



Whitepaper

Connecting LISTSERV® to an Existing Database Management System (DBMS)

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Introduction

If you have an existing database management system (DBMS), then using LISTSERV and connecting it to your existing data is the fastest and simplest way to get your customers' data working with all of the features and benefits of LISTSERV.

Your existing DBMS holds a plethora of important customer data that LISTSERV can use to create highly customized email message, newsletters, and promotions that emphasize your customer's preferences. To access this data, simply follow the instructions in this document and you'll be off and running. No need to duplicate efforts by re-entering customer data, with LISTSERV you can easily access and use your existing information.

Before You Begin

This document is intended for use by LISTSERV operators who are not database administrators (DBAs). You will learn how to perform a basic configuration of LISTSERV in conjunction with a DBMS, allowing LISTSERV to use and connect with your existing DBMS for data storage and retrieval.

The procedures in this document assume that:

- A. LISTSERV have been successfully installed and is operating normally.
- B. The installation and configuration of the DBMS server software and the DBMS drivers/connectors (such as SQL*Net or unixODBC) are already complete, presumably by your DBA. If the DBMS software and drivers are not properly and securely installed, then the procedures in this document will not succeed.

Additionally, you will need the following information available for use:

- 1. The network name of the server on which the DBMS is running.
- 2. One of the following:

A *dedicated* LISTSERV table has been created in the DBMS, and you have the login name and password needed to connect to this table.

– OR –

You have the login name and password needed to connect to the *non-dedicated* table being used by LISTSERV to store data.

Creating an ODBC Connection in Windows

An ODBC (Open Database Connectivity) connection is used to help LISTSERV communicate with your existing database management system.

For LISTSERV running in a Windows environment, virtually any standards-compliant SQL DBMS product is supported via ODBC. This includes Microsoft SQL*Server 2000 and later, Oracle 8i and later, and MySQL 4.x and later. Earlier versions of these DBMS products are not supported. For a complete list of supported products, see <u>Appendix A: Supported DBMS</u> <u>Products</u>.

In order for LISTSERV to connect to SQL*Server or MySQL, a valid data source name (DSN) is required. For details, see <u>Creating a DSN for SQL*Server</u> or <u>Creating a DSN for MySQL</u>.

Creating a DSN for SQL*Server

Creating a new ODBC Data Source Name (DSN) is a very simple process that is required when you are connecting LISTSERV to your existing SQL Server database.

There are three different types of DSNs – User, System, and File. For our purposes, you will need to create a System DSN, which is a DSN that is seen by the entire system. This means that any user can see it, as well as any process or service. This type of DSN is perfect for those with multiple user accounts, which is a main function in LISTSERV.

 To start creating your DSN, open the Data Source Administrator applet. Accessing this will vary depending on the type of Microsoft operating system you are using. Most can access the Data Source Administrator by opening your **Control Panel**, selecting **Administrative Tools**, and then finally selecting **Data Sources (ODBC)**. The ODBC Data Source Administrator screen opens with the **User DSN** tab open.

💷 ODBC Data Source	Administrator	? 🛛
User DSN System DSN User Data Sources:	File DSN Drivers Tracing Connection	Pooling About
Name dBASE Files Excel Files MS Access Database	Driver Microsoft dBase Driver (*.dbf) Microsoft Excel Driver (*.xls) Microsoft Access Driver (*.mdb)	Add Remove Configure
An ODBC U the indicated and can only	ser data source stores information about how tr d data provider. A User data source is only vis y be used on the current machine.	b connect to ible to you, Help

Notes: If you are running the 32-bit version of LISTSERV under 64-bit Windows, you need to ensure that you are using the 32-bit version of the ODBC connection applet.

2. Click on the **System DSN** tab, and then click on the **[Add]** button.

🗊 ODBC Data Source Administrator 🛛 🔹 💽			
User DSN	System DSN File DSN Drivers Tracing Connection Pooling About		
System D	Data Sources:		
Name	Driver Add		
	Remove		
	Configure		
3	An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users on this machine, including NT services.		
	OK Cancel Apply Help		

3. On the Create New Data Source window, select the **SQL Server** driver, and then click the **[Finish]** button.

Create New Data Source		
	Select a driver for which you want to set up a d Name Microsoft FoxPro VFP Driver (*.dbf) Microsoft ODBC for Oracle Microsoft Paradox-Treiber (*.db) Microsoft Paradox-Treiber (*.db) Microsoft Text-Driver (*.txt; *.csv) Microsoft Text-Treiber (*.txt; *.csv) Microsoft Visual FoxPro-Treiber SQL Server	ata source.
	< Back Finish	Cancel

- 4. On the first page of the Create a New Data Source to SQL Server wizard, enter the following information:
 - a. the Name of the DSN (e.g., LISTSERV)
 - b. a short **Description for the DSN** (e.g., "LISTSERV connection")
 - c. the Name of the Server to which you are connecting

Tip: The name of the server may already be available to you using the drop-down arrow. If so, simply click on the drop-down arrow and select it. Otherwise, you can manually type the name of the server into the text box.

Create a New Data So	urce to SQL Server 🛛 🗙
Select a diriver in mercint Access i olt dB ase i soft Excel i birdsout Faab out ODB out ODB ou	This wizard will help you create an ODBC data source that you can use to connect to SQL Server. What name do you want to use to refer to the data source? Name: How do you want to describe the data source? Description: Which SQL Server do you want to connect to? Server: Image: Finish Next> Cancel

When you are finished entering the above information, click the [Next] button.

5. On the second page of the Create a New Data Source to SQL Server wizard, review the default settings. In most cases you will not change anything on this page. Make sure that the **Connect to SQL Server to obtain default settings for the additional configuration options** option is checked. Click the **[Next]** button to continue.

Create a New Data Source to SQL Server 🛛 🔀			×
Selact a dirivel tor me Soft Access i Soft Acces	How should SQL Server verify the With Windows NT authent With SQL Server authentic entered by the user. To change the network library use click Client Configuration. Connect to SQL Server to obt additional configuration option Login ID: htaylor Password:	authenticity of the login ID? ication using the network login ID. ation using a login ID and password ad to communicate with SQL Server, Client Configuration ain default settings for the s.	
< Back Next > Cancel Help			

6. If your connection to the SQL Server machine was successful, then the third page of the Create a New Data Source Server wizard opens. Check the Change the default database to option, and then click on the drop-down arrow and select the name of the database that contains the tables LISTSERV will be accessing (in the example below, this database is named "listserv"). Review the rest of the default settings, and then click the [Next] button.

Create a New Data Sou	irce to SQL Server
Select a diver to: Inc.	 Change the default database to listerv Attach database filename: Attach database filename: Create temporary stored procedures for prepared SQL statements and drop the stored procedures: Only when you disconnect. When you disconnect and as appropriate while you are connected. Use ANSI quoted identifiers. Use ANSI nulls, paddings and warnings. Use the failover SQL Server if the primary SQL Server is not available.
	< Back Next > Cancel Help

7. On the fourth page of the Create a New Data Source to SQL Server wizard, review the default settings and then click the **[Finish]** button.

Create a New Data Sour	rce to SQL Server
Select a driver to The solution of the soluti	Change the language of SQL Server system messages to: English Use strong encryption for data Perform translation for character data Use regional settings when outputting currency, numbers, dates and times. Save long running queries to the log file: C:\DOCUME~1\htaylor\LOCALS~1\Temp\QUERY Browse Long query time (milliseconds): 30000 Log ODBC driver statistics to the log file: C:\DOCUME~1\htaylor\LOCALS~1\Temp\STATS. Browse
	< Back Finish Cancel Help

8. The ODBC Microsoft SQL Server Setup window opens with information about the DSN you are about to create. Review this information, and then we STRONGLY RECOMMEND that you click the **[Test Data Source]** button.

ODBC Microsoft SQL Server Setup	×
A new ODBC data source will be created with the following configuration:	
Microsoft SQL Server ODBC Driver Version 03.85.1132 Data Source Name: listserv Data Source Description: listserv connection Server: SALES1\MAXIMIZER Database: master Language: (Default) Translate Character Data: Yes Log Long Running Queries: No Log Driver Statistics: No Use Integrated Security: Yes Use Regional Settings: No Prepared Statements Option: Drop temporary procedures on disconnect Use Failover Server: No Use ANSI Quoted Identifiers: Yes Use ANSI Quoted Identifiers: Yes Use ANSI Null, Paddings and Warnings: Yes Data Encryption: No	
	\leq
Test Data Source OK Cance	»

The results will tell you whether or not you can actually connect to the database with the parameters you have entered in the wizard.

SQL Server ODBC Data Source Test	×
_ Test Results	
Microsoft SQL Server ODBC Driver Version 03.85.1132	
Running connectivity tests	
Attempting connection	
Verifying option settings Disconnecting from server	
TESTS COMPLETED SUCCESSFULLY!	
ОК	

If the test is successful, click the **[OK]** button to return to the **System DSN** tab on the ODBC Data Source Administration window.

Congratulations! Your new LISTSERV DSN has been successfully added and is ready for use. You will now need to <u>configure LISTSERV</u> to use this DSN.

Creating a DSN for MySQL

Creating a new ODBC Data Source Name (DSN) is a very simple process that is required when you are connecting LISTSERV to your existing MySQL database.

There are three different types of DSNs – User, System, and File. For our purposes, you will need to create a System DSN, which is a DSN that is seen by the entire system. This means that any user can see it, as well as any process or service. This type of DSN is perfect for those with multiple user accounts, which is a main function in LISTSERV.

Important: The MySQL database driver/connector does not ship with Windows. It must be installed separately. Please contact your DBA for information on installing MySQL.

 To start creating your DSN, open the Data Source Administrator applet. Accessing this will vary depending on the type of Microsoft operating system you are using. Most can access the Data Source Administrator by opening your Control Panel, selecting Administrative Tools, and then finally selecting Data Sources (ODBC). The ODBC Data Source Administrator screen opens with the User DSN tab open.

🐼 ODBC Data Source Administrator	? 🛛	
User DSN System DSN File DSN Drivers Tracing Connection User Data Sources:	Pooling About Add Remove Configure	
An ODBC User data source stores information about how to connect to the indicated data provider. A User data source is only visible to you, and can only be used on the current machine.		
OK Cancel Apply	Help	

Notes: If you are running the 32-bit version of LISTSERV under 64-bit Windows, you need to ensure that you are using the 32-bit version of the ODBC connection applet.

2. Click on the System DSN tab, and then click on the [Add] button.

🔊 ODBC D	Data Source Administrator	<
User DSN	System DSN File DSN Drivers Tracing Connection Pooling About	
System D	Data Sources:	
Name	Driver Add	
	Remove	
	Configure	
3	An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users on this machine, including NT services.	
	OK Cancel Apply Help	

3. On the Create New Data Source window, select **MySQL ODBC [version] Driver**, and then click the **[Finish]** button.

Create New Data Source		×
Create New Data Source	Select a driver for which you want to set Name Microsoft Paradox-Treiber (*.db.) Microsoft Text Driver (*.txt; *.csv) Microsoft Text-Treiber (*.txt; *.csv) Microsoft Visual FoxPro-Treiber Microsoft Visual FoxPro-Treiber MySQL Connector/DDBC v5 MySQL ODBC 3.51 Driver SQL Native Client	up a data source. Version 4.00.6304.0C 4.00.6304.0C 4.00.6304.0C 1.00.02.00 1.00.02.00 5.00.11.00 3.51.17.00 2005.90.304;
	SQL Server	2000.85.111

- 4. On the Login tab of the Connector/ODBC screen, enter the following information:
 - i. the Name of the DSN (e.g., LISTSERV)
 - ii. a short **Description for the DSN** (e.g., "LISTSERV connection")
 - iii. the Name of the Server to which you are connecting
 - iv. the login information (**User Name** and **Password**) and name of the **Database** that contains the LISTSERV tables.

Tip: The name of the server may already be available to you using the drop-down arrow. If so, simply click on the drop-down arrow and select it. Otherwise, you can manually type the name of the server into the text box.

🔼 Conn	ector/ODBC 3.51	.17 - Add Data Soi	ırce Name 🔹 💽 🔀
	Conne	ector/ODBC	MySQL
Login	Connect Options	Advanced	Connector/ODBC Configuration
Data Descr Serve User Passv	Source Name		This dialog is used to add a Data Source Name (DSN).
Datat	base		
		est Diagnostics	>> Ok Cancel Help

When you are finished entering the above information, click the [Test] button.

5. If the connection is configured correctly, a Success dialog will be displayed. Click the **[OK]** button to return to the **System DSN** tab on the ODBC Data Source Administration window.

Congratulations! Your new LISTSERV DSN has been successfully added and is ready for use. You will now need to <u>configure LISTSERV</u> to use this DSN.

Configuring LISTSERV to Use the DSN

After you have successfully added your LISTSERV DSN, you will need to configure LISTSERV to use and connect to this DSN.

For the purposes of this example, we will assume that the DSN you just created is called LISTSERV. You would then add the following lines to SITE.CFG:

```
ODBC_DSN=LISTSERV
ODBC_UID=...
ODBC_AUTH=...
```

Replace the ellipses with the appropriate (DBMS-specific) authentication information:

- ODBC_UID the userid that will be used to log into the database via the DSN.,
- ODBC_AUTH the password associated with that userid.¹

¹ While officially called the "authentication string" in the ODBC specifications, ODBC_AUTH is often called "password" in vendor documentation.

If the database was created with access for user "listserv" with the password "password", the settings would then be:

ODBC_DSN=LISTSERV ODBC_UID=listserv ODBC_AUTH=password

At this point you are ready to create and populate DBMS-aware mailing lists.

Creating a unixODBC Connection in Unix

A unixODBC (Open Database Connectivity) connection is used to help LISTSERV communicate with your existing Unix database management system (DBMS).

For LISTSERV running in a Unix environment, LISTSERV's DBMS support varies depending on the platform. For a complete list of supported products, see <u>Appendix A: Supported DBMS</u> <u>Products</u>.

This section will outline how to make a simple unixODBC connection to an existing MySQL database running on the same machine as LISTSERV. The following is required:

- The database should contain a table called "listserv" (this is where LISTSERV will store its data).
- The "listserv" table needs to be read/write/modify accessible by a user called "listserv".
- You will need root access.

Creating a unixODBC System DSN for MySQL

Creating a new unixODBC Data Source Name (DSN) is a very simple process that is required when you are connecting LISTSERV to your existing MySQL database.

There are three different types of DSNs – User, System, and File. For our purposes, you will need to create a System DSN, which is a DSN that is seen by the entire system. This means that any user can see it, as well as any process or service. This type of DSN is perfect for those with multiple user accounts, which is a main function in LISTSERV.

Open /etc/odbc.ini in a text editor and add the following lines:

[ODBC Data	Sources]
listserv	= MySQL ODBC 3.51 Driver DSN
[listserv]	
Driver	<pre>= /usr/lib/libmyodbc3.so</pre>
Description	= MySQL ODBC 3.51 Driver DSN
Server	= localhost
Database	= listserv
Trace	= off

We have discovered that in some cases, in particular where the MyODBC driver is installed from an RPM Package Manager (RPM), it is also necessary to add:

SOCKET = /var/lib/mysql/mysql.sock

where Server is set to localhost.

If you can't find odbc.ini under /etc, try issuing the odbcinst -j command.

In a default installation, the output appears like this:

```
[home]root:~# odbcinst -j
unixODBC 2.2.11
DRIVERS...... /etc/odbcinst.ini
SYSTEM DATA SOURCES: /etc/odbc.ini
USER DATA SOURCES..: /root/.odbc.ini
```

The file you need is the one referenced by SYSTEM DATA SOURCES.

Once this data source has been typed in, save odbc.ini.

Congratulations! Your new LISTSERV DSN has been successfully added and is ready for use. You will now need to <u>configure LISTSERV to use this DSN</u>.

Connecting to an External MySQL Database

If the MySQL database you want to connect to is running on a machine other than the one on which LISTSERV is installed, you will still need to install unixODBC and MyODBC on the LISTSERV machine in order to connect to the database, and then simply configure the system DSN to point to the machine in question.

For instance,

```
[listserv]
Driver = /usr/lib/libmyodbc3.so
Description = MySQL ODBC 3.51 Driver DSN
Server = mysqlbox.mydomain.com
Database = listserv
Trace = off
```

Note: The user defined in the UODBC_UID variable in go.user must (a) have permission to log into the external database from the LISTSERV host machine and (b) have appropriate permissions on the external database.

Configuring LISTSERV to use the DSN

After you have successfully added your LISTSERV DSN, you will need to configure LISTSERV to use and connect to this DSN.

First, make sure that you have linked LISTSERV's executable (lsv) with unixODBC support. Then, you can define the connection information in LISTSERV's go.user file, for instance:

```
UODBC_DSN="listserv"
UODBC_UID="listserv"
UODBC_AUTH="my_password"
export UODBC_DSN UODBC_UID UODBC_AUTH
```

Appendix A: Supported DBMS Products

The following DBMS products are supported by LISTSERV.

LISTSERV Running on Windows

For LISTSERV running in a Windows environment, virtually any standards-compliant SQL DBMS product is supported via ODBC. This includes Microsoft SQL*Server 2000 and later, Oracle 8i and later, and MySQL 4.x and later. Earlier versions of these DBMS products are not supported.

Note: One notable exception is Microsoft Access (any version). Microsoft Access is not a complete implementation of SQL and does not contain functionality needed by LISTSERV. Therefore, although it is entirely possible to link LISTSERV to a Microsoft Access database via ODBC, L-Soft does not support the use of Microsoft Access as a database for LISTSERV.

LISTSERV Running on UNIX

For LISTSERV running in a Unix environment, LISTSERV's DBMS support varies depending on the platform. The following Unix platforms are supported:

Unix Variant	OCI (Oracle) Supported	CLI (DB2) Supported	unixODBC Supported
AIX 4.3 (PPC) and later	\checkmark	~	~
FreeBSD 5.4 and later			\checkmark
Linux 2.6 and later (x86)	\checkmark	~	\checkmark
Linux 2.6 and later (x86-64)		\checkmark	\checkmark
Linux 2.4.20 (x86)	\checkmark	~	\checkmark
Linux-S390 (kernel 2.4.2 and later)			\checkmark
Solaris 10 (SPARC) and later	~	\checkmark	
Solaris 10 (x86-64) and later	~	~	

Notes: This table contains compatibility information for currently-supported unix variants only.

Oracle and DB2 databases can also be accessed via unixODBC on the platforms where there is no native LISTSERV DBMS support for them.

Relinking LISTSERV

As shipped, LISTSERV does not contain support for DBMS. The LISTSERV executable must be relinked in order to provide this support. The simplest way to do this is to choose DBMS support at install time (when using the simplified unix installation script), although it is also possible to relink DBMS support into LISTSERV later.

Warning: Only relink DBMS support with LISTSERV if the DBMS product you intend to use is already installed on the machine. If the DBMS product and its drivers are not installed, then LISTSERV will not be able to start.

Relinking LISTSERV is only available for the following combinations of DBMS support in accordance with the supported operating system:

- OCI only
- CLI only
- unixODBC only
- OCI and CLI
- OCI and unixODBC

LISTSERV cannot be relinked with both CLI and unixODBC at the same time because the two implementations are very similar and share function names inside LISTSERV.

For more information on relinking LISTSERV, see the <u>Advanced Topics Guide for LISTSERV</u>.

Appendix B: Creating DBMS-Aware Mailing Lists

This section assumes that the reader is familiar with the process of creating LISTSERV lists and updating their list headers. For more information, please refer to the <u>Site Manager's Manual for</u> <u>LISTSERV</u>.

Configuring a List to use the DBMS

The use of the DBMS as a data store for list membership information is controlled by the "DBMS=" list header keyword. To create a simple DBMS list that will use the database you have connected to via the DSN you created, specify a "DBMS=" keyword as follows:

DBMS= Yes

This can also be done in the Web Administration Interface. Browse and log into the LISTSERV Web Administration Interface. Click on the **List Management** menu on the toolbar, select **List Configuration**, and then **List Configuration Wizard**. On the List Configuration screen, click on the drop-down menu and select the list you want to work with, and then click on the **Other** tab.

elect List:	3 Owner:	3 Narrow:	2 Items:
-FEA[[FES-L-SU] [L-SU-SC] [SO-2] [Next]	21	1	Upda
Descriptions Access Control	Distribution Error Handling List Maintenance Security Sut	bscription Other	
Other Settings			
List settings available on this page: DBMS	S Lindent I Language I Long-Lines I Mail-Merge I Misc-Options I Translate		
List settings available on this page: DBMS	S Indent Language Long-Lines Mail-Merge Misc-Options Translate		
List settings available on this page: DBMS Keyword	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting		
List settings available on this page: DBMS Keyword DBMS-	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting	set up to work with a DBMS.	
List settings available on this page: DBMS & yword DBMS= Indent-	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting Translate Caution: Do not set this keyword to Yes unless the LISTSERV site configuration is	set up to work with a DBMS.	
List settings available on this page: DBMS Keyword DBMS- Indent-	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting Caution: Do not set this keyword to Yes unless the LISTSERV site configuration is 40	set up to work with a DBMS.	_
List settings available on this page: DBMS & word DBMS- Indent- Language-	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting Caution: Do not set this keyword to Yes unless the LISTSERV site configuration is 40 francais, HTML	set up to work with a DBMS.	
List settings available on this page: DBMS Keyword ② DBMS= ③ Indent= ③ Language= ③ Long-Lines=	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting Caution: Do not set this keyword to Yes unless the LISTSERV site configuration is 40 francais, HTML	set up to work with a DBMS.	
List settings available on this page: DBMS &eyword DBMS= Indent- Language= Long-Lines= Mail-Merge=	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting Caution: Do not set this keyword to Yes unless the LISTSERV site configuration is 40 francais, HTML	set up to work with a DBMS.	
List settings available on this page: DBMS &eyword DBMS- Indent- Language- Long-Lines- Mail-Merge- Misc-Options-	S Indent Language Long-Lines Mail-Merge Misc-Options Translate Setting Caution: Do not set this keyword to Yes unless the LISTSERV site configuration is 40 francais, HTML	set up to work with a DBMS.	

There are a number of optional parameters for the DBMS= keyword that are described in full in the <u>Advanced Topics Guide for LISTSERV</u> or in the Online Help.

In most cases taking the defaults for those parameters will be sufficient. For more information on these parameters, you can click on the actual keyword to see its full description.

Importing Subscribers into a DBMS LIST

Subscribers can be easily imported into a DBMS list either <u>manually</u> or using <u>LISTSERV's Web</u> <u>Interface</u>.

Manually Importing Subscribers

Subscribers can be imported into a DBMS list using the ADD IMPORT command, also known as "bulk add." However, despite the name, this is not an "import" operation in the database sense; it does not disable logging or rollback and it is based on normal transactional operations. You may be able to obtain better performance using specialized import tools provided by your DBMS vendor.

To speed up the process of importing subscribers on very large lists, simply add PRELOAD after the word IMPORT. For instance:

```
ADD XYZ-L DD=NEWSUB IMPORT PRELOAD
//NEWSUB DD *
joe@xyz.com Joe Doe
Helen Doe <u>hdoe@abc.def.com</u>
...more subscribers, one per line, as above...
/*
```

You should use the PRELOAD option whenever importing a new list into the DBMS, or whenever you are adding a very large number of new users.

Using the Web Interface to Import Subscribers

Importing subscribers can also be done in the Web Administration Interface. Browse and log into the LISTSERV Web Administration Interface. Click on the List Management menu on the toolbar, and then select **Subscriber Management**. The Subscriber Management screen opens. Click on the drop-down menu and select the list you want to work with, and then click on the **Bulk Operations** tab.

EST Test	: t lis	t - just testin'. 💌	3 Owner:	② Narrow:	② Items: Update
ingle Sut	hsci	iber Bulk Operat	tions		
прези	0301				
IE a I					
Caution: S	Som	e of the functions offer tting.	red through this page will ren	nove all subscribers from TEST.	Double-check your selection
aution: S before sub	Som	e of the functions offer tting.	red through this page will ren	nove all subscribers from TEST.	Double-check your selection
Caution: S before sub	Som bmit	e of the functions offer tting. Add the imported add	red through this page will ren dresses to TEST; do not remo	nove all subscribers from TEST.	Double-check your selection
Caution: S before sub	Som bmit	e of the functions offer tting. Add the imported add Remove all subscrib option and omit the in	red through this page will ren dresses to TEST; do not remo ers f rom TEST, and add the i nput file).	nove all subscribers from TEST. we any subscribers. mported addresses (to remove a	Double-check your selection Il subscribers, select this
Caution: S before sut	Som bmit	e of the functions offer tting. Add the imported add Remove all subscrib option and omit the in Remove the imported	red through this page will ren dresses to TEST; do not remo rers from TEST, and add the i nput file). d addresses from TEST; do n	nove all subscribers from TEST. we any subscribers. mported addresses (to remove a ot add any subscribers.	Double-check your selection Il subscribers, select this

To add users to the list, select the **Add the imported addresses to [list name]; do not remove any subscribers** option. Use the **[Browse]** button to select your input file, and then click **[Import]**.

When importing subscribers, remember that:

- The input file must be a plain text file (not a word processor document or spreadsheet), and it must contain one address per line, optionally followed with a space (or tab) and the subscriber's name.
- The subscribers being added or deleted will not be notified.

Note: Bulk operations are not enabled by default. The site manager must enable this functionality explicitly per the instructions in the <u>Site Manager's Operations Manual</u>. If you get an error 2 when you click on the **[Import]** button, this means that the "upload" directory has not been created. If you get an error 13 when you click on the **[Import]** button, this means that the "upload" directory has been created but the CGI program user does not have write permission in that directory. Contact your site administrator if you have either of these problems.

Appendix C: Troubleshooting

The examples and instructions in this whitepaper assume that your installation and configurations have gone smoothly and the creation of the database connection completed successfully. If you experience any problems, you will need to contact your database administrator (DBA) or other local support staff who can help you fix the problem(s) with your database and/or ensure that you have the proper information to pass to the system in order to make the connection. L-Soft support staff cannot assist you with this kind of problem.