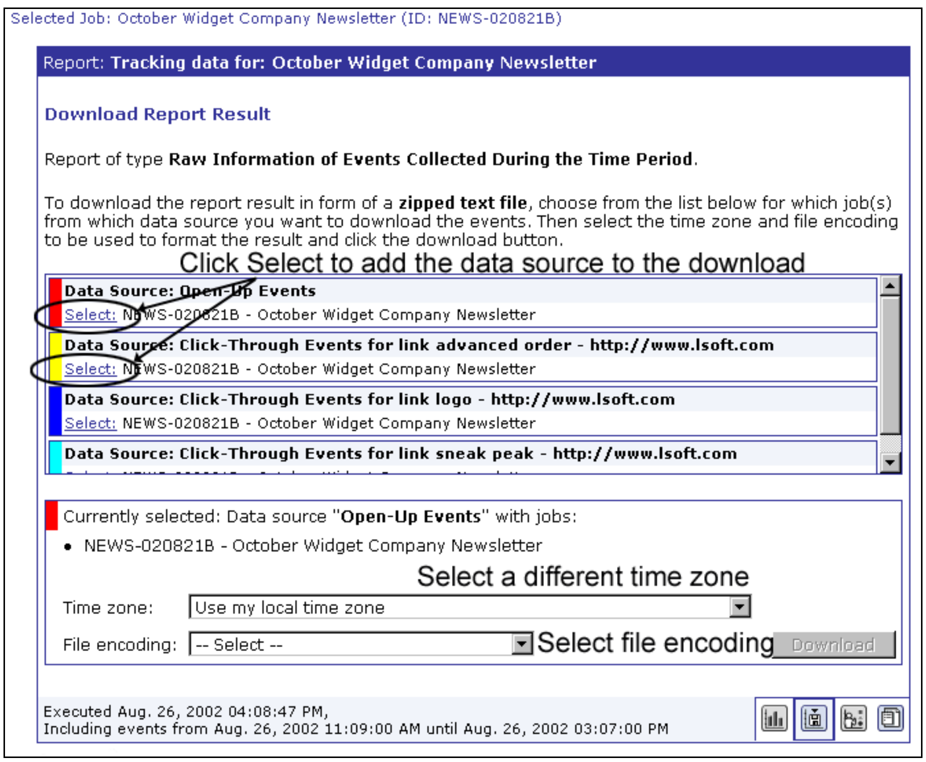
Sources, and Result Settings can be edited and saved to reflect any changes in the current report, or they can be saved as a new report. See Section 10.1 Tracking Reports and Figures 68 and 69 for more details.

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 the quick report. Type in a title for the report and then click the **Save & Execute** button to 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. This option is not available for quick reports generated from delivery test data. See Section 9.2 Delivered Jobs Reports for more information.

10.2.4 Event Details Report

Event Details reports are 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 imported into a statistical software program to generate charts and graphs.

Figure 90 Event Details Report



Download in 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 CVS file contains comma separated and quoted <″> tabular data with the following columns:

- **EVENT_TYPE** – 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 recipients 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) or not. 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) or not.

  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 EVENT_TYPE “openup” 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 EVENT_TYPE “openup” this will always be empty. For EVENT_TYPE “click” the URL that was clicked is listed.
- **ALIAS** – For EVENT_TYPE “openup’ this will always be empty. For EVENT_TYPE “click” 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.

Edit Report / Create Report with This as Template

To change the definition of the current report, click the **Edit Report** icon. 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. See Section 10.1 Tracking Reports and Figures 68 and 69 for more details.

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 the quick report. Type in a title for the report and then click the **Save & Execute** button to 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. This option is not available for quick reports generated from delivery test data. See Section 9.2 Delivered Jobs Reports for more information.

10.3 Using The Excel Add-In

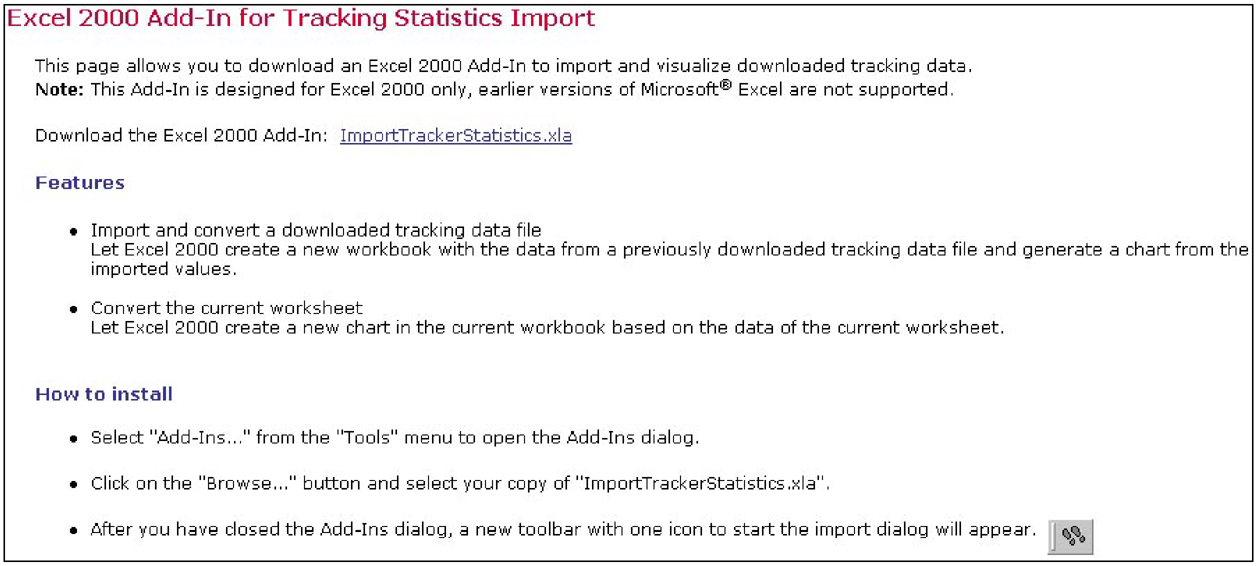
The statistics downloaded from LISTSERV Maestro are in CSV format. This data from reports of the types Event Distribution and Sum of Events can easily be imported into Microsoft® Excel in order to create tables, graphs, and other forms of reports. LISTSERV Maestro comes with an easy to use Excel Add-In that makes this import process a matter of a few clicks.

10.3.1 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 local computer, 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 10.3.4 Removing an Existing Version of the Add-In for instructions on how to proceed.

From any quick report or regular report of the type Event Distribution or Sum of Events, 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. Click the **ImportTrackerStatistics.xla** link to download the add-in file to a local drive.

Figure 91 Excel Add–In for Tracking Statistics Import

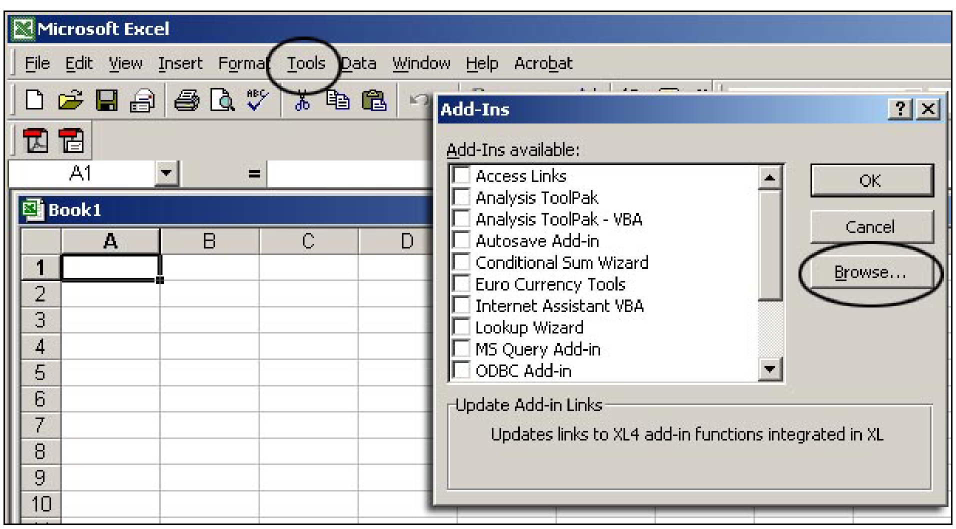


10.3.2 Installing the LISTSERV Maestro Add-In into Excel

Follow the steps described below to install the add-in into Microsoft Excel 2000:

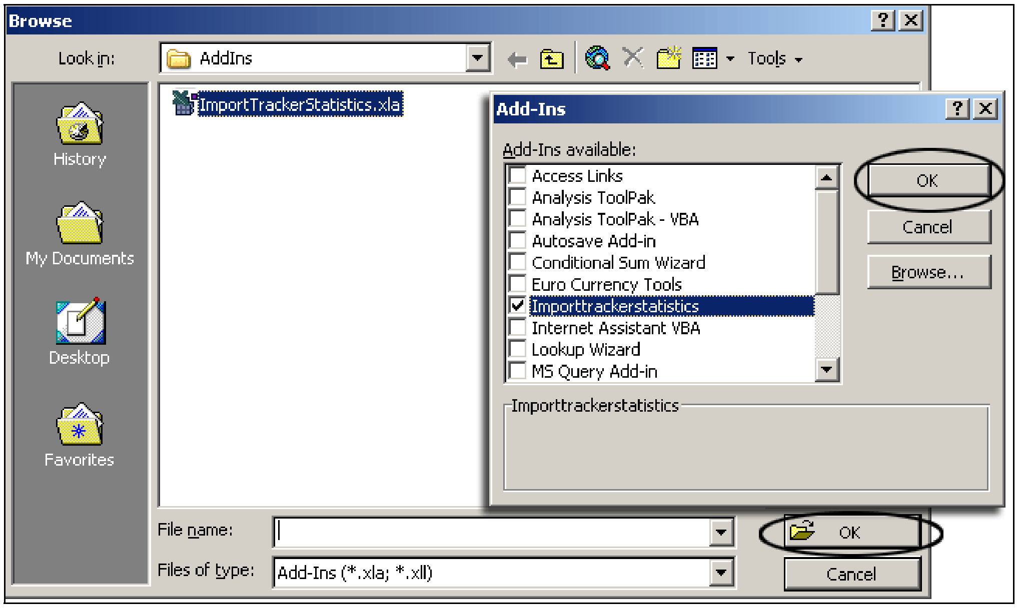
1. Open up Excel.
2. From the Tools menu, select the “Add-Ins…” (It may be necessary to click on the small arrow symbol at the bottom of the menu to make the command visible.) A dialog box opens that lists all available add-ins. Click the **Browse…** button in that dialog box.

Figure 92 Installing Tracker Add-In



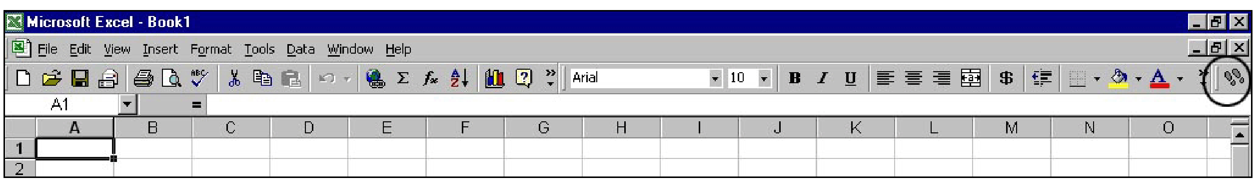
3. A file selection dialog box opens. Navigate to the folder where the downloaded file was saved and then click **OK**.
4. The add-ins dialog box reappears. There will now be an entry for the LISTSERV Maestro add-in, which should already have a check mark in front of it (if not, check the box). Click **OK** to install the add-in.

Figure 93 Browse for Add-In File



5. A new toolbar button that looks like two footprints will appear in the Excel toolbar. This button will start the LISTSERV Maestro data import.

Figure 94 New Excel Tool Bar Button



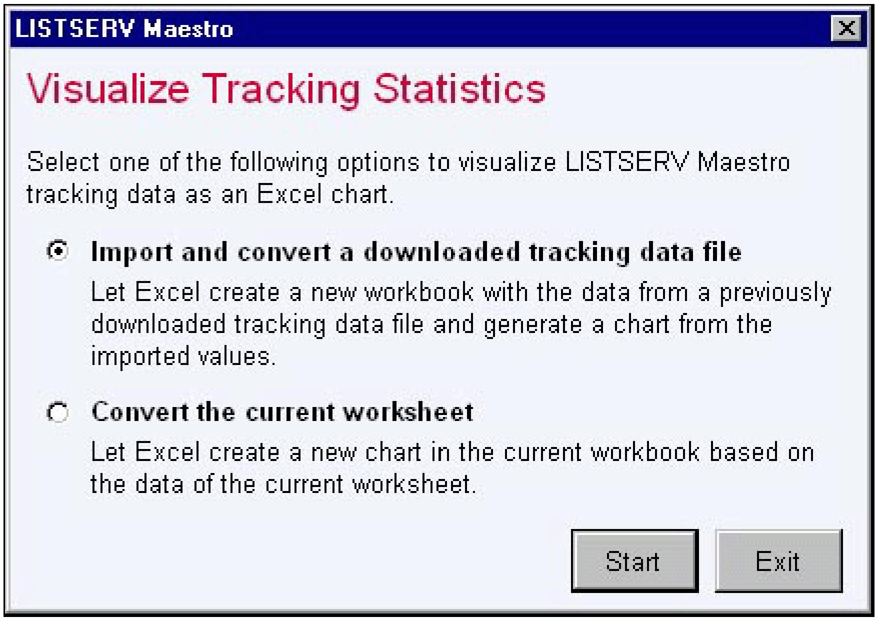
10.3.3 Using the LISTSERV Maestro Excel Add-In

Download the data to be imported into Excel. The data is downloaded in a compressed ZIP file. Open the ZIP file. There are two files contained inside, a `readme.txt` file and another file named for the type of data downloaded. Extract the `*.txt` files and save them on a local drive.

The `readme.txt` file will contain a summary of the report type and other information. The other file, named for the type of data downloaded, such as `distributionReport.txt` or `uniqueSumReport.txt` contains the data that will be imported into Excel. Start Excel and click on the **Visualize Tracking Statistics** button in the toolbar, it looks like two small footprints, see the diagram above.

The Visualizing Tracker Statistics import dialog box will open. Select the "*Import and convert a downloaded tracking data file*" option button to create a new workbook and generate a chart based on the downloaded tracking data. Select the "*Convert the current worksheet*" option button, to create a new chart in the current workbook based on the data of the current worksheet.

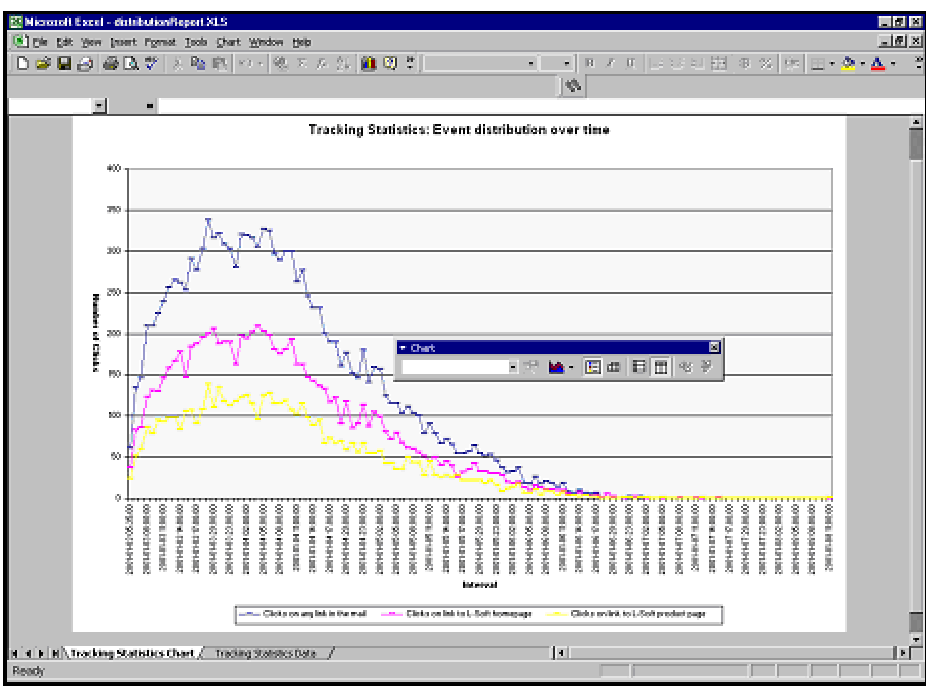
Figure 95 Using Tracker Add-In with Excel Import Dialog Box



Click the **Start** button. A file selection box 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 dialog box. 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.

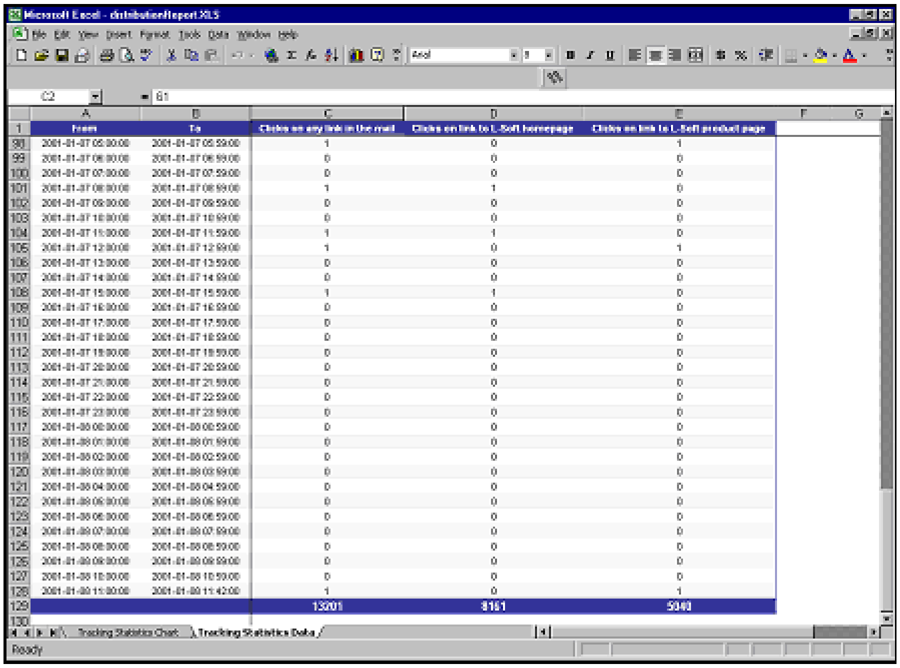
The new workbook has two sheets. The first sheet shows the imported tracking data in chart form.

Figure 96 Example Excel Graph Event Distribution Over Time



The second sheet contains a value table with the downloaded tracking data.

Figure 97 Example Excel Data Table



It is now possible to use all the regular Excel features to edit and adjust both the graph and the data table.

10.3.4 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, an icon with little feet will appear in a toolbar.
2. Under Tools -> Add-Ins… -> Uncheck the `Importtrackerstatistics` Add-In from the list of Add-Ins available, then click **OK**.
3. Under View -> Toolbars -> Uncheck Tracker-Statistics (the little feet icon should disappear).
4. Under 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 or regular report of the type Event Distribution or Sum of Events.
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. Under Tools ->Add-Ins… -> click **Browse…**

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 **Start**, 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 Tools -> Add-Ins… -> Browse…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 11 User Settings

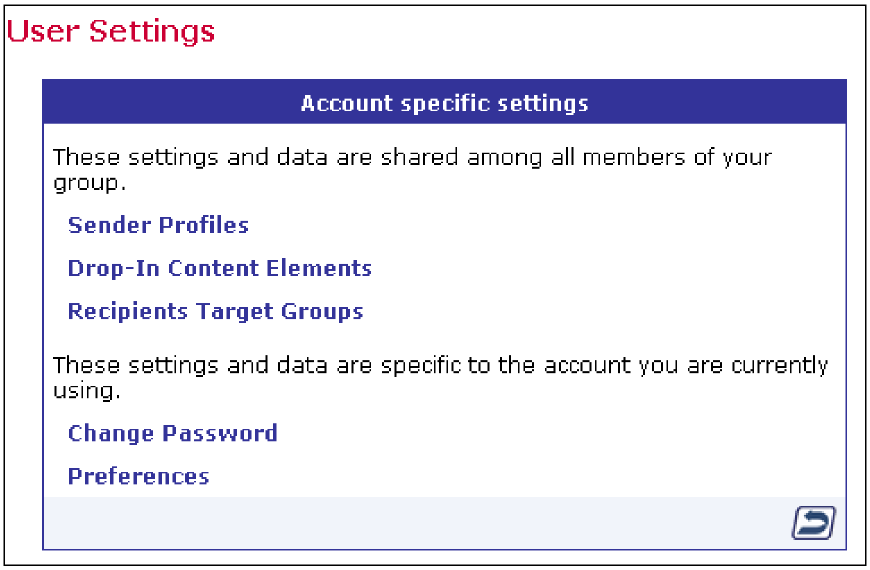
The “User Settings” screen allows individual users to save and change their account specific settings in four areas:

- **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 any 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.
- **Recipient Target Groups** – This option is only available if the system administrator has given the user permission to create new recipient target groups. Target groups are similar to predefined recipients lists, complete with a name and description. Target groups are defined by a “data administrator,” who knows where the underlying data source is (such as a database) and how to retrieve data from it (using a SQL statement for example). Recipient target groups are shared among all members of a group, and a group member does not need permission to use any existing target groups. For more information on creating recipient target groups, please see the Data Administrator’s Manual.

- **Change Password** – This option is only available if the system administrator has given the user permission to change his or her password.
- **Preferences** – 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.

Click on any of the available links to proceed with adding users settings.

Figure 98 User Settings



11.1 Managing Sender Profiles

Click on the **Sender Profiles** link to open the "*Manage Sender Profiles*" screen. This screen displays for a listing of all saved profiles. To add a new profile to the list, click on the **New Profile** button. To edit an existing profile, click on the profile title.

Figure 99 Managing Sender Profiles

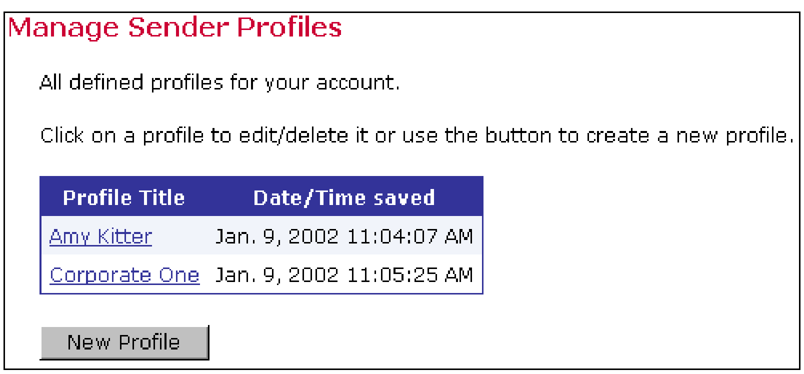
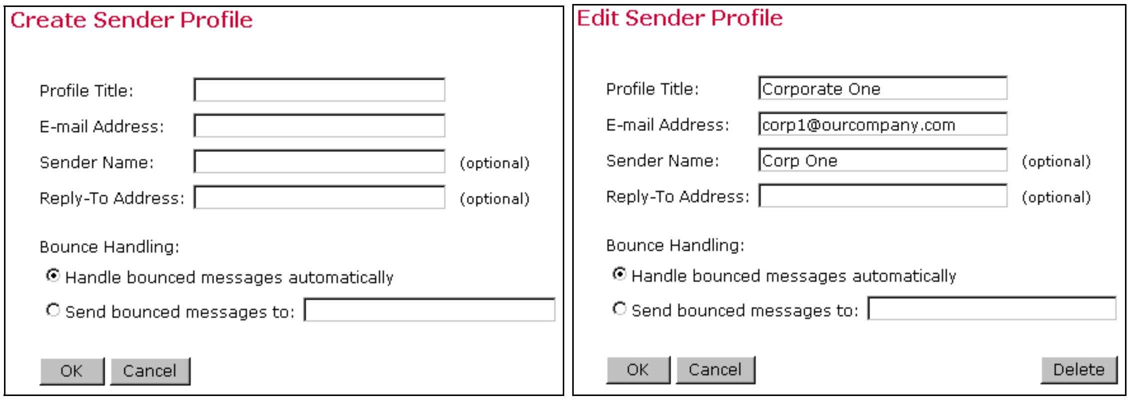


Figure 100 Creating and Editing Sender Profiles



Fill in the required fields and click **OK** to save a profile.

- **Profile Title** – Give the profile a title that will identify it when it appears on the user's list of all saved profiles.
- **E-mail Address** – Fill in the e-mail address of the sender of the message.
- **Sender Name** – This is an optional field, but if it is filled in the sender's name it will appear in the "from" field of the e-mail message. If the sender name is left blank, the "from" field will be filled in by the e-mail address.
- **Reply-To Address** – This is an optional field. Include an e-mail address if replies are an option for recipients and if the reply-to address is different than the sender's e-mail address.
- **Bounce Handling** – Select either "*Handle bounced messages automatically*" in which case LISTSERV® will handle bounced messages, or select "*Send bounced messages to:*" and type an e-mail address in the text box to send the bounced messages to.

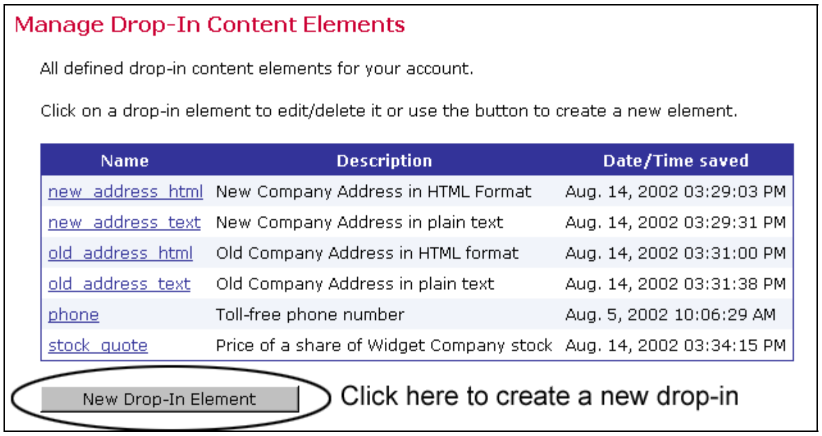
Click **Cancel** to return to the Manage Sender Profiles screen without saving the profile, or **Delete** to delete the profile.

Sender profiles can also be created and saved from the "*Edit Sender Information*" screen available from the Workflow or Summary diagram screens. See Section 7.1 Delivered Jobs Summary for more information.

11.2 Creating Drop-In Content Elements

Click on **Drop-In Content Elements** to open the "*Manage Drop-In Content Elements*" screen. From here it is possible to create a new drop-in content element or edit an existing one. For more information about the nature of drop-in content, see Section 5.1 Drop-In Content or the online help. Click on the button **New Drop-In Element** to create a new drop-in or click on the name of an existing drop-in to edit it.

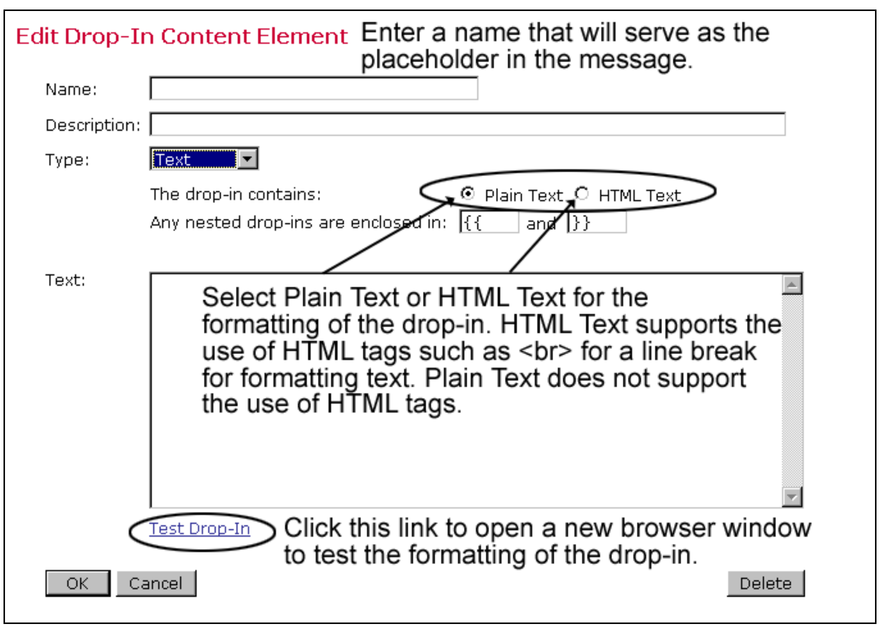
Figure 101 Manage Drop-In Content Elements



Select the type of drop-in from the drop-down menu. The "*Edit Drop-In Content Element*" screen will appear. This screen will appear in different formats depending on the type of drop-in selected. There are four types of drop-in content elements that 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 <b> for bold. Plain text can 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.

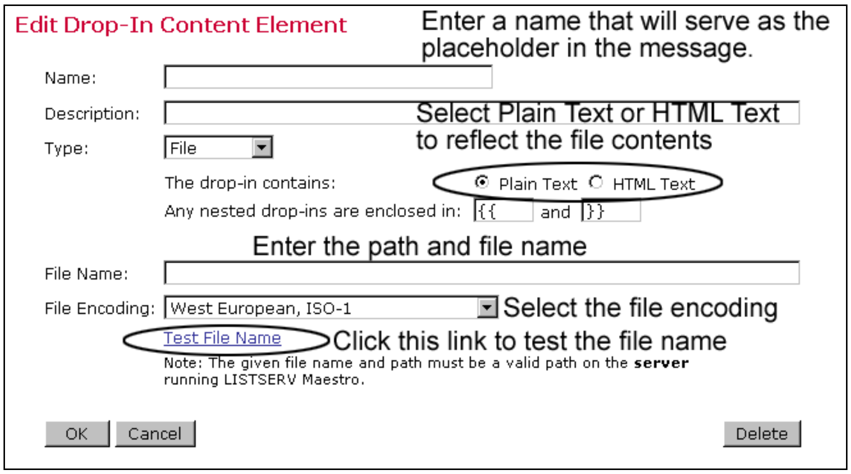
Figure 102 Edit Drop-In Content Element – Text



Tip Drop-in content for plain text messages should be rendered using the Plain Text setting and drop-in content for HTML should be rendered using the HTML Text setting. For HTML messages with alternative text, create two separate drop-ins, one in each format, and use each in its appropriate message part.

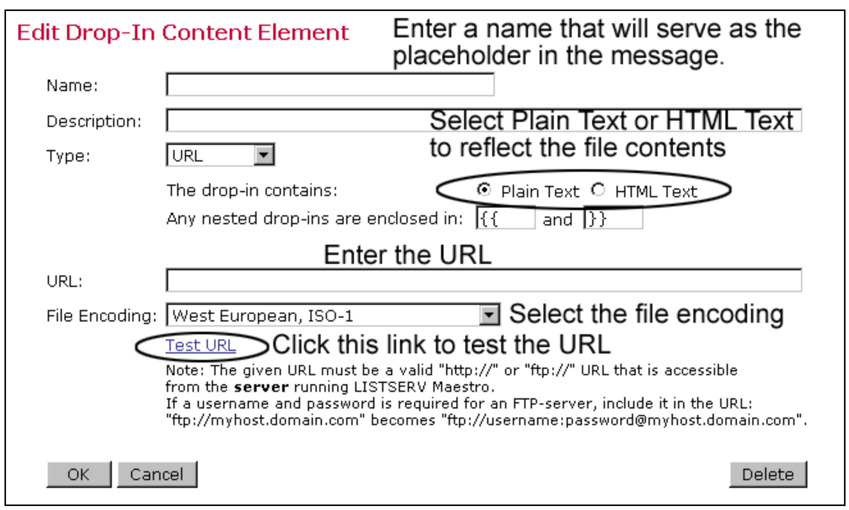
- **File** – The content of this type of drop-in element is loaded from a text file that is accessed by a file name defined here. The file itself must be accessible from the server and not a local file on a workstation computer. See the LISTSERV Maestro Administrators Guide, or the system administrator for more information.

Figure 103 Edit Drop-In Content Element – File



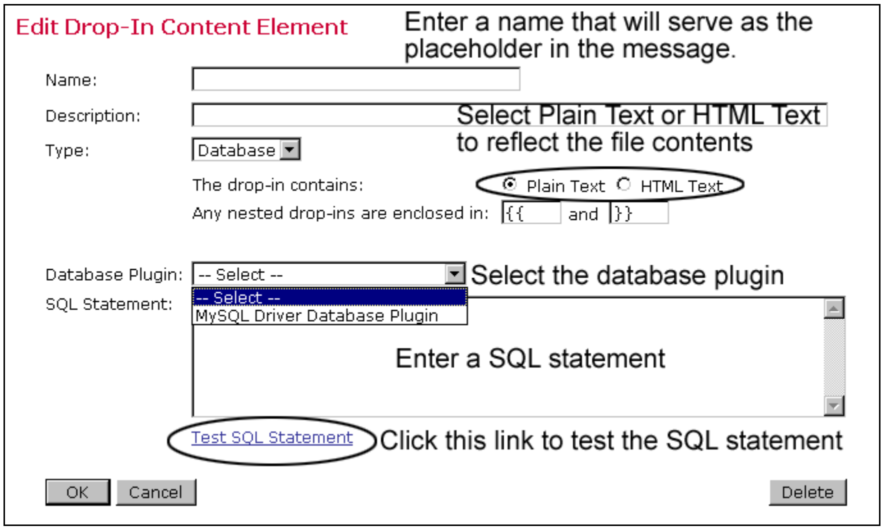
- **URL** – The content of this type of drop-in element is loaded from a text file accessed by an http:// or ftp:// URL defined here. The URL must be accessible from the server and have an http://, https://, or ftp:// protocol. See the LISTSERV Maestro Administrators Guide, or the system administrator for more information.

Figure 104 Edit Drop-In Content Element – URL



- **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.

Figure 105 Edit Drop-In Content Element – Database



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.

11.3 Recipient Target Groups

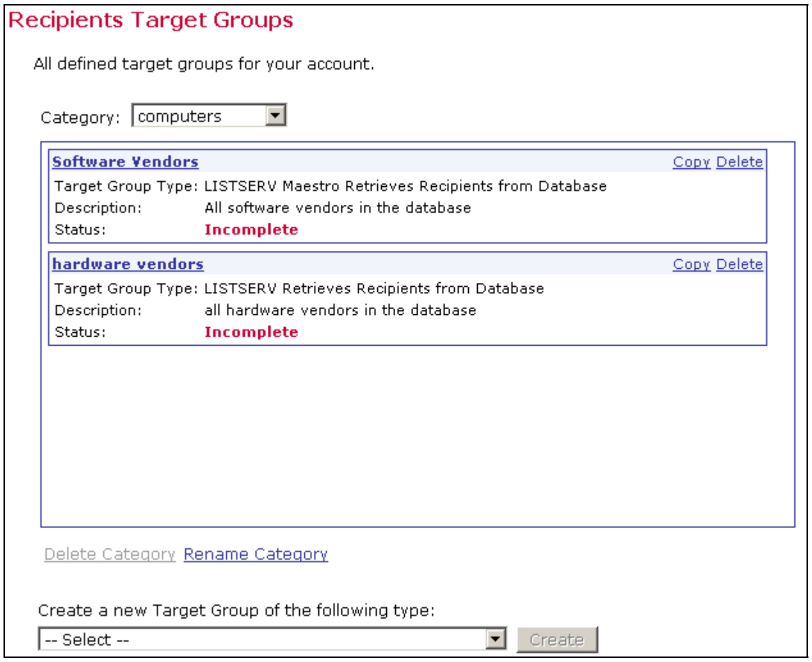
Creating recipient target groups requires specific knowledge and access to underlying data sources (databases). These data sources are queried to retrieve recipient data to create a recipients list for e-mail jobs. Most general users of LISTSERV Maestro will not have this knowledge or access, and therefore will not create recipient target groups. They will, most likely, use them once they have been created by a data administrator. How to use existing recipient target groups is covered in Section 4 Defining Recipients of an E-mail Job.

The data administrator is a user that has been granted permission to create new recipient target groups by the system administrator. Creating recipient target groups is covered in a separate document called the Data Administrator's Manual.

Recipient target groups fall under two main types: LISTSERV Maestro retrieves recipients from a database, and LISTSERV retrieves recipients from a database. The data administrator will select the appropriate method of connecting to the database, as well as naming the target group, putting it in a category for convenience (this is optional), and writing the select statement to retrieve the specific recipients who are targeted for the job.

Figure 105 shows the Recipients Target Groups screen as it appears to a data administrator. Users without this right will not see this screen.

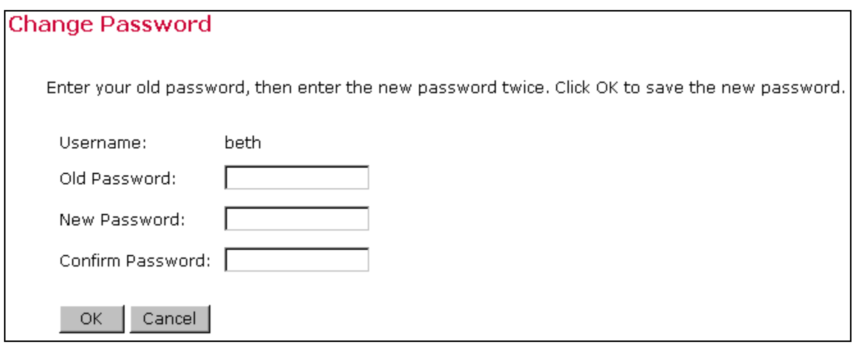
Figure 106 Recipients Target Groups



11.4 Changing User Password

Click the **Change Password** link to open the "*Change Password*" screen. Enter the old password first, and then type in the new password twice for confirmation. Click **OK** to save the new password and return to the User Settings Page.

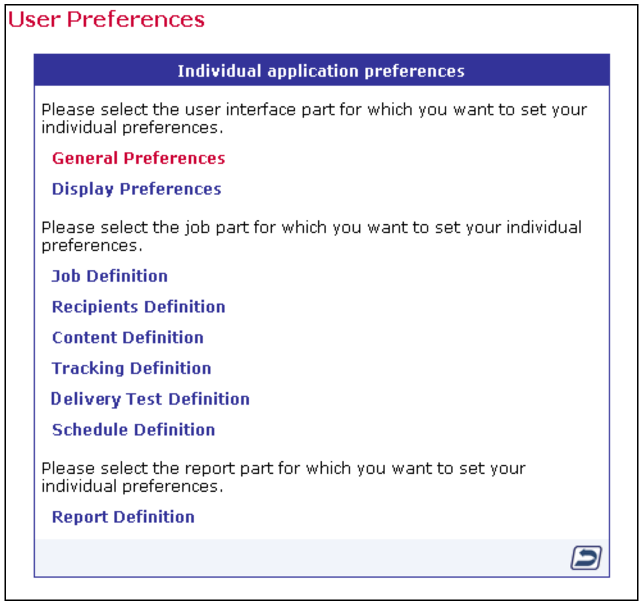
Figure 107 Changing User Password



11.5 Setting User Preferences

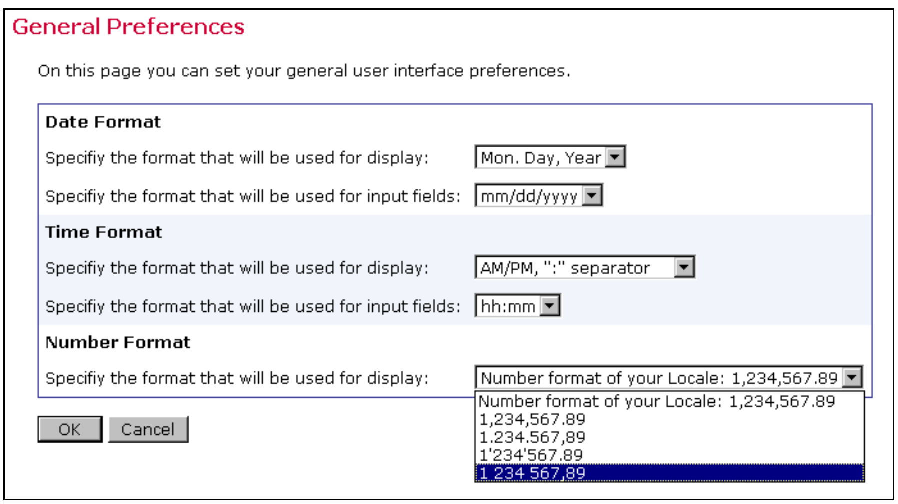
Each account can set individual application preferences by clicking the **Preferences** link. Preferences fall into three categories: interface preferences, job part preferences, and report definition preferences. Preferences serve as default settings for new jobs so that individual users can customize their work environment and save time. Preference settings can always be changed for individual jobs at the job level. Click on the corresponding link to set or change preferences.

Figure 108 User Preferences



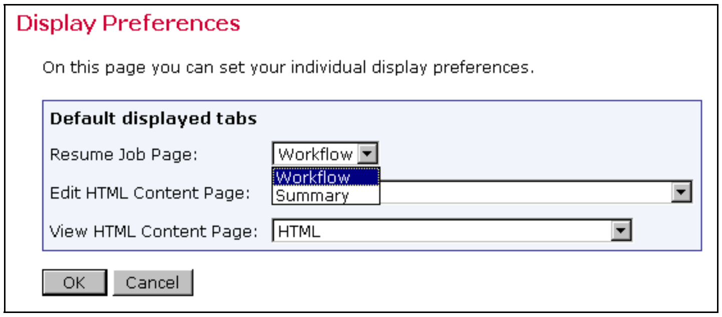
- **General Preferences** – Select the date, time, and number format for the user interface from the drop-down menus.

Figure 109 General Preferences



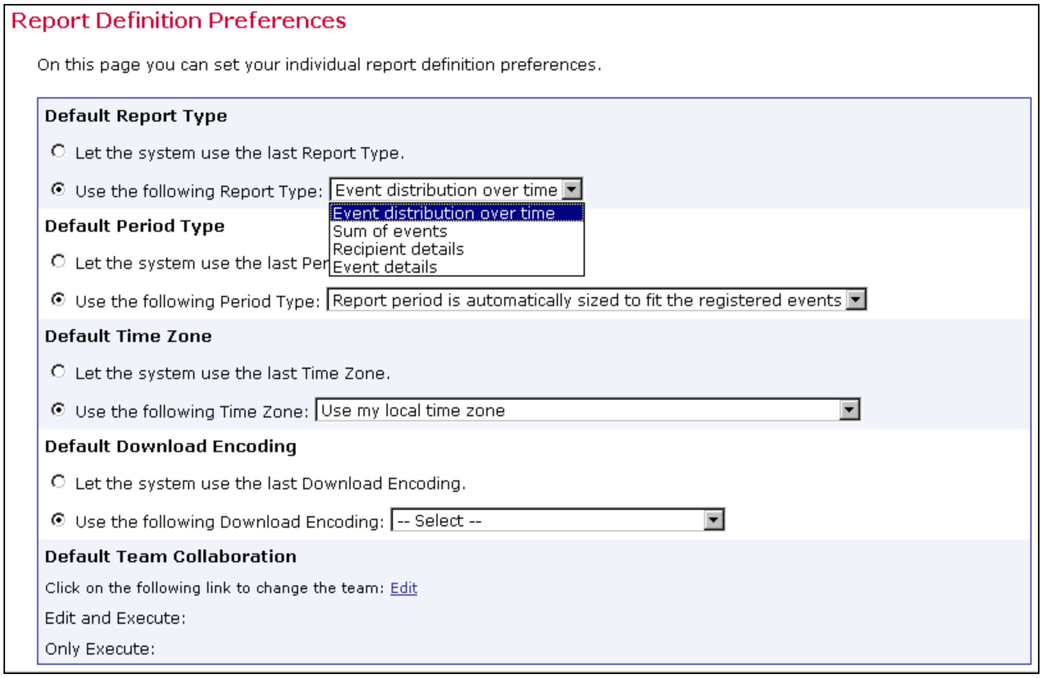
- **Display Preferences** – For some of the pages that have tabs to switch between active screens, select the tab that will be at the front (active) when the page is initially opened from the drop-down menus.

Figure 110 Display Preferences



- **Job Definition** – Set the preferences for defining a new job, including the default Job ID Prefix and the default Team Collaboration settings.
- **Recipients Definition** – Select the default recipient type for new jobs from the drop-down menu.
- **Content Definition** – Select the default content type (Plain Text or HTML) and the default character set encoding from the drop-down menus. Select to have HTML messages default to having alternative text or not using the options buttons.
- **Tracking Definition** – Use the option buttons to select whether tracking will be on or off for new jobs.
- **Delivery Test Definition** – Enter a default test line for all new outgoing delivery tests.
- **Schedule Definition** – Select the default delivery type and the default time zone from the drop-down menus for new jobs.
- **Report Definition** – Use the option buttons and drop-down menus to set a variety of default report options including Report Type, Time Period, Time Zone, Download Encoding, and Team Collaboration.

Figure 111 Report Definition Preferences



After making any preference selections, click **OK** to save the settings or **Cancel** to not save the settings and return to the "*User Preferences*" screen.

Glossary of Terms

Attachment – A file linked to an e-mail message. Many programs use MIME encoding to attach files.

Click-Through Event – A trackable occurrence available with text and HTML e-mail 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.

Database – A large collection of data organized for rapid search and retrieval, and managed by a DBMS.

Database Plugin – Is used to connect LISTSERV Maestro to a database and to allow the user to select recipient data from a database table in the recipient wizard. The user selects the matching plugin for the database he/she wants to access then provides the connection data (like host name, port, user name, password, etc.) and LISTSERV Maestro is then able to access that database to select the recipients.

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 imported into databases, commas are often used as delimiters.

E-mail Job – In LISTSERV® Maestro an e-mail job is the creation of a customized list of recipients matched with a customized e-mail message that is scheduled for delivery and then sent out.

E-mail Merge – Placing variables that are extracted from a database into an e-mail message template. This operation permits individual personalization of otherwise bulk e-mail messages

Encoding – Is 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, 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), the same encoding will have to be selected in LISTSERV® Maestro so that the system interprets the uploaded data in the same way it was saved.

Header – A special row of data that defines and labels the columns in a database file.

Link Alias – Gives each link to be tracked 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 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 (which is possible, since aliases are optional), LISTSERV® Maestro will only be able to find the URL of the link in the tracking data.

LISTSERV® – The most prevalent e-mail list management software in the world today. It is a system that allows users to create and maintain e-mail lists on their corporate networks or on the Internet. LISTSERV® supports all types of e-mail lists: newsletters moderated and unmoderated, 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.

LSMTP® – E-mail delivery application that distributes messages at a very high rate of speed.

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 e-mail messages.

Open-Up Event – A trackable occurrence available with HTML e-mail messages that records each time a message is opened by a recipient.

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 Section 9 in the Administrators Guide.

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.”

RFC – Stands for “Request for Comments”. These documents explain the rules that e-mail 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 for links to various RFCs.

Select Statement – A SQL statement in 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 – 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.

URL – 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.

Appendix A 24 Hour Clock Time Conversion Table

Use the 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 E-mail and International Character Sets

Computers store all information in the form of “bits” or their 8-bit conglomerations “bytes”. Bits are also the entities that are transferred from the sender’s computer to the recipient’s computer whenever an e-mail message is sent. E-mail programs take the message and convert it to bits. The message is sent and the receiving e-mail client program translates these bits back into a readable message for the recipient. This process takes place seamlessly for the sender and the recipient. The sender first creates a text message and the recipient receives a text message – all the converting remains behind the scenes.

In order for characters from an alphabet to be converted into bits for transmission, and then converted back into the message, the bits have to be arranged into sequences representing each character in the alphabet. Matching the bit sequences to alphabetical characters is called “mapping”. Mapping bit sequences to alphabets has resulted in several different so called “character sets” (short: “charsets”) that have been defined and standardized by the international community.

In the English-speaking world, probably the most widely used charset is ***ASCII*** (sometimes also called US-ASCII), which is a charset that maps ***7-bit*** sequences to the 26 characters from the Latin alphabet. Because 7 bits have enough room for 128 characters (0-127), there are more than the 26 Latin characters in the ASCII charset: First, each character appears twice (as upper case and lower case), then there are the ten digits, 0-9, various punctuation marks like comma, dot, semi-colon, colon, dash, slash, backslash, exclamation, question mark, and so forth. There are also other characters that can act as control characters, that is, characters that have special meaning to certain protocols, such as “#” and “&”.

Used almost as frequently, at least in the western world, are the charsets from the ***ISO 8859*** family. These charsets map ***8-bit*** sequences to letters, digits, and characters from various European languages, Hebrew and Arabic. Since the ISO-8859 charsets use 8 bits, they have twice the range as ASCII – enough room for 256 characters (0-255). For convenience, all ISO-8859 charsets contain the full range of ASCII in their “lower” 128 characters; the bytes 0-127 from any ISO-8859 charset map directly to the corresponding ASCII character making ISO-8859 a superset of ASCII. The differences of each ISO charset are in the “upper” 128 characters, the bytes 128-255.

For example, ISO-8859-1, mapping an alphabet suitable for West-European languages, has the umlauts Ä, Ö and Ü at the positions 196, 214, and 220. In comparison, ISO 8859-7, mapping the Greek alphabet, has the Greek letters Δ, Φ, and ά at the same positions.

The following charsets from the ISO-8859 family are currently supported by LISTSERV® Maestro:

- `ISO-8859-1` Latin 1 (West European)
- `ISO-8859-2` Latin 2 (East European)
- `ISO-8859-3` Latin 3 (South European)
- `ISO-8859-4` Latin 4 (North European)
- `ISO-8859-5` Cyrillic

- `ISO-8859-6` Arabic
- `ISO-8859-7` Greek
- `ISO-8859-8` Hebrew
- `ISO-8859-9` Latin 5 (Turkish)
- `ISO-8859-15` Latin 9 (West European, update of Latin 1 with some French and Finnish letters that were omitted in Latin 1, plus the Euro currency symbol € instead of the international currency symbol ¤.)
- `UTF-8` International Unicode (encoded in UTF-8 format, Unicode is a very large charset with room for almost all characters of many different languages of the world, even the many Asian characters).

The 8-bit range of 0-255 is not enough to accomodate all letters from even the European languages at once (therefore, there is a need for more than a dozen different members of the ISO-8859 family). Also, 8-bit charsets do not take into account the other major language groups of the world, such as Asian languages.

To address the limitations of 8-bit charsets, recently the ***16-bit*** charset ***Unicode*** with a range for 65536 characters has become more and more widespread. This charset contains more or less all letters and characters from the most widely used languages, as well as a set of symbols and other useful characters. LISTSERV Maestro offers Unicode in the form of its UTF-8 variant. UTF-8 is a transfer encoding for the 16-bit Unicode charset, which maps Unicode characters to one, two, or more bytes, in a way that more common characters (like ASCII characters) need fewer bytes than uncommon characters.

Again, for convenience, the first 128 characters of Unicode (0-127) are exactly the same as in the ASCII charset, while the first 256 characters (0-255) are the same as in ISO-8859-1 (West European). A large percentage of all other letters of world languages are assigned values from 256 to 65535 (although, not even the large range of Unicode is enough to accommodate all letters from all languages).

LISTSERV® Maestro and International Character Sets

What happens when international characters are used in e-mail messages written and delivered in LISTSERV Maestro?

Internally, LISTSERV Maestro uses pure Unicode, allowing for the mixture of any characters in e-mail, including the subject line and any data merged from uploaded files or selected from a database – as long as there is a way of inputting them. For some languages, this simply requires the installation of a special keyboard and display driver for that language. Other languages, such as Asian languages, may require a special keyboard – this depends on the language and on the computer's operating system.

For sending, LISTSERV Maestro needs to decide on a charset that it can use to encode the message. Specify the charset to use while defining the content (there is a special item for this on the content definition page), or tell LISTSERV Maestro that it should attempt to automatically determine which charset is the optimal one for the text contained in the message.

In the latter case, LISTSERV Maestro scans the written text to determine the optimal charset: If the message uses characters that can be displayed with the ASCII charset (the case with most English language texts), LISTSERV Maestro will choose the ASCII charset. If the message contains characters outside of the ASCII range, but that can still be displayed with one of the supported ISO-8859 charsets, then LISTSERV Maestro will choose the corresponding ISO-8859 charset. And, optionally (only if LISTSERV Maestro is set to allow Unicode), the message has characters that cannot be displayed with one of the ISO-8859 charsets (for example Asian characters), or there are mixed characters from several ISO-8859 charsets, then LISTSERV Maestro will choose Unicode as the charset.

Once a charset is chosen, LISTSERV Maestro encodes each character as a bit sequence according to that charset. The e-mail that is sent is then augmented by the information of which charset was used to encode it. This information is then used by the receiving mail client to decode the bit sequence into characters that can be displayed to the recipient.

For example, with ASCII charset (where each 7-bit sequence denotes one character), the sequence “1000001” would mean the character with the decimal value 65, which is the Latin ‘A’. With the ISO-8859-1 charset (where each 8-bit sequence denotes one character), the sequence “11000100” would mean the character with the decimal value 196, which is the umlaut ‘Ä’. But with the ISO-8859-7 charset (also 8-bit), the same value 196 would mean the Greek letter ‘Δ’ instead. Consequently, the decoding scheme or charset that makes the message readable to the recipient is very important. LISTSERV Maestro takes care to include this information in the e-mail, so that it is not lost during the transfer.

Merging Fields with International Character Sets

The issue of international character sets in combination with merging fields needs to be considered very carefully to make sure that the results of the merging appear to the recipient as intended. The main problem when merging fields containing text using international charsets is to decide which charset to use. Potentially, the characters in the body of the message require a certain charset, while some of the merge values may require a different charset. For example, a message may have English text as the body of the message but a recipient list with recipients from all over the world, with names that contain letters from various languages. It is likely that these international names would be encoded using a different charset than the text of the message. It is important to consider what happens when merging these names into the English body text.

The effect that the chosen charset has on the merge values depends on the kind of recipients definition selected for a particular job. If recipients are *uploaded as a text file, based on the reaction of a previous job* or are *selected from a database by the Maestro User Interface*, then all recipients and their merge values are already known to the Maestro User Interface before the job is submitted to LISTSERV for delivery. LISTSERV Maestro can therefore encode each merge value with the same charset that is used for the e-mail text. Consequently, if the values are later merged into the text, their charset will match that of the text. However, if a merge value contains a character that cannot be displayed in the charset chosen for the text, then this character will be replaced with a question mark ”?” during the encoding, and this question mark will appear in the mail that reaches the recipient to which the merge value belongs.

In the example described above where the message body was in plain text and the recipient list was composed of recipient names from all over the world, a problem could occur because LISTSERV Maestro chooses the charset based on the message text, not on the recipient values. If the mail text itself is plain English, then LISTSERV Maestro will determine ASCII as the correct encoding for the message and the recipient data. If then the names of the international recipients are encoded as ASCII, all non-ASCII international characters will be replaced with question marks. To avoid this problem, use the same charset for the message body as was used for the merge data: If the recipients information was uploaded as a text file, then simply use the same charset for sending as was used during the initial upload. And if the recipients information was selected from a database, use the same charset as was used by the database (ask the database administrator for this information if it is unclear).

In summary, recipients that are *uploaded as a text file*, or are *selected from a database by the Maestro User Interface*, merge value characters that have no representation in the charset that was chosen for the mail text will be displayed as ”?”. To avoid this problem, make sure the message body is encoded with the same charset as the recipient list.

If recipients are defined by sending to an existing *LISTSERV list* or by letting *LISTSERV select from a database*, then the Maestro User Interface will not see the actual recipients or their merge values, and cannot do any special charset encoding on them. Instead, LISTSERV will simply merge the bytes from the recipients source (from the LISTSERV list or from the database LISTSERV connects to) into the mail text. Consequently, make sure that the merge values in the original recipients source (LISTSERV list or LISTSERV DBMS) already have the correct charset for the mail they are merged into.

For example, in e-mail sent with ISO-8859-1 (West-European), all appearances of the byte 196 in the merge values will be interpreted as the umlaut ‘Ä’. Even if the merge value is actually a Greek word where the byte 196 should have been interpreted as a ‘Δ’.

While mixing characters from different ISO-8859 charsets will simply display the wrong character to the recipient, mixing ASCII and ISO-8859 or ISO-8859 and Unicode may even result in characters that cannot be displayed at all. Most importantly, if the mail text uses the Unicode encoding UTF-8, then it is necessary to make sure that the merge value texts in the recipients source are also UTF-8 encoded (the byte sequence that stands for each merge value must be a valid UTF-8 encoded sequence representing a string of characters from the Unicode charset).

Then again, it is usually not possible to define a charset for the mail and then in some way make sure that the merge values in the list or in the LISTSERV database match this charset, since those merge values have usually been stored long before the mail was created. Therefore, the best way to proceed is to check which encoding was used when the data was stored in the list or LISTSERV database (again, you might need to ask your administrator for that information) and then use the same charset for the mail.

In summary for the recipient types of an existing *LISTSERV list* or *LISTSERV selecting from a database*, the merge value characters that have no representation in the charset that was chosen for the mail text will be displayed as a different character – whichever character from the actual charset that has the same byte value (like ‘Ä’ from ISO-8859-1 and ‘Δ’ from ISO-8859-7), or may not be displayed at all, if there is no corresponding byte value in the charset.

International Character Set Recipient Names in the Mail-TO-Header

The previous section outlined the problems of mixing a mail text in one language with merge values from a different language. As an example, an English text mail was described, with an international recipient list where the recipient names contain characters from many languages, with the languages possibly differing between recipients from different countries. The recipient's name as a merge value is probably one of the most common uses for merging fields – to be able to merge the recipient's name into the text of the message, to personalize the mail. If this is done, the problems described earlier need to be considered.

However, the recipient's name is also often used in the ”To:”-header field of the mail, so that the mail appears to the recipient with the recipient's own name visible in the ”To:” field (which is usually displayed by the e-mail client in some fashion), personalizing the e-mail one step further.

When using recipients *uploaded as text files* or *selected from the database by the Maestro User Interface*, then the use of the name in the ”To:”-header field does <u>not</u> fall under the constraints regarding charsets and text-merging. The name in the “To:”-header field will <u>always</u> be encoded with the charset that is optimal for exactly this name. Users may safely write an e-mail message in English and send it to international recipients. Each recipient will see his or her name with the correct characters in the “To:”-header, so that a German recipient will correctly see umlauts, a Russian will see Cyrillic and a Greek will see Greek letters (under the condition of course, that the original recipient list was in Unicode format and contained the names of the recipients with their respective international characters).

Just remember that with such a mixed-language list of recipients merge values you should not also merge the name into the text body itself, unless the text is encoded as Unicode (UTF-8) as well, due to of the problems described earlier.

When using recipients that are defined by sending to an existing *LISTSERV list* or by letting *LISTSERV select from a database*, then again the bytes from the name-merge value will be merged into the “To:”-header correctly by LISTSERV, without the Maestro User Interface having a chance to encode them. And because it is very improbable that the names (the byte sequences representing them) already contain the special MIME-header encoding necessary for non-ASCII “To:”-header fields, make sure that only ASCII characters are allowed in recipient names when creating the list or database data for these recipient types.

LISTSERV Maestro and Bi-Directional Character Sets

Of the ISO-8859 charset family, there are two charsets which contain letters from languages that have a standard reading direction of right-to-left. These are the charsets ISO-8859-6 (Arabic) and ISO-8859-8 (Hebrew), both of which are supported by LISTSERV Maestro.

Actually, LISTSERV Maestro will not use the charsets with the names ISO-8859-6 and ISO-8859-8, but will instead use the special bi-directional versions **ISO-8859-6-i** and **ISO-8859-8-i**. These charsets contain the same characters as their non-i-suffix counterparts, but the ”-i” suffix tells the receiving mail client that the text should be displayed with right-to-left reading direction. Without the ”-i” suffix in the charset name, many e-mail clients would probably display the correct characters, but in the (for that language) incorrect left-to-right reading direction.

Even with the ”-i” suffix, the recipient might require a special mail client version (or even a special mail client) that is prepared to display text with right-to-left reading direction properly and is also able to properly display bi-directional text (text that mixes characters with left-to-right and characters with right-to-left reading direction, in the case of a Hebrew text that contains English names, for example). Some clients may only display the characters with the right direction, but still left-align each line of text, instead of the correct right-alignment. Occurrences such as this are subject to the mail client itself, and out of the scope of LISTSERV Maestro.

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 (or tab, or some other separator character).

LISTSERV® Maestro can correctly interpret comma separated text files in various formats as long as the following rules are applied:

- Any character may be used as the separator character, although a comma, tab, or semicolon is conventional.
- The same separator character must be used in all lines for the entire file.
- All lines in the file must have the same number of columns, which means the same number of separator characters.
- Empty columns may be created in order that the same number of separator characters is present in every line of the file.
- Having two separator characters in direct succession, without any characters in between, creates an empty column.
- If a line begins with the separator character, then LISTSERV Maestro assumes the line begins with an empty column.
- If a line ends with the separator character, then LISTSERV Maestro assumes the line ends with an empty column.
- If the character that is used as the separator character also appears as part of the value of one or several of the column fields, then it is necessary to enclose the fields in quotation marks or another “quote character.”
- Any character can be used as the quote character (quotation marks, or apostrophe are conventional), except for the separator character.
- The same character must be used for the opening quote and for the closing quote.

If quotes are used in some records in a file (especially records that appear near the end of the file), it is important to manually define the separator and quote character instead of allowing LISTSERV Maestro to attempt to parse the file automatically. By manually defining the separator and quote characters, LISTSERV Maestro is forced to look at the entire file and parse it according to the values entered for these characters. If LISTSERV Maestro attempts to parse the file automatically when it contains quote characters in some lines, but not all, those records may be parsed incorrectly or may be rejected as invalid.

If there is a need to include the quote character inside of the value of a field, then this character must be escaped. Escape the quote character by using it twice, in direct succession. The double appearance of the quote character will be interpreted as a single appearance that is part of the field value. Follow these basic rules for separator and quote characters:

- If the first character in the field is the quote character, then LISTSERV Maestro assumes the field is quoted and the next not-escaped quote character marks the end of the field. The end of the field must then be followed by a separator character or by the end of a line – trailing white space after the last field of the line is allowed.
- If the first character in a field is not the quote character, then LISTSERV Maestro assumes the field is not quoted, and the next appearance of the separator character marks the end of the field.

Here are some examples:

Simple values, separated by comma, not quoted:
John,Doe,Denver,USA
Lucy,Summers,London,UK
Karl,Hauser,Frankfurt,DE

This defines a dataset with three rows, each row consisting of four fields.

Simple values, separated by comma, not quoted, with empty fields:
John,,Denver,USA
,Summers,London,UK
Karl,Hauser,Frankfurt,

This defines a dataset with three rows, each row consisting of four fields. In the first row, the second field is empty, in the second row the first field is empty and in the last row, the fourth field is empty.

Values in which some contain a comma, separated by comma, quoted with <">:
John,Doe,"Denver, Colorado",USA
Lucy,Summers,London,UK
Karl,Hauser,"Frankfurt, am Main",DE

This defines a dataset with three rows, each row consisting of four fields. The third fields in the first and last rows each have a value that contains a comma. Since this comma is inside of the quote characters, it is not interpreted as a separator comma, but instead as part of the value of the field.

Values in which some contain a comma, separated by comma, quoted with <">, with empty fields:
John,,"Denver, Colorado",USA
,Summers,London,UK
Karl,Hauser,"Frankfurt, am Main",

This defines a dataset with three rows, each row consisting of four fields. The third fields in the first and last rows each have a value that contains a comma. Since this comma is inside of the quote characters, it is not interpreted as a separator comma, but instead as part of the value of the field. Also, in each row there is an empty field.

Values in which some contain a comma and some the quote character, separated by comma, quoted with <">:
John ""Hammer"" Cool,Doe,"Denver, Colorado",USA
Lucy,Summers,London,UK
Karl,Hauser ""the man""","Frankfurt, am Main",DE

This defines a dataset with three rows, each row consisting of four fields. The third fields in the first and last rows each have a value that contains a comma. Since this comma is inside of the quote characters, it is not interpreted as a separator comma, but instead as part of the value of the field. Also, the first field in the first row contains the quote character, which has been escaped. Including the quotes, the field in its escaped form looks like this: John ""Hammer"" Cool. The two double appearances of the quote character around the word "Hammer" are not interpreted as quotes that delimit the field, but are instead interpreted as single appearances of the quote character which are part of the field value. Therefore, the un-escaped form of the field looks like this: John "Hammer" Cool. Similarly the second field of the last row has the un-escaped form of Hauser "the man”.

Appendix D E-Mail Related RFCs

For technical material on the protocols for e-mail, see the many "Request for Comments" documents (RFCs) available on the Web. These documents explain the rules that e-mail 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.

Table 8 RFCs and RFC Web Sites

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 E-Mail 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 Using Conditional Blocks

Adding conditional blocks to the body of an e-mail 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, 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.

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 1 Conditional Directives

`.bb`	Begin 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, 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:

`.bb &fullname ^= ""`	Begin block directive. Ampersand and column name represents the recipient data to perform the operation on. 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.
`Dear &fullname;,`	The text to be inserted if the condition is "true". 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.
`.else`	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.
`Dear Valued Customer,`	The text to be inserted if the condition is false. In this case, a generic salutation.
`.eb`	End block directive.

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
```

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 2 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, `.bb DEC IN &*DATE` The server's internal variable `&*DATE` 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

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 1 shows a plain text message that contains conditional blocks and merge-fields. Figures 2 and 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 e-mail 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 Figure 1 is an example of a detailed plain text e-mail 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 Figures 2 and 3.

Figure 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 credits 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 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 credits 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 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 credits 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!
```

Twenty Tips for Establishing a Successful E-Mail 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 cannot 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 e-mail.
- ✓ 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 e-mail 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 e-mail 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 e-mail 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 e-mail program's spellchecker - have several colleagues proofread your message for spelling and grammatical errors.
- ✗ Don't sell or rent your e-mail lists to other organization unless you have been given specific permission to do so.
- ✗ Don't expect every campaign will be an immediate home run - crafting quality messages takes time and requires feedback.

The full text of this award-winning article, "Successful E-Mail Marketing Practices", can be viewed and downloaded at http://www.lsoft.com/info/wp-email-marketing.pdf

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