## Document History

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*MessageWay Installation Guide*
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>1</td>
</tr>
<tr>
<td>Overview</td>
<td>1</td>
</tr>
<tr>
<td>Purpose and Scope</td>
<td>1</td>
</tr>
<tr>
<td>Audience</td>
<td>1</td>
</tr>
<tr>
<td>MW Translator Service</td>
<td>1</td>
</tr>
<tr>
<td><strong>Product Platform Support</strong></td>
<td>1</td>
</tr>
<tr>
<td>Hardware Requirements for MessageWay Servers</td>
<td>2</td>
</tr>
<tr>
<td>Operating Systems for MessageWay Servers</td>
<td>2</td>
</tr>
<tr>
<td>Operating Systems for MessageWay Manager, MW Translator Workbench and Operator Program</td>
<td>3</td>
</tr>
<tr>
<td>Operating Systems for MessageWay Remote Execution Server (RES)</td>
<td>3</td>
</tr>
<tr>
<td>Databases and Database Drivers for the MessageWay Server</td>
<td>4</td>
</tr>
<tr>
<td>Distributed Architectures</td>
<td>5</td>
</tr>
<tr>
<td>Critical Dependencies</td>
<td>6</td>
</tr>
<tr>
<td><strong>MessageWay Ports and Server Locations</strong></td>
<td>6</td>
</tr>
<tr>
<td>MessageWay Default Ports</td>
<td>6</td>
</tr>
<tr>
<td>MessageWay Servers Default Locations</td>
<td>9</td>
</tr>
<tr>
<td><strong>Technical Support</strong></td>
<td>17</td>
</tr>
<tr>
<td>Availability</td>
<td>17</td>
</tr>
</tbody>
</table>
Installing or Upgrading the MessageWay Manager

Installing a MessageWay System

Pre-requisites to Install Optional Adapters or Services .......................................................... 22
    Installing the WebSphere MQ Adapter .................................................................................. 22
    Installing the SFTP Adapter on SE Linux ........................................................................... 23
Installing the Server on Windows ............................................................................................... 23
    Pre-installation Tasks for Windows ...................................................................................... 24
    Installing MessageWay on Windows ...................................................................................... 40
Installing the Server on UNIX or Linux ...................................................................................... 45
    Pre-installation Tasks for UNIX/Linux .................................................................................. 45
    Using the Installation File ....................................................................................................... 51
    Using a MySQL Database ........................................................................................................ 52
    Using an Oracle Database ........................................................................................................ 63
    Installing MessageWay on UNIX or Linux ............................................................................ 73
    Enable Core Files for UNIX/Linux ........................................................................................ 73
Post-installation Task for All Platforms ....................................................................................... 74
    Adding the License File .......................................................................................................... 74
    Creating an Environment Variable for Custom Installations ............................................... 75
    (Windows only) Encrypting the Database Password ............................................................... 76
Upgrading a MessageWay System

Checking Current MessageWay Operations ................................................................. 78
Backing up the MessageWay Database and ODBC Configuration Files ......................... 78
Performing Pre-upgrade Tasks for UNIX/Linux ........................................................... 79
   Upgrading unixODBC ................................................................................................. 79
   Upgrading the Database and Driver for MySQL Databases ....................................... 82
   Upgrading the EasySoft ODBC Driver for Oracle Databases .................................. 84
   Updating the Environment Variables for Oracle Databases ................................... 85
   Updating ODBC Configurations ............................................................................. 87
Converting the MessageWay Database .......................................................................... 88
Upgrading MWTranslator Service for MSSQL Authentication ..................................... 92
Upgrading to MW Translator from Edikit .................................................................... 93
Updating MessageWay Configuration Files .................................................................. 94

Starting MessageWay

Starting the MessageWay Server ................................................................................... 95
   How to Start MessageWay on UNIX or Linux ......................................................... 95
   How to Start MessageWay on Windows ................................................................... 96
Logging On to the MessageWay Manager .................................................................... 96
Adding an Environment to the MessageWay Manager ................................................. 99

Testing the Installation

Testing without Translation ......................................................................................... 101
Create Directories ........................................................................................................ 101
Configure the Output Location .................................................................................... 101
<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configure the Input Location</td>
<td>103</td>
</tr>
<tr>
<td>Test Message Delivery</td>
<td>105</td>
</tr>
<tr>
<td>Testing with Translation</td>
<td>106</td>
</tr>
<tr>
<td>Create Directories</td>
<td>106</td>
</tr>
<tr>
<td>Configure the MW Translator Service Location</td>
<td>106</td>
</tr>
<tr>
<td>Configure the Output Locations</td>
<td>107</td>
</tr>
<tr>
<td>Configure the Input Location</td>
<td>108</td>
</tr>
<tr>
<td>Test the Translation</td>
<td>108</td>
</tr>
<tr>
<td>Review the Output</td>
<td>109</td>
</tr>
<tr>
<td>Installing or Upgrading MessageWay Perimeter Servers</td>
<td>111</td>
</tr>
<tr>
<td>Installing the AS2 Interface</td>
<td>111</td>
</tr>
<tr>
<td>Licensing Requirements for the AS2 Interface</td>
<td>112</td>
</tr>
<tr>
<td>Prerequisites for the MessageWay AS2 Interface</td>
<td>112</td>
</tr>
<tr>
<td>Install the AS2 Servlets</td>
<td>113</td>
</tr>
<tr>
<td>Install the AS2 Adapter</td>
<td>115</td>
</tr>
<tr>
<td>Start the AS2 Interface</td>
<td>115</td>
</tr>
<tr>
<td>Upgrading the AS2 Interface</td>
<td>120</td>
</tr>
<tr>
<td>Installing or Upgrading the FTP Perimeter Server</td>
<td>123</td>
</tr>
<tr>
<td>Install the FTP Perimeter Server</td>
<td>123</td>
</tr>
<tr>
<td>Start the FTP Perimeter Server</td>
<td>127</td>
</tr>
<tr>
<td>Installing or Upgrading the Remote Execution Server</td>
<td>129</td>
</tr>
<tr>
<td>Licensing Requirements for the Remote Execution Server</td>
<td>130</td>
</tr>
<tr>
<td>Pre-requisites to Install the Server Component of RES on a 64-bit RedHat System</td>
<td>130</td>
</tr>
<tr>
<td>Installing the RES Components</td>
<td>131</td>
</tr>
</tbody>
</table>
Configuring Security for the Remote Execution Server .................................................. 137
Installing or Upgrading the SFTP Perimeter Server .......................................................... 141
Licensing Requirements for the SFTP Perimeter Server .................................................. 142
Pre-requisites to Install the SFTP Perimeter Server on a 64-bit RedHat System .............. 143
Install the SFTP Perimeter Server .................................................................................... 143
Upgrading Cygwin and the SFTP Perimeter Server on Windows .................................... 155
Start the SFTP Perimeter Server ...................................................................................... 156
Installing or Upgrading the SFTP Proxy Server ............................................................... 157
Licensing Requirements for the SFTP Proxy Server ....................................................... 158
Install the SFTP Proxy Server ......................................................................................... 158
Start the SFTP Proxy Server ......................................................................................... 161

Installing or Upgrading Additional Adapters or Services 163

Installing Additional Adapters or Services for Windows .................................................. 164
Installing Additional Adapters or Services for Linux and UNIX ..................................... 167
Licensing the New Adapter or Service .............................................................................. 168
Starting the New Adapter or Service .............................................................................. 168

Custom Logging of Events in UNIX/Linux 169

Overview of Custom Logging in UNIX/Linux ................................................................... 169
Changing the Default Logging Locations ......................................................................... 169
Changing Logging Locations for UNIX ............................................................................ 169
Changing Logging Locations for Linux ........................................................................... 171
## Tuning a MessageWay System

174

- Recommendations for High-volume Transfers Through Perimeter Servers on UNIX and Linux

174

- Recommendations for a Bash Profile for MySQL

174

- Recommendations for Hard and Soft Limits on UNIX and Linux

175

- Recommendations for MessageWay Servers

175

- Recommendations for MySQL Databases

176

- Recommendations for Oracle Databases

177

## Installing Hotfixes

178

## Uninstalling MessageWay

179

- Stopping the MessageWay Servers

179

- How to Stop MessageWay on Windows

179

- How to Stop MessageWay on UNIX or Linux

180

- Uninstalling the MessageWay Manager

180

- Uninstalling the MessageWay Servers

180

- Uninstalling the MessageWay Servers from Windows

181

- Uninstalling the MessageWay Servers from UNIX/Linux

182
Introduction

Overview

MessageWay® is a server-based solution for message and file transfer in the business-to-business electronic commerce environment. It automatically manages the file communications traffic between remote end-points and the server-processing environment. It also functions as an intelligent network router between LAN/WAN servers, the host and remote end-points. Simply, MessageWay automates the sending and receiving of electronic commerce message and data files.

Purpose and Scope

This document covers the installation procedures for MessageWay on the host server, and the installation of the manager on remote workstations. It also includes instructions to update a MessageWay system and to install MessageWay perimeter servers and other options.

Audience

This document is intended for users who want to install MessageWay on their server, the MessageWay Manager on a remote computer, additional adapters or services or any of the MessageWay options. Whoever installs MessageWay should be familiar with their operating system and database.

MW Translator Service

The MW Translator service included with this installation is based on MW Translator version 6.1.

IMPORTANT: If you plan to use Edikit 4.0 or 4.2 in addition to or instead of MW Translator 6.1, please contact the Support Center before running the upgrade. They will provide instructions for saving your previous Edikit environment and then configuring it to work with MessageWay 6.1.0.

Product Platform Support

MessageWay version 6.1 supports various operating systems, databases, browsers, distributed architectures and includes some dependencies.
Hardware Requirements for MessageWay Servers

To install and run MessageWay servers, we recommend the following hardware configurations. *Minimum* specifies the resources that MessageWay needs to work as a basic system, that is with 5 concurrent users. *Recommended* specifies the resources that MessageWay needs to adequately perform for 500 concurrent users or more.

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Speed</td>
<td>2.4 GHz</td>
<td>3.3 GHz</td>
</tr>
<tr>
<td>Number of cores</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Available RAM</td>
<td>8 GB</td>
<td>16 GB</td>
</tr>
<tr>
<td>Available Disk Space</td>
<td>50 GB</td>
<td>200 GB</td>
</tr>
</tbody>
</table>

*NOTE:* Disk space requirements are highly dependent on where the data is stored (on disk or in the database), as well as on the average message size, average daily message volume and desired message retention.

Operating Systems for MessageWay Servers

MessageWay version 6.1 supports the following operating systems for the MessageWay servers and perimeter servers:

- Red Hat Enterprise Linux (RHEL) v5.6, 6.x and 7.x
- Solaris 10
- SUSE Linux Enterprise Server (SLES) v11 and v12
- Windows Server 2008 Standard 32-bit
- Windows Server 2008 Standard and Enterprise R2 64-bit edition (servers run here as legacy 32-bit applications)
- Windows Server 2012 Standard R2 64-bit edition
- Windows Server 2016 Standard

The following systems are *not* supported for MessageWay 6.1:

- SUSE v10.x
  (If you want to run on SUSE v10.x, please contact MessageWay support.)
- Windows Server 2003

*NOTE:* No international versions of operating systems are required for MessageWay software.
Operating Systems for MessageWay Manager, MW Translator Workbench and Operator Program

MessageWay version 6.1 supports the following operating systems for the MessageWay Manager and the MW Translator Workbench and Operator Program:

- Windows Server 2016 Standard
- Windows Server 2012 Standard R2 64-bit edition
- Windows Server 2008 Standard and Enterprise SP2 32-bit and 64-bit editions
- Windows Server 2008 Standard and Enterprise R2 64-bit edition (clients run here as legacy 32-bit applications)
- Windows 10 SP1 32-bit and 64-bit editions (clients run here as legacy 32-bit applications)
- Windows 7 SP1 32-bit and 64-bit editions (clients run here as legacy 32-bit applications)

**NOTE:** No international versions of operating systems are required for MessageWay software.

Operating Systems for MessageWay Remote Execution Server (RES)

MessageWay version 6.1 supports the following operating systems for the MessageWay Remote Execution Server (RES):

- Windows Server 2016 Standard
- Windows Server 2012 Standard R2 64-bit edition
- Windows Server 2008 Standard and Enterprise SP2 32-bit and 64-bit editions (clients run here as legacy 32-bit applications)
- Windows Server 2008 Standard and Enterprise R2 64-bit edition (clients run here as legacy 32-bit applications)
- Windows 10 SP1 32-bit and 64-bit editions (clients run here as legacy 32-bit applications)
- Windows 7 SP1 32-bit and 64-bit editions (clients run here as legacy 32-bit applications)
- Solaris v10
- Red Hat Enterprise Linux v5.6, 6.x and 7.x
- SUSE v11 and v12
- IBM AIX V6 6.1 and V7 7.1

The following systems are *not* supported for MessageWay 6.1:

- SUSE v10.x
  (If you want to run on SUSE v10.x, please contact MessageWay support.)
- Windows Server 2003

**NOTE:** No international versions of operating systems are required for MessageWay software.
Databases and Database Drivers for the MessageWay Server

MessageWay version 6.1 supports the following databases for the MessageWay Messaging Server.

**Microsoft SQL**
- Microsoft SQL Server 2008 on 32-bit platforms, clustered and standalone
- Microsoft SQL Server 2008 R2 on 64-bit platforms, clustered and standalone
- Microsoft SQL Server 2012 Enterprise Edition on 64-bit platforms, clustered and standalone
- Microsoft SQL Server 2016 Enterprise Edition on 64-bit platforms, clustered and standalone
- MessageWay supports both Windows authentication and SQL authentication

**MySQL**
- MySQL 5.5.x on 32-bit and 64-bit platforms
- MySQL 5.7.x on 32-bit and 64-bit platforms
- Standalone only (no clusters)
- UNIX/Linux operating systems

**Oracle**
- Oracle Database 10g Release 2: 10.2.0.1—10.2.0.5, clustered and standalone
- Oracle Database 11g Release 2: 11.2.0.1, clustered and standalone
- Oracle Database 12c Release 2: 12.2.x, clustered and standalone
- UNIX/Linux operating systems

The following table shows the relationship between databases and operating systems.

<table>
<thead>
<tr>
<th>Database</th>
<th>Solaris 10</th>
<th>RHEL 5.6 &amp; 6.x</th>
<th>RHEL 7.x</th>
<th>Suse 11</th>
<th>Suse 12</th>
<th>Win2012 R2 x64</th>
<th>Win2016 x64</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSSQL_2008_x32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSSQL_2008R2_x64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSSQL_2012_x64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSSQL_2016_x64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MySQL_5.5_x32 &amp; x64</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following table describes the driver versions for the various databases and platforms that have been tested with Unicode.

**IMPORTANT:** All drivers must be 32-bit for 64-bit databases.

<table>
<thead>
<tr>
<th>Database</th>
<th>Platform</th>
<th>Drivers Tested</th>
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<tbody>
<tr>
<td>MSSQL 2008</td>
<td>Windows Server 2008</td>
<td>Native client 10.0</td>
</tr>
<tr>
<td>MSSQL 2012</td>
<td>Windows Server 2012</td>
<td>Native client 11.0</td>
</tr>
<tr>
<td>MSSQL 2016</td>
<td>Windows Server 2016</td>
<td>ODBC Driver 13 for SQL Server</td>
</tr>
<tr>
<td>MySQL</td>
<td>Linux</td>
<td>General release version of MySQLConnector 5.1.8</td>
</tr>
<tr>
<td>MySQL</td>
<td>Solaris 10</td>
<td>General release version of MySQLConnector 5.1.8</td>
</tr>
<tr>
<td>Oracle 10g &amp; 11g</td>
<td>Linux</td>
<td>EasySoft Oracle Driver (ESOD) 3.4.5</td>
</tr>
<tr>
<td>Oracle 12c</td>
<td>Linux</td>
<td>EasySoft Oracle Driver (ESOD) 3.6.0</td>
</tr>
<tr>
<td>Oracle 10g &amp; 11g</td>
<td>Solaris 10</td>
<td>EasySoft Oracle Driver (ESOD) 3.4.5</td>
</tr>
</tbody>
</table>

**NOTE:** Please find the appropriate ESOD build on the install medium, or contact Ipswitch Technical Support. No current version of the EasySoft driver supports Oracle on Windows.

**Distributed Architectures**

MessageWay version 6.1 supports the following distributed architectures:

- MessageWay Server (Failover or “Active/Passive”) HA based on Microsoft Cluster Services
  - Supported on Windows 2008 and 2008 R2 only (no Windows 2003 support)
- MessageWay Perimeter Servers (Webfarm or “Active/Active”) HA supported on all supported OS platforms
Critical Dependencies

Critical dependencies include versions of software that users must install prior to installing MessageWay software, or it will not install or operate successfully. This software is not packaged with MessageWay installations.

MessageWay version 6.1 has the following critical dependencies:

<table>
<thead>
<tr>
<th>MessageWay Component</th>
<th>Dependency</th>
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</thead>
<tbody>
<tr>
<td>AS2 Interface</td>
<td>• Java version 8.x</td>
</tr>
<tr>
<td></td>
<td>• Apache Tomcat version 7.x</td>
</tr>
<tr>
<td>MWMQ Adapter</td>
<td>• MQ Client 6, 7 or 9, 32-bit</td>
</tr>
<tr>
<td>Remote Execution Server (RES) on IBM AIX</td>
<td>• bos.rte.libc 5.3.7.1 libc</td>
</tr>
<tr>
<td></td>
<td>• bos.rte.security 5.3.7.1 libcrypt, libpam</td>
</tr>
<tr>
<td></td>
<td>• bos.rte.libpthread 5.3.7.0 libpthread</td>
</tr>
<tr>
<td></td>
<td>• x1C.rte 9.0.0.1 libC (C++ library)</td>
</tr>
<tr>
<td>Web Client</td>
<td>Please refer to the &quot;Critical Dependencies&quot; topic in the separate document MessageWay Web Client Installation and Configuration</td>
</tr>
</tbody>
</table>

MessageWay Ports and Server Locations

The following topics show what MessageWay uses as default values for ports and server locations.

MessageWay Default Ports

The following tables describe the default ports used by MessageWay. For more information, refer to documentation for a specific service.

MessageWay and Other Supporting Perimeter Servers (DMZ Tier)

These are the default ports for MessageWay and other supporting perimeter servers (DMZ tier):

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MessageWay AS2 Interface</td>
<td>8080</td>
<td>HTTP Listener</td>
</tr>
</tbody>
</table>
### MessageWay FTP Perimeter Server

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MessageWay FTP Perimeter Server</td>
<td>20/21</td>
<td>Clear FTP channels: data (active)/command (active and passive)</td>
</tr>
<tr>
<td></td>
<td>989/990</td>
<td>SSL implicit FTP channels: data (active)/command (active and passive)</td>
</tr>
<tr>
<td></td>
<td>2189/2190</td>
<td>SSL explicit FTP channels: data (active)/command (active and passive)</td>
</tr>
<tr>
<td></td>
<td>2000-2010</td>
<td>Passive FTP port range data channels</td>
</tr>
</tbody>
</table>

### MessageWay FTP Proxy Server

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MessageWay FTP Proxy Server</td>
<td>6220/6221</td>
<td>Clear FTP channels: data (active)/command (active and passive)</td>
</tr>
<tr>
<td></td>
<td>6289/6290</td>
<td>SSL explicit FTP channels: data (active)/command (active and passive)</td>
</tr>
<tr>
<td></td>
<td>6298/6299</td>
<td>SSL implicit FTP channels: data (active)/command (active and passive)</td>
</tr>
<tr>
<td></td>
<td>2000-2010</td>
<td>Passive FTP port range data channels</td>
</tr>
</tbody>
</table>

### MessageWay SFTP Perimeter Server

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MessageWay SFTP Perimeter Server</td>
<td>6222</td>
<td>FTP SSH listener</td>
</tr>
</tbody>
</table>

### MessageWay SFTP Proxy Server

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MessageWay SFTP Proxy Server</td>
<td>6223</td>
<td>FTP SSH listener</td>
</tr>
</tbody>
</table>

## MessageWay Servers and Clients (Application Tier)

These are the default ports for MessageWay servers and clients (application tier):

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MessageWay User Server</td>
<td>6237 (UDP)</td>
<td>MessageWay Discovery Protocol</td>
</tr>
<tr>
<td></td>
<td>6237</td>
<td>Clear listener</td>
</tr>
<tr>
<td></td>
<td>6239</td>
<td>SSL listener</td>
</tr>
<tr>
<td>MessageWay Manager</td>
<td>6238</td>
<td>MessageWay Discovery Protocol</td>
</tr>
<tr>
<td>MessageWay Service Interface(MWSI)</td>
<td>6280</td>
<td>Clear listener</td>
</tr>
<tr>
<td></td>
<td>6243</td>
<td>SSL listener</td>
</tr>
<tr>
<td>MessageWay E-mail adapter</td>
<td>25</td>
<td>SMTP</td>
</tr>
<tr>
<td></td>
<td>110</td>
<td>POP3</td>
</tr>
</tbody>
</table>
Customer Internal Servers (Application Tier)

These are the default ports for customer internal servers (application tier) that communicate with MessageWay.

The following table shows the default ports for connections to internal database servers:

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSSQL</td>
<td>1433</td>
<td>Connection to an MSSQL database server</td>
</tr>
<tr>
<td>Oracle</td>
<td>1521</td>
<td>Connection to an Oracle database server</td>
</tr>
<tr>
<td>MySQL</td>
<td>3306</td>
<td>Connection to a MySQL database server</td>
</tr>
</tbody>
</table>

The following table shows the default ports for other internal servers:

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail</td>
<td>25</td>
<td>SMTP connection</td>
</tr>
<tr>
<td></td>
<td>110</td>
<td>POP3</td>
</tr>
<tr>
<td>LDAP</td>
<td>389</td>
<td>Clear</td>
</tr>
<tr>
<td></td>
<td>636</td>
<td>LDAPs</td>
</tr>
</tbody>
</table>

This is the default port for the MessageWay Remote Execution Server (application tier):

<table>
<thead>
<tr>
<th>Server</th>
<th>Port #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MessageWay Remote Execution Servers (RES)</td>
<td>6235</td>
<td>HTTPS Listener</td>
</tr>
</tbody>
</table>
MessageWay Servers Default Locations

The following are the default locations where MessageWay files are installed. The locations vary depending on the system, Windows or UNIX/Linux.

MessageWay Files and Locations for Windows

The following table shows the default locations where MessageWay installs files that support its servers on a Windows system.

<table>
<thead>
<tr>
<th>Description</th>
<th>Locations and Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messaging Server and support files</td>
<td>C:\Program Files\MessageWay (32-bit)</td>
</tr>
<tr>
<td></td>
<td>- or -</td>
</tr>
<tr>
<td></td>
<td>C:\Program Files (x86)\MessageWay (64-bit)</td>
</tr>
<tr>
<td></td>
<td>\bin</td>
</tr>
<tr>
<td></td>
<td>executables</td>
</tr>
<tr>
<td></td>
<td>messageway.lic</td>
</tr>
<tr>
<td></td>
<td>MWayMessages.dll</td>
</tr>
<tr>
<td></td>
<td>\ftp</td>
</tr>
<tr>
<td></td>
<td>\proxy</td>
</tr>
<tr>
<td></td>
<td>\tz</td>
</tr>
<tr>
<td></td>
<td>tzload.exe</td>
</tr>
<tr>
<td></td>
<td>timezone files</td>
</tr>
<tr>
<td></td>
<td>\updates</td>
</tr>
<tr>
<td></td>
<td>MessageWay install Readme files</td>
</tr>
<tr>
<td></td>
<td>\utils</td>
</tr>
<tr>
<td></td>
<td>mwadmin.exe</td>
</tr>
<tr>
<td></td>
<td>mwexp.exe</td>
</tr>
<tr>
<td></td>
<td>mwimp.exe</td>
</tr>
<tr>
<td></td>
<td>mwkeygen.exe</td>
</tr>
<tr>
<td></td>
<td>mwlogdump</td>
</tr>
<tr>
<td></td>
<td>mwoneview</td>
</tr>
<tr>
<td></td>
<td>mwres.exe</td>
</tr>
<tr>
<td></td>
<td>mwrestart.exe</td>
</tr>
<tr>
<td></td>
<td>mwtrace.exe</td>
</tr>
<tr>
<td></td>
<td>dbconvert.log</td>
</tr>
<tr>
<td></td>
<td>INSTALL.LOG</td>
</tr>
<tr>
<td></td>
<td>UNWISE.EXE</td>
</tr>
<tr>
<td>Description</td>
<td>Locations and Files</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Locations and Files</strong></td>
</tr>
<tr>
<td></td>
<td>C:\Users\MessageWayUser\AppData\Roaming\messageway</td>
</tr>
<tr>
<td></td>
<td>messageway.conf</td>
</tr>
<tr>
<td></td>
<td>mwres.conf</td>
</tr>
<tr>
<td></td>
<td>mwsi.conf</td>
</tr>
<tr>
<td></td>
<td>mwuser.conf</td>
</tr>
<tr>
<td></td>
<td>\cert</td>
</tr>
<tr>
<td></td>
<td>\cert</td>
</tr>
<tr>
<td></td>
<td>testcert.pem</td>
</tr>
<tr>
<td></td>
<td>\private</td>
</tr>
<tr>
<td></td>
<td>testkey.pem</td>
</tr>
<tr>
<td></td>
<td>agents.sample</td>
</tr>
<tr>
<td><strong>General support files</strong></td>
<td>C:\MessageWay</td>
</tr>
<tr>
<td></td>
<td>\archives</td>
</tr>
<tr>
<td></td>
<td>\audit</td>
</tr>
<tr>
<td></td>
<td>\db</td>
</tr>
<tr>
<td></td>
<td>\msgstore</td>
</tr>
<tr>
<td></td>
<td>\data</td>
</tr>
<tr>
<td></td>
<td>\output location directories</td>
</tr>
<tr>
<td></td>
<td>\staging</td>
</tr>
<tr>
<td></td>
<td>\server</td>
</tr>
<tr>
<td></td>
<td>1 folder for each adapter or service with state logs</td>
</tr>
<tr>
<td></td>
<td>\temp</td>
</tr>
<tr>
<td></td>
<td>trace files</td>
</tr>
<tr>
<td></td>
<td>mway.sys</td>
</tr>
<tr>
<td><strong>Remote Execution Server (RES)</strong></td>
<td>C:\Program Files\MessageWay\res (32-bit)</td>
</tr>
<tr>
<td></td>
<td>- or -</td>
</tr>
<tr>
<td></td>
<td>C:\Program Files (x86)\MessageWay\res (64-bit)</td>
</tr>
<tr>
<td></td>
<td>MWayMessages.dll</td>
</tr>
<tr>
<td></td>
<td>mwresd.exe</td>
</tr>
<tr>
<td></td>
<td>readme.txt</td>
</tr>
<tr>
<td></td>
<td>REINSTALL.log</td>
</tr>
<tr>
<td></td>
<td>C:\ProgramData\messageway</td>
</tr>
<tr>
<td></td>
<td>mwresd.conf</td>
</tr>
<tr>
<td>Description</td>
<td>Locations and Files</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------</td>
</tr>
</tbody>
</table>
| AS2 Interface     | `webserverappsdirectory`<br>
|                   | \mwayas2<br>
|                   | \WEB-INF<br>
|                   | \classes<br>
|                   | GetMWayAS2Ver.bat<br>
|                   | GetMWayAS2Ver.class<br>
|                   | MWayAS2In$About.class<br>
|                   | MWayAS2In$SessionContent.class<br>
|                   | MWayAS2In.class<br>
|                   | MWayAS2Out$About.class<br>
|                   | MWayAS2Out$SessionContent.class<br>
|                   | MWayAS2Out.class<br>
|                   | \lib<br>
|                   | ipworksedi.jar<br>
|                   | log4j-1.2.14.jar<br>
|                   | mwayservice.jar<br>
|                   | mwas2.conf<br>
|                   | web.xml<br>
|                   | \Windows\System32\NTEventLogAppender.dll |
| FTP SSL Server    | C:\Program Files\MessageWay\ftp (32-bit)<br>
|                   | - or -<br>
|                   | C:\Program Files (x86)\MessageWay\ftp (64-bit)<br>
|                   | FTPINSTALL.log<br>
|                   | MWayMessages.dll<br>
|                   | mwftpd.exe<br>
|                   | readme.txt<br>
|                   | C:\ProgramData\messageway<br>
|                   | mwftpd.conf<br>
|                   | \certs<br>
|                   | \cert<br>
|                   | testcert.pem<br>
|                   | \private<br>
|                   | testkey.pem<br>
<p>|                   | \Updates |</p>
<table>
<thead>
<tr>
<th>Description</th>
<th>Locations and Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTP SSH (SFTP) Server</td>
<td><strong>CygwinInstallDirectory</strong></td>
</tr>
<tr>
<td></td>
<td>/opt/messageway/sftp</td>
</tr>
<tr>
<td></td>
<td>mwsftpd-server.exe</td>
</tr>
<tr>
<td></td>
<td>mwsftpd.exe</td>
</tr>
<tr>
<td></td>
<td>readme.txt</td>
</tr>
<tr>
<td></td>
<td>ssh-keygen.exe</td>
</tr>
<tr>
<td></td>
<td>/authorized-keys</td>
</tr>
<tr>
<td></td>
<td>public key files for users</td>
</tr>
<tr>
<td></td>
<td>/certs</td>
</tr>
<tr>
<td></td>
<td>/cert</td>
</tr>
<tr>
<td></td>
<td>/private</td>
</tr>
<tr>
<td></td>
<td>/keys</td>
</tr>
<tr>
<td></td>
<td>6 generated keys</td>
</tr>
<tr>
<td></td>
<td>/etc/messageway</td>
</tr>
<tr>
<td></td>
<td>banner</td>
</tr>
<tr>
<td></td>
<td>mwsftpd.conf</td>
</tr>
<tr>
<td></td>
<td>mwsftpd_config</td>
</tr>
<tr>
<td></td>
<td>/init.d</td>
</tr>
<tr>
<td></td>
<td>mwsftpd</td>
</tr>
<tr>
<td>SSH Proxy Server</td>
<td>C:\Program Files\MessageWay\proxy (32-bit)</td>
</tr>
<tr>
<td></td>
<td>- or -</td>
</tr>
<tr>
<td></td>
<td>C:\Program Files (x86)\MessageWay\proxy (64-bit)</td>
</tr>
<tr>
<td></td>
<td>MWPROXYINSTALL.log</td>
</tr>
<tr>
<td></td>
<td>MWayMessages.dll</td>
</tr>
<tr>
<td></td>
<td>mwproxy.exe</td>
</tr>
<tr>
<td></td>
<td>readme.txt</td>
</tr>
<tr>
<td></td>
<td>/bin</td>
</tr>
<tr>
<td></td>
<td>msvcp80.dll</td>
</tr>
<tr>
<td></td>
<td>msvcr80.dll</td>
</tr>
<tr>
<td></td>
<td>C:\ProgramData\messageway</td>
</tr>
<tr>
<td></td>
<td>mwproxy.conf</td>
</tr>
</tbody>
</table>
## MessageWay Files and Locations for UNIX/Linux

The following table shows the default locations where MessageWay installs files that support its servers on a Linux or UNIX system.

<table>
<thead>
<tr>
<th>Description</th>
<th>Locations and Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messaging Server and support files</td>
<td>/opt/messageway</td>
</tr>
<tr>
<td></td>
<td>/bin</td>
</tr>
<tr>
<td></td>
<td>executables</td>
</tr>
<tr>
<td></td>
<td>messageway.lic</td>
</tr>
<tr>
<td></td>
<td>/init</td>
</tr>
<tr>
<td></td>
<td>server startup scripts</td>
</tr>
<tr>
<td></td>
<td>/ftp</td>
</tr>
<tr>
<td></td>
<td>/proxy</td>
</tr>
<tr>
<td></td>
<td>/tz</td>
</tr>
<tr>
<td></td>
<td>tzload</td>
</tr>
<tr>
<td></td>
<td>timezone files</td>
</tr>
<tr>
<td></td>
<td>/updates</td>
</tr>
<tr>
<td></td>
<td>MessageWay install Readme files</td>
</tr>
<tr>
<td></td>
<td>/utils</td>
</tr>
<tr>
<td></td>
<td>mwadmin</td>
</tr>
<tr>
<td></td>
<td>mwexp</td>
</tr>
<tr>
<td></td>
<td>mwimp</td>
</tr>
<tr>
<td></td>
<td>mwkeygen</td>
</tr>
<tr>
<td></td>
<td>mwlogdump</td>
</tr>
<tr>
<td></td>
<td>mwoneview</td>
</tr>
<tr>
<td></td>
<td>mwres</td>
</tr>
<tr>
<td></td>
<td>mwrestart</td>
</tr>
<tr>
<td></td>
<td>mwtrace</td>
</tr>
<tr>
<td></td>
<td>MWayInstall.log</td>
</tr>
<tr>
<td>Description</td>
<td>Locations and Files</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>General support files</td>
<td>/var/opt/messageway&lt;br&gt; /archives&lt;br&gt; /audit&lt;br&gt; /msgstore&lt;br&gt; /data&lt;br&gt;</td>
</tr>
<tr>
<td></td>
<td>/ output location directories&lt;br&gt; /staging&lt;br&gt; /pipe&lt;br&gt; /server&lt;br&gt;</td>
</tr>
<tr>
<td></td>
<td>/ 1 folder for each adapter/service with state logs&lt;br&gt; /run&lt;br&gt;</td>
</tr>
<tr>
<td></td>
<td>/ PID files&lt;br&gt; /temp&lt;br&gt; / trace files&lt;br&gt; mway.sys&lt;br&gt; /etc/messageway&lt;br&gt;</td>
</tr>
<tr>
<td></td>
<td>messageway.conf&lt;br&gt; mwres.conf&lt;br&gt; mwsi.conf&lt;br&gt; mwuser.conf&lt;br&gt; /certs&lt;br&gt; /cert&lt;br&gt;</td>
</tr>
<tr>
<td></td>
<td>/cert&lt;br&gt; testcert.pem&lt;br&gt; /private&lt;br&gt; testkey.pem&lt;br&gt; agents.sample&lt;br&gt;</td>
</tr>
<tr>
<td>Description</td>
<td>Locations and Files</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Remote Execution Server (RES)</td>
<td>/opt/messageway/res</td>
</tr>
<tr>
<td></td>
<td>mwresd</td>
</tr>
<tr>
<td></td>
<td>MWRESInstall.log</td>
</tr>
<tr>
<td></td>
<td>pam examples</td>
</tr>
<tr>
<td></td>
<td>readme.txt</td>
</tr>
<tr>
<td></td>
<td>/etc/messageway</td>
</tr>
<tr>
<td></td>
<td>mwresd.conf</td>
</tr>
<tr>
<td></td>
<td>/rc.d (AIX only)</td>
</tr>
<tr>
<td></td>
<td>/init.d</td>
</tr>
<tr>
<td></td>
<td>mwresd</td>
</tr>
<tr>
<td></td>
<td>/init.d (All other Linux/UNIX)</td>
</tr>
<tr>
<td></td>
<td>mwresd</td>
</tr>
<tr>
<td>AS2 Interface</td>
<td>webserverappsdirectory</td>
</tr>
<tr>
<td></td>
<td>/mwas2</td>
</tr>
<tr>
<td></td>
<td>/WEB-INF</td>
</tr>
<tr>
<td></td>
<td>/classes</td>
</tr>
<tr>
<td></td>
<td>GetMWayAS2Ver.class</td>
</tr>
<tr>
<td></td>
<td>GetMWayAS2Ver.sh</td>
</tr>
<tr>
<td></td>
<td>MWayAS2In$About.class</td>
</tr>
<tr>
<td></td>
<td>MWayAS2In$SessionContent.class</td>
</tr>
<tr>
<td></td>
<td>MWayAS2In.class</td>
</tr>
<tr>
<td></td>
<td>MWayAS2Out$About.class</td>
</tr>
<tr>
<td></td>
<td>MWayAS2Out$SessionContent.class</td>
</tr>
<tr>
<td></td>
<td>MWaAS2Out.class</td>
</tr>
<tr>
<td></td>
<td>/lib</td>
</tr>
<tr>
<td></td>
<td>ipworksedi.jar</td>
</tr>
<tr>
<td></td>
<td>log4j-1.2.14.jar</td>
</tr>
<tr>
<td></td>
<td>mwayservice.jar</td>
</tr>
<tr>
<td></td>
<td>mwas2.conf</td>
</tr>
<tr>
<td></td>
<td>web.xml</td>
</tr>
<tr>
<td>Description</td>
<td>Locations and Files</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>FTP SSL Server</td>
<td>/opt/messageway/ftp</td>
</tr>
<tr>
<td></td>
<td>MWFTPInstall.log</td>
</tr>
<tr>
<td></td>
<td>mwftpd</td>
</tr>
<tr>
<td></td>
<td>readme.txt</td>
</tr>
<tr>
<td></td>
<td>/etc/messageway</td>
</tr>
<tr>
<td></td>
<td>/cert</td>
</tr>
<tr>
<td></td>
<td>/cert/*****.pem</td>
</tr>
<tr>
<td></td>
<td>/private</td>
</tr>
<tr>
<td></td>
<td>/private/*****.pem</td>
</tr>
<tr>
<td></td>
<td>mwftpd.conf</td>
</tr>
<tr>
<td></td>
<td>/etc/init.d</td>
</tr>
<tr>
<td></td>
<td>mwftpd</td>
</tr>
<tr>
<td>FTP SSH (SFTP) Server</td>
<td>/opt/messageway/sftp</td>
</tr>
<tr>
<td></td>
<td>MWSFTPInstall.log</td>
</tr>
<tr>
<td></td>
<td>mwsftp-server</td>
</tr>
<tr>
<td></td>
<td>mwsftpd</td>
</tr>
<tr>
<td></td>
<td>readme.txt</td>
</tr>
<tr>
<td></td>
<td>ssh-keygen</td>
</tr>
<tr>
<td></td>
<td>/etc/messageway</td>
</tr>
<tr>
<td></td>
<td>/authorized-keys</td>
</tr>
<tr>
<td></td>
<td><strong>public key files for users</strong></td>
</tr>
<tr>
<td></td>
<td>/cert</td>
</tr>
<tr>
<td></td>
<td>/cert/*****.pem</td>
</tr>
<tr>
<td></td>
<td>/private</td>
</tr>
<tr>
<td></td>
<td>/private/*****.pem</td>
</tr>
<tr>
<td></td>
<td>/keys</td>
</tr>
<tr>
<td></td>
<td>6 generated keys</td>
</tr>
<tr>
<td></td>
<td>banner</td>
</tr>
<tr>
<td></td>
<td>mwsftpd.conf</td>
</tr>
<tr>
<td></td>
<td>mwsftpd_config</td>
</tr>
<tr>
<td></td>
<td>/etc/init.d</td>
</tr>
<tr>
<td></td>
<td>mwsftpd</td>
</tr>
</tbody>
</table>


## Description

<table>
<thead>
<tr>
<th>SSH Proxy Server</th>
<th>/opt/messageway/proxy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MWProxyInstall.log</td>
<td>mwproxy</td>
</tr>
<tr>
<td>readme.txt</td>
<td></td>
</tr>
<tr>
<td>/etc/messageway</td>
<td>mwproxy.conf</td>
</tr>
<tr>
<td></td>
<td>/etc/init.d</td>
</tr>
<tr>
<td></td>
<td>mwproxy</td>
</tr>
</tbody>
</table>

## Technical Support

The Ipswitch Technical Support Center is an information and diagnostic center available for MessageWay customers to:

- Obtain advice on proper product installation, configuration, and operation
- Report any product problems and receive timely resolutions
- Request software updates
- Inquire about software release contents and status
- Request publications

For more information, refer to the *Ipswitch Technical Support Procedures Guide*.

## Availability

The Ipswitch Technical Support Center is staffed as outlined in the Technical Support section of the Ipswitch website at: [https://community.ipswitch.com/s/About-Support/](https://community.ipswitch.com/s/About-Support/) (the “Core Hours”).

After-hours Technical Support is available as outlined on the Ipswitch website at: [https://community.ipswitch.com/s/About-Support/](https://community.ipswitch.com/s/About-Support/).

The support Web site is available 24/7, portions of which require a valid login ID and password, including the Customer Portal.

To access the Customer Portal:

1. Visit [https://community.ipswitch.com/s/](https://community.ipswitch.com/s/) and either click on Login or Create an account.
   
   A login dialog box appears.

2. Type your user ID and password.
3 To create a case, click on **Contact Support**.

In addition to the Customer Portal, there are two other ways to contact the Ipswitch Technical Support Center as shown in the following table:

<table>
<thead>
<tr>
<th>Type of Contact</th>
<th>Origin of Call</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice</td>
<td>North America</td>
<td>1-781-645-5570 or 1-678-287-0700</td>
</tr>
<tr>
<td></td>
<td>Outside North America</td>
<td>+44-203-137-6860</td>
</tr>
<tr>
<td>E-mail</td>
<td></td>
<td><a href="mailto:mwaysupport@ipswitch.com">mwaysupport@ipswitch.com</a></td>
</tr>
</tbody>
</table>

Additionally, you can find documentation and information about updates from the support Web site at: https://www.ipswitch.com/support/documentation/ by selecting **MessageWay 6.1** under **Additional File Transfer Products**.
Installing or Upgrading the MessageWay Manager

You install the MessageWay Manager on Windows. You must perform this step with every fresh install or upgrade.

CAUTION: The manager must be installed by a system administrator or power user, or by a normal user who uses the Run As option and enters an administrator or power user ID and password.

When you are ready to install the manager, also called the MessageWay Client, the first step is to insert the MessageWay CD into your CD-ROM drive and run the installation program:

1 Select Start, Run and type in your CD-ROM drive and the path as follows:
   
   CD_ROM path: \MessageWay 6.1\mwclient\mwclient-6.1.0-win32\install.exe

2 Click OK to begin the installation.
   
   An installation window appears as shown below, followed by a notice regarding the location of the MessageWay documentation files.

3 Click Next on this screen and the screen that follows it.
   
   The MessageWay Directory screen appears.
4 Accept the default installation directory or change it, and then click Next to continue the installation.

The Start Installation screen appears.
5 This screen allows you to cancel the installation, if necessary. To continue, click **Next**.

![MessageWay Client 6.1](image)

### Start Installation

You are now ready to install MessageWay.

Press the **Next** button to begin the installation or the **Back** button to reenter the installation information.

6 When the installation is complete, the final screen will appear.

7 Click **Finish** to exit the MessageWay installation procedure.

---

**IMPORTANT:** When you install a MessageWay Manager hotfix on a Windows 7 or later system, the system may display the following notice from the Program Compatibility Assistant: "This program might not have installed correctly." This is an erroneous notice generated by the Microsoft Program Compatibility Assistant. If you receive this message, click the option "This program installed correctly."
Installing a MessageWay System

This section includes instructions to install a new MessageWay system. The Messaging Server may be installed on Windows, UNIX or Linux.

Pre-requisites to Install Optional Adapters or Services

Users may choose to install optional adapters or services during the initial MessageWay install or later. They must make sure that they fulfill the following pre-requisites before they install the adapter or service.

Installing the WebSphere MQ Adapter

**CAUTION:** Before you install the MQ adapter, you must first install the IBM WebSphere MQ Client, version 6, 7 or 9. For more information, refer to the appropriate IBM site.

These are the basic steps you will need to follow to first install the WebSphere MQ Client and then the MQ adapter.

1. Download the IBM WebSphere MQ Client version 6 or 7 from the IBM Web site.
2. Copy the install file to the directory where you want to install the client. For Linux this might be /home/mway/mq.

**IMPORTANT:** You must install the MQ Client on the same system as the MessageWay Server.

3. Follow the WebSphere MQ Client instructions for the appropriate platform to install the MQ client.
4. Use the MQ Manager to configure the MQ connections as required.
5. Test the connection between the MQ Client and MQ Server.
6. Finally, to install the MessageWay MQ Adapter, refer to the topic:
   - **Installing Additional Adapters or Services for Windows** (on page 164)
   - or -
   - **Installing Additional Adapters or Services for Linux and UNIX** (on page 167)
**Installing the SFTP Adapter on SELinux**

When you install the MessageWay SFTP Adapter on a Security-Enhanced Linux (SELinux) system, you must turn off enforcement.

- To Temporarily disable enforcement on a running system:
  
  ```
  # /usr/sbin/setenforce 0
  ```

- or -

- To permanently disable enforcement during a system startup, set SELINUX=disabled in /etc/selinux/config, and reboot

**Installing the Server on Windows**

The installation process for MessageWay Windows leads the user through a sequence of steps to install the software. The user must respond to prompts that appear, and those responses are used to automatically install the MessageWay software and database structures.

**CAUTION:** The MessageWay installation program automatically installs the database and ODBC connection for MSSQL 2008 running on the MessageWay application server using Windows authentication. For any other database, MSSQL database version, authentication method, or remote database on a different server, you must manually pre-install the database before you start the MessageWay installation program. For detailed instructions, refer to the topic, *Installing a MessageWay MSSQL Database Manually* (on page 29).

The following table describes the instructions required to install MessageWay, depending on the MSSQL database server or database access users need:

<table>
<thead>
<tr>
<th>Database Option</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSSQL Server 2008 installed on same system as MessageWay (uses Windows authentication)</td>
<td><em>Install MessageWay on Windows</em> (on page 40)</td>
</tr>
<tr>
<td>SQL database is on different system from where MessageWay is installed (remote database), all versions of the database</td>
<td><em>Installing a MessageWay MSSQL Database Manually</em> (on page 29)</td>
</tr>
<tr>
<td>SQL Server Authentication required, all versions of database</td>
<td><em>Installing a MessageWay MSSQL Database Manually</em> (on page 29)</td>
</tr>
</tbody>
</table>
Best Practice

With version 5.0 or later, users have the option to store messages on disk or in the MessageWay database. Best practice is to store messages on disk, particularly for large files. When users need MessageWay encryption or compression, they may prefer to store content in the database. The install process sets parameters to store messages on disk by default, but users may change that option from the MessageWay Manager. The option may be set at the system level or the location level. For more information, search in online help for "Message content".

IMPORTANT (MySQL database): If you are using a MySQL database on Windows, you must pre-install that software, create a database named `MessageWay` and configure ODBC drivers to connect to a DSN named `MessageWay_DSN`. Then you must build the MessageWay tables by running the appropriate table creation script that is stored on the MessageWay installation CD. This process is similar to the tasks described to pre-install an MSSQL database manually.

Pre-installation Tasks for Windows

The following pre-installation tasks may be optional, depending on your needs. They allow you to do the following:

- Install the MessageWay Server as a local user when you do not have authority to install MessageWay from a domain
- Pre-install a MessageWay MSSQL database manually

**CAUTION:** The MessageWay installation program automatically installs the database and ODBC connection for MSSQL 2008 running on the MessageWay application server using Windows authentication. For any other database, MSSQL database version, authentication method, or remote database on a different server, you must manually pre-install the database before you start the MessageWay installation program. For detailed instructions, refer to the topic, *Installing a MessageWay MSSQL Database Manually* (on page 29).

**IMPORTANT:** To avoid driver failure during heavy MessageWay traffic when connecting to MSSQL Server 2008, 2012 or 2016, make sure that you use the appropriate SQL Native Client driver to create the `MessageWay_DSN`. Note that MessageWay only works with MSSQL Server 2008 when you use Native Client version 10.

For MSSQL Server 2008, use driver: SQL Native Client version 10 (required).

For MSSQL Server 2012, use driver: SQL Native Client version 11.

For MSSQL Server 2016, use driver: ODBC Driver 13 for SQL Server.
Installing the MessageWay Server on Windows As A Local User

When a user does not have the authority or permission to install the MessageWay server on the production system, they can configure a user on the local machine to perform the installation.

To Create a Local User with Administrative Rights

To install the MessageWay server as a local user, first you will create a local user with administrative rights. This process varies, depending on the version of Windows. These instructions are for a system running Windows 7.

1. From the **Start** menu, type **Computer Management** in the ‘Search programs and files’ box, then select Computer Management from the displayed list of programs.
   
   The Computer Management window appears.

2. From the left pane, under the **System Tools** folder, expand **Local Users and Groups**.

3. Under the folder, **Local Users and Groups**, right-click **User**, and select **New User** from the menu.
   
   The **New User** dialog box appears.

4. At minimum, do the following:
   a) In the **User Name** box, type **MessageWay**.
   b) In the **Password** box, type **password**.
   c) In the **Confirm password** box, retype **password**.
   d) Uncheck the box, **User must change password at next logon**.
   e) Select the box, **Password never expires**.
f) Select Create and Close.

The properties window for the user MessageWay appears.

5 In the right pane, double-click the new user, MessageWay.
   The properties window for the user MessageWay appears.

6 Select the Member Of tab, and select the Add button.
   The Select Groups dialog box appears.

7 Do the following:
   a) Make sure that the box, From this location, contains the name of your local machine, not the domain. If it is not correct, select the Location button to select the name of the local machine.
   b) In Enter the object names to select, type the following:
      machine name\Administrators
   c) Select Check Names and then OK, and finally exit from the Computer Management window.
If the object name is valid, the properties window appears with **Administrators** added to the **Member Of** tab.

### Select Groups

Select this object type:
- Groups

From this location:
- MESSAGEWAY-PUBS

Enter the object names to select (examples):
- MESSAGEWAY-PUBS\Administrators

### MessageWay Properties

**Member Of:**
- Administrators
- Users

---

**To Assign Rights to the Local User**

After completing the previous task that created a local user with administrative rights, you will now assign special rights to this new user. This process varies, depending on the version of Windows. These instructions are for a system running Windows 7.

**IMPORTANT:** When you change local settings for access rights as described here, the settings may not take effect. Check to make sure that local settings are not overridden by group, domain or domain controller settings. Domain controller settings usurp domain settings, which usurp group settings, which usurp local settings.

1. From the **Start** menu, type **Local Security Policy** in the ‘Search programs and files’ box, then select **Local Security Policy** from the displayed list of programs.

   The Local Security Policy window appears.
2 In the left pane, within the Local Policies folder, select User Rights Assignment.

3 In the right pane, double-click Log on as a service.
   The Log on as a service window appears.

4 Select the Add User or Group button.
   The Select Users or Groups window appears.

5 Do the following:
   a) In Enter the object names to select, type the following:
      machine name\MessageWay
   b) Select Check Names and then OK twice to return to the Local Security Settings window.
      If the object name is valid, the properties window appears with MessageWay added to the Member Of tab.
   c) Click OK to exit to the operating system.

6 Log off the system.

7 Log on to this local system with the new user ID, MessageWay.

8 Proceed with the installation of the MessageWay Server.

To Use Windows Authentication for a Domain User

To have Windows authenticate the user that accesses the MessageWay database, proceed as follows:

1 Logon to the MessageWay server using an administrator level id and add the domain user mway to the Administrators user group.
   To access the Administrators group, from the desktop go to My Computer\Manage\Local Users and Groups\Groups folder.

2 Using MSSQL Enterprise Manager, make sure the MSSQL server allows SQL Server and Windows Authentication. To set this property:
a) On the Security tab of the SQL Server Properties window, select **SQL Server and Windows Authentication**.

b) Save the change, and restart the server.

3 To add the login ID for the domain:

   a) Using MSSQL Enterprise Manager, go to Security|Logins.

   b) In the right pane, right-click, and select **New Login**.

   c) Select or type an ID for the login (Name).

   d) Select **Windows Authentication**.

   e) Select or type a domain name that will be used to install MessageWay.

   f) Select the Server Roles page for your new Login, and check the **dbcreator** box.

---

**Installing a MessageWay MSSQL Database Manually**

You must pre-install the MessageWay database manually under the following conditions:

- When database is on a system different from the one where the server is installed
- When using MSSQL authentication rather than Windows authentication
- When database server is MSSQL Server 2008
- When database server is MySQL

**IMPORTANT:** To avoid driver failure during heavy MessageWay traffic when connecting to MSSQL Server 2008, 2012 or 2016, make sure that you use the appropriate SQL Native Client driver to create the MessageWay_DSN. Note that MessageWay only works with MSSQL Server 2008 when you use Native Client version 10.

For MSSQL Server 2008, use driver: SQL Native Client version 10 (required).

For MSSQL Server 2012, use driver: SQL Native Client version 11.

For MSSQL Server 2016, use driver: ODBC Driver 13 for SQL Server.

To install the database manually, you have two options:

- Use Windows authentication for a domain user
  - or -
- Use MSSQL authentication

**Using Windows Authentication for a Domain User**

To have Windows authenticate the user that accesses the MessageWay database, proceed as follows:

1 Logon to the MessageWay server using an administrator level id and add the domain user *mway* to the Administrators user group.
To access the Administrators group, from the desktop go to My Computer|Manage|Local Users and Groups|Groups folder.

2 On the MSSQL server system, create the folder, drive\MessageWay\db.

3 Using MSSQL Enterprise Manager, make sure the MSSQL server allows SQL Server and Windows Authentication.

To set this property:
   b) Save the change, and restart the server.

4 To add the login ID for the domain:
   a) Using MSSQL Enterprise Manager, go to Security|Logins.
   b) In the right pane, right click, and select New Login.
   c) Select or type an ID for the login (Name).
   d) Select Windows Authentication.
   e) Select or type a domain name that will be used to install MessageWay.

5 To create a new database:
   a) Using MSSQL Enterprise Manager, create a new database on the MSSQL server.
   b) Name the database MessageWay.
   c) Specify the owner as the ID created in step 4.
   d) Specify a default size as appropriate for your environment. Be sure it is set to Can Grow.
   e) Point the file location for the data and the log to drive\MessageWay\db (See step 2).
If you are not running MessageWay and the database on the same machine, you need to enable TCP/IP and Named pipes:

To create the tables for the database:

a) Using MSSQL Enterprise Manager, right-click the MessageWay database and select New Query.

b) From the install zip file, extract mwaytablecreate.sql, copy its contents into the query, and execute it.

When it finishes, you’ll see a message stating “1 row(s) affected”.

c) To see the MessageWay tables, click **Tables**, and press **F5**.

To specify database access:

a) Using MSSQL Enterprise Manager, return to Security\Logins.

b) Right-click the new user, and select **Properties**, then **User Mapping**.

c) Select the MessageWay database, and verify that the access rules include **Owner** and **Public**. **Do not** check any server roles.

To create a Data Source Name (DSN):
IMPORTANT (64-bit MSSQL Server): When the application server uses the 64-bit version of MSSQL, run the following program to access the proper 32-bit ODBC Data Source Administrator to configure the system DSN:

C:\Windows\SysWoW64\odbcad32.exe

Since MessageWay is a 32-bit application, you must use this 32-bit administrator program to select the proper SQL Native Client ODBC driver.

a) Create a system DSN called MessageWay_DSN on the MessageWay server, and select Windows Authentication.
   - For MSSQL Server 2008, use driver: SQL Native Client version 10 (required).
   - For MSSQL Server 2012, use driver: SQL Native Client version 11.
   - For MSSQL Server 2016, use driver: ODBC Driver 13 for SQL Server.

b) Point to the MessageWay database on the correct SQL server.

c) Test the connection.

10 To enable Multiple Active Result Sets (MARS):

a) In the Windows registry, go to the location shown in the following window.

b) Add a new string value with data content of Yes:
   - NAME: MARS_Connection
   - TYPE: String value
   - DATA: Yes

This is the location for 32-bit systems:
This is the location for 64-bit systems:
c) Retest the connection to make sure MARS is enabled.

![ODBC Microsoft SQL Server Setup](image)

**IMPORTANT:** If you do not have this enabled, you will receive 8003 errors.

11 To complete the installation:

a) Log on to the MessageWay server using the domain ID from step 4.

b) Run the MessageWay installation program.

c) When prompted for the database user and password, click **Next** without entering any information in the fields.

**Using MSSQL Authentication**

To have Microsoft SQL Server (MSSQL) authenticate the user that accesses the MessageWay database, proceed as follows:

1 On the MSSQL server system, create the folder, `drive|MessageWay|db`.

2 Using MSSQL Enterprise Manager, make sure the MSSQL server allows *SQL Server and Windows Authentication*.

To set this property:

a) On the **Security** tab of the SQL Server Properties window, select *SQL Server and Windows Authentication*.

b) Save the change, and restart the server.
3 To add a new user:
a) Using MSSQL Enterprise Manager, go to Security|Logins.
b) In the right pane, right click, and select New Login.
c) Select or type an ID for the login (Name), mway.
d) Select SQL Server Authentication.
e) Type a password, mway.
f) Turn off Enforce Password Policy.
g) Set the default database to master.

4 To create a new database:
a) Using MSSQL Enterprise Manager, create a new database on the MSSQL server.
b) Name the database MessageWay.
c) Specify the owner as the ID created in step 3.
d) Specify a default size as appropriate for your environment. Be sure it is set to Can Grow.
e) Point the file location for the data and the log to drive\MessageWay\db (See step 1).
If you are not running MessageWay and the database on the same machine, you need to enable TCP/IP and Named pipes:

To create the tables for the database:

a) Using MSSQL Enterprise Manager, right-click the MessageWay database and select New Query.

b) From the install zip file, extract mwaytablecreate.sql, copy its contents into the query, and execute it.

    When it finishes, you’ll see a message stating “1 row(s) affected”.

c) To see the MessageWay tables, click Tables, and press F5.

To specify database access:

a) Using MSSQL Enterprise Manager, return to Security|Logins.

b) Right-click the new user, and select Properties, then User Mapping.

c) Select the MessageWay database, and verify that the access rules include Owner and Public. Do not check any server roles.

To create a Data Source Name (DSN):
**IMPORTANT (64-bit MSSQL Server):** When the application server uses the 64-bit version of MSSQL, run the following program to access the proper 32-bit ODBC Data Source Administrator to configure the system DSN:

```
C:\windows\SysWoW64\odbcad32.exe
```

Since MessageWay is a 32-bit application, you must use this 32-bit administrator program to select the proper SQL Native Client ODBC driver.

a) Create a system DSN called **MessageWay_DSN** on the MessageWay server.
   - For MSSQL Server 2008, use driver: SQL Native Client version 10 (required).
   - For MSSQL Server 2012, use driver: SQL Native Client version 11.
   - For MSSQL Server 2016, use driver: ODBC Driver 13 for SQL Server.

b) Select **SQL Server Authentication** using the username and password from step 3.

c) Point to the MessageWay database on the correct SQL server.

d) Test the connection.

9 To enable Multiple Active Result Sets (MARS):

a) In the Windows registry, go to the location shown in the following window.

b) Add a new key with a string value of **Yes**:

   **NAME:** MARS_Connection
   **TYPE:** String value
   **DATA:** Yes

This is the location for 32-bit systems:
This is the location for 64-bit systems:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\MessageWay\MessageWay_DSN]
  [MessageWay_DSN]
```

---

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\ODBC\ODBC DSN\MessageWay_DSN]
```
c) Retest the connection to make sure MARS is enabled.

![ODBC Microsoft SQL Server Setup](image)

**IMPORTANT:** If you do not have this enabled, you will receive 8003 errors.

10 To complete the installation:

a) Log on to the MessageWay server using the domain ID from step 4.

b) Run the MessageWay installation program.

c) When prompted for the database user and password, enter the information you created in step 3.
Installing MessageWay on Windows

**IMPORTANT:** Perform the following instructions as an *administrative user* (on page 25). If you are using an administrator, make sure it has all the rights described in the topic *To Assign Rights to the Local User* (on page 27), particularly *Log on as a service.*

This procedure installs MessageWay and the MessageWay database on the same system.

**CAUTION:** The MessageWay installation program automatically installs the database and ODBC connection for MSSQL 2008 running on the MessageWay application server using Windows authentication. For any other database, MSSQL database version, authentication method, or remote database on a different server, you *must* manually pre-install the database *before* you start the MessageWay installation program. For detailed instructions, refer to the topic, *Installing a MessageWay MSSQL Database Manually* (on page 29).

When you are ready to install MessageWay on your server, the first step is to insert the MessageWay CD into your CD-ROM drive and run the installation program:

1  Select **Start, Run** and type in your CD-ROM drive and the path as follows:

   \( CD\_ROM\ path:\MessageWay\ 6.1\windows\messageway-6.1.0-win32\install.exe \)

2  Click **OK** to begin the installation.
An installation window appears as shown below, followed by a notice regarding the location of the MessageWay documentation files.

3 Click **Next** on this screen and the screen that follows it.

The Enter User/Password screen appears.
Enter a logon and password that will be used to start the MessageWay services. The account you choose must have Administrator privileges on the server.

**IMPORTANT**: The user with administrative privileges must also have "Log on as a service" allowed in User Rights Assignment. This information is typically found under *Local Security Policy* on Windows systems.

5 Click **Next** to continue.

When you click **Next**, MessageWay validates the user and password to ensure they are valid and that they have the proper authority to perform the installation. When a logon does not have proper authority, an error message will appear, and you will have the opportunity to reenter the information or correct the privileges of the user.

The Select Components screen appears.

6 Select the options you want to install. The default selection is **Base MessageWay**.
IMPORTANT: If you choose any additional components, you must purchase a license for those products before you can use them.

Click Next to continue.

The MessageWay Directories screen appears.

NOTE: This screen allows you to distribute the MessageWay files among multiple folders on your network. This is useful when you want to ensure that disk activity is not concentrated on one disk drive.

Change any directories as needed by clicking the Browse button, then click Next to continue.
NOTE: The database directory is only available for selection when you use a supported version of the MS SQL Server and the installation process creates the database. Otherwise, the option is dimmed.

The Start Installation screen allows you to cancel the installation, if necessary. To continue, click Next.

The database User ID and password request window only appears when the DSN already exists. If this is the case, do the following depending on which authentication type you use:

- For Windows Authentication, leave the fields blank.
- or -
- For SQL Authentication, type the user id and password configured in the SQL Authentication section (on page 29).

When the installation is complete, the final screen will appear. Click Finish to exit the MessageWay installation procedure.
Installing the Server on UNIX or Linux

The installation process for MessageWay on Linux or UNIX servers is controlled by a script file, which prompts the installer with a series of questions. Answers to those questions are used by the script to determine the location of the software, message store and other MessageWay files.

**Best Practice**

With version 5.0 or later, users have the option to store messages on disk or in the MessageWay database. Best practice is to store messages on disk, particularly for large files. When users need MessageWay encryption or compression, they may prefer to store content in the database. The install process sets parameters to store messages on disk by default, but users may change that option from the MessageWay Manager. The option may be set at the system level or the location level. For more information, search in online help for "Message content".

IMPORTANT: Before installing the MessageWay Server, you must create the MessageWay database. In some cases depending on your site, this will require help from your data base administrator (DBA).

**CAUTION:** If MessageWay is installed on a SuSE 10.2 system, the /opt/messageway/init/messageway stop and status commands will not properly stop or status the main MessageWay process, mwmsg. You will need to use the `ps -e | grep mwmsg` and `kill` commands to stop the process. This is due to a bug in SuSE which was fixed by SuSE Linux Enterprise Server 10.4.

**Pre-installation Tasks for UNIX/Linux**

The following pre-installation tasks may be optional, depending on your needs. They allow you to do the following:

- Install 64-bit MySQL database on RHEL6 64-bit system
- Install ODBC database for MessageWay that uses MySQL or Oracle
- Increase the number of open files allowed by the operating system
- Add a system to the Hosts file
- Install unixODBC

**Pre-requisites to Install MessageWay on RedHat EL6 64-bit**

To install MessageWay on a RHEL6 64-bit system, you may have to complete the following steps first, depending on what is already installed on your system:

1. Install a 64 bit MySQL
   ```bash
   # yum install mysql.x86_64
   ```
   - or -

If available, you can use the Native Package Manager:

```bash
# yum install mysql mysql-server mysql-libs mysql-server
```

2. Install the 32 bit libstdc++

```bash
# yum upgrade libstdc++
# yum install libstdc++.i686
```

3. (For MQ adapter only) Install a 32 bit compatibility module

```bash
# yum install compat-libstdc++-33.i686
```

4. Install the 32 bit unixODBC. For instructions, refer to the topic *Install unixODBC on Linux 32 and 64-bit Platforms* (on page 48).

5. Install the 32 bit mysql connector and create symbolic links.
   a) For our 64-bit station, we certified the RHEL5 mysql-connector-odbc-5.1.8-1.rhel5.i386.rpm for both RHEL5 and RHEL6 and recommend using only that version. Note that MySQL does not currently supply a RHEL6 rpm connector.
      Download the 32-bit RPM for mysql-connector from the MySQL website, for example, mysql-connector-odbc-5.1.8-1.rhel5.i386.rpm, which is our recommended version.
   b) Install the connector using the rpm command.
      ```bash
      # cd <location of downloaded rpm>
      # rpm -ivh --force --nodeps mysql-connector-odbc-5.1.8-1.rhel5.i386.rpm
      ```


**Pre-requisites for Installing ODBC Databases for MessageWay**

MessageWay can use MySQL or Oracle databases on Linux or UNIX systems. Your database administrator is responsible for installing the appropriate database software on your server and verifying its functionality. Please refer to the *Databases and Database Drivers for the MessageWay Server* (on page 4) section for specific database and database driver versions required on your intended MessageWay platform.

MessageWay uses an ODBC connection to communicate with the database. In a MySQL environment, the ODBC drivers will typically be installed with MySQL. In an Oracle environment, the ODBC drivers used are a third-party product from Easysoft Limited. Refer to the documentation from those products for configuration instructions for the ODBC drivers.

To prepare for the MessageWay installation that will use a MySQL or an Oracle database, several steps must be performed and specific permissions must exist. Here is an overview of those steps:

1. Make sure the database software is installed and running.
NOTE: If you are using 64-bit MySQL database, make sure you have completed the pre-requisites described in the topic, *Pre-requisites for installing MySQL 64-bit Database on RedHat EL6 64-bit* (on page 45).

2 Create a system user named **mway** in a group named **mway**.

3 Create a home directory, such as /home/mway, for which the user **mway** has permissions. You will run the install from this path.

4 You need to install with a root user. The security group, which is by default, **mway**, will need to provide the following functionality to the pseudo (sudo) root logon in order to run the script:
   - The command, `whoami`, must return the value, **root**
   - Must be able to set the user and group in the install command, which defaults to **mway**
   - Must be able to change owner, `chown`, of installed files to the user group, **mway**
   - Must be able to create `/opt/messageway` and `var/opt/messageway`, or alternate specified directories, and assign to the user and group, which defaults to **mway** and **mway**
   - Must be able to substitute user, `su`, to user, **mway**, to run `dbconvert`, `tzload`, `mwadmin` and `odbcinst` under user, **mway**
   - Must be able to install files in `/etc` and `/etc/init.d`, or in alternate specified directory

5 Unzip the MessageWay installation files.

6 Create a database named **messageway**.

7 Configure the ODBC drivers for the selected database.

8 Create a DSN named **MessageWay_DSN** that is used to access the MessageWay database.

9 Test the connectivity to the MessageWay database.

**Increasing the Number of Open Files Allowed**

When MessageWay processes large numbers of messages, there is a chance that the number of files open simultaneously will exceed the limit allowed by the operating system.

To override the Solaris fopen() limit of 255:

1 Set the ulimit to 2048:
   ```bash
   ulimit -n 2048
   ```

2 Make sure your system contains a file named `/usr/lib/extendedFILE.so.1`. If not, download it from the Sun site.

3 Add the following line to the `.bash_profile` file for the user that owns MessageWay, typically, **mway**: `export LD_PRELOAD_32=/usr/lib/extendedFILE.so.1`
   Henceforth, any process started by this user, typically **mway**, can have a maximum of 2048 files open.
To override the file open() default of 1024 on UNIX and non-Linux based systems:

1. Add the following line to the .bash_profile file for the user root and the user that owns MessageWay, typically, mway:

```
ulimit -n 32767
```

To override the file open() default of 1024 on Linux based systems:

1. Add the following lines to /etc/security/limits.conf:

```
    mway hard nofile 32767
    mway soft nofile 32767
```

### Adding a System to Hosts File

Unless you are certain that your computer appears in the domain name server, perform the following task. In practice, most computers will not need this step, because they rely on their own DNS server to provide this information.

To avoid getting an unknown host error when you use programs to connect through the MessageWay_DSN, you should configure your /etc/hosts file on the machine where the MessageWay Messaging Server runs.

1. Type `ifconfig` to get your IP address.
2. Type `hostname` to get your hostname.
3. Open /etc/hosts, and add the following entry using the values you received in steps 1 and 2:

```
    your_machine_IP your_machine_hostname
```

4. Restart your session to the machine.

### Installing unixODBC

Follow the appropriate instructions to install unixODBC on your system.

#### Installing unixODBC on Linux 32 and 64-bit Platforms

1. Stop MessageWay and all perimeter servers.
2. Start a terminal session as root user.
3. Backup your odbcinst.ini settings (typically located at /etc/odbcinst.ini).
4. Remove any previous versions of unixODBC:

   a) If installed through YUM RPM Database:
Installing a MessageWay System

1. Search for existing installations:
   
   # yum list installed | grep unixODBC

2. If any are found, erase them:
   
   # yum erase <unixODBC Packages>

b) If installed through RPM file:

1. Search for existing installations:

   # rpm -qa | grep unixODBC

2. If any are found, erase them:

   # rpm -e <unixODBC Packages>

c) If installed through previous distribution source:

1. Navigate to the unixODBC extracted directory.

2. Uninstall the distribution:

   # make uninstall

**NOTE:** There may be some dependencies for unixODBC, for example, the MySQL-Connector ODBC driver. If you have this problem, follow similar procedures in step 4 to search and uninstall the dependant packages. After you complete the unixODBC installation, you can re-install the packages. If you are using a MySQL Database, you can wait to re-install the MySQL Connector ODBC driver, because you may need to install a newer version in subsequent steps.

5 Obtain a copy of the RPM created by Ipswitch “unixODBC_DevBuild_Linux-2.3.2-2.i386.rpm” from the install medium.

6 Install the RPM:

   # rpm -ivh ./unixODBC_DevBuild_Linux-2.3.2-2.i386.rpm

   If you run into dependency problems, use YUM to determine the necessary packages you are missing. When finished, rerun the RPM install.

   # yum provides <Missing Dependency>
   # yum install <Missing Package>

7 Confirm successful installation:

   # odbcinst --version
   unixODBC 2.3.2-pre

**Installing unixODBC on UNIX Solaris SPARC**

1 Stop MessageWay and all perimeter servers

2 Start a terminal session as root user

3 Backup your odbcinst.ini settings (typically located at /etc/odbcinst.ini)
4 Remove any previous versions of unixODBC
   a) If installed through package file:
      1. Search for existing installations:
         
         ```
         # pkginfo | grep unixODBC
         ```
      2. If any are found, erase them:
         
         ```
         # pkgrm <unixODBC Packages>
         ```
   b) If installed through previous distribution source
      1. Navigate to the unixODBC extracted directory
      2. Uninstall the distribution
         
         ```
         # make uninstall
         ```

   **NOTE:** There may be some dependencies for unixODBC, for example, the MySQL-Connector ODBC driver. If you have this problem, follow similar procedures in step 5 to search and uninstall the dependant packages. After you complete the unixODBC installation, you can re-install the packages. If you are using a MySQL Database, you can wait to re-install the MySQL Connector ODBC driver, because you may need to install a newer version in subsequent steps.

5 Obtain a copy of the Ipswitch created “unixODBC_DevBuild_Solaris-2.3.2.SPARC.pkg.tar.gz” from the install medium.

6 Install the unixODBC-DevBuild package:
   
   ```
   # gunzip unixODBC_DevBuild_Solaris-2.3.2.SPARC.pkg.tar.gz
   # tar xvf unixODBC_DevBuild_Solaris-2.3.2.SPARC.pkg.tar
   # pkgadd -d .
   ```

7 Confirm successful installation:
   
   ```
   # odbcinst --version
   unixODBC 2.3.2-pre
   # isql --version
   unixODBC 2.3.2-pre
   ```
   a) If you get an error from either command, then you’re probably missing a dependency
   b) To determine a missing dependency:
      
      ```
      # ldd /usr/local/bin/isql
      # ldd /usr/local/bin/odbcinst
      ```
   c) If any libraries report “(file not found)” from the above commands, then you need to track down the dependencies.
1. Search for existing libraries on your machine

   Search the system for existing library as a root user
   
   # find / | grep <Library_Name>

   If you find the library, you can add the directory it is located in to the $LD_LIBRARY_PATH environment variable. This should be done in the .bash_profile and should look like the following:
   
   # .bash_profile

   LD_LIBRARY_PATH=$LD_LIBRARY_PATH:<Path_To_Library>

   export LD_LIBRARY_PATH

   Restart your terminal session to the machine

2. Download the package containing the library you’re missing. A vast majority of Solairs utility packages can be found here: http://www.sunfreeware.com/programlistsparc10.html

   For example, a common missing library is libiconv.so.2
   
   Search for the libiconv package at the link provided above.
   
   Install the package.

   # pkgadd -d libiconv-1.14-sol10-sparc-local

   d) Retry the ldd commands to confirm that the library dependencies are resolved

8  Configure your odbcinst.ini settings if necessary.

---

**Using the Installation File**

The name of the installation file will vary depending on the platform or distribution where MessageWay will be installed. Therefore, reference to the file name will be *Install File Name*.

The choices for UNIX and Linux are as follows:

UNIX (Solaris)  messageway-6.1.0-solaris.tgz

Linux (RedHat, SuSE)  messageway-6.1.0-linux.tgz

**IMPORTANT:** Before you extract the files from the tarball, log on as user *mway*.

Proceed as follows:

1  Move the MessageWay *Install File Name* to an installation directory on the server, such as, /home/mway/mwayinstall.

2  From the directory where you moved the *Install File Name*, perform the steps associated with the platform where MessageWay is to be installed.
For a UNIX system, issue the following commands:

1. `gunzip Install File Name`
2. `tar –xvf Install File Name`

This creates a subdirectory with the name of the install file.

**NOTE:** Don’t include the `.tgz` extension in the `tar` command

For a Linux system, issue the following command:

1. `tar -xzvf Install File Name`

This creates a subdirectory with the name of the install file.

After running these commands, the new subdirectory will contain all files necessary to install MessageWay. Among the files in the directory will be the scripts required to build the MessageWay database tables for MySQL databases.

### Using a MySQL Database

Follow these instructions to build a MessageWay database shell for a MySQL environment.

- **Gather information about your system** (on page 53) to create the database shell and for troubleshooting later
- Create the database shell
  - **Automatically by running a script** (on page 54)
  - or -
  - **Manually by following command-line instructions** (on page 57)

The manual instructions may help you resolve other issues, since these instructions include how to assign permissions.

Determine whether you want your database administrator to perform the steps to create the database. After you have created the database, you will run the MessageWay install to create the necessary tables and default configurations for the database.

Note that the security group, which is by default, mway, must provide the following functionality to the pseudo root logon:

- Must be able to find the mway home directory, as specified in the passwd file
- Must be able to stop MySQL
- Must be able to modify the MySQL configuration file, my.cnf
- Must be able to run odbcinst to install the MySQL driver
- Must be able to run the command, `whoami`, to verify the user, `root`
Gathering System Information

In order to create the database, you must know some facts about your system. Some of this information will be used in the scripts that create the database shell, and it will also help for troubleshooting. You will run two scripts that will search your system for pertinent information that includes the following:

- Host system
- Version of the operating system
- MessageWay system user information
- Installed MySQL RPMs
- MySQL client, server and driver information
- Installed unixODBC RPMs
- ODBC driver and DSN (ini) files

The first script (**preqdbmysql.sh**) must be run on the database server, and the second script (**preqmwaymysql.sh**) must be run on the application server. Note that the database server and the application server can be the same server.

To run the **preqdbmysql.sh** script that collects necessary information on the database server, proceed as follows:

1. Log on to the database server as user, **root**.
2. From the MessageWay install sub-directory, typically /home/mway/mwayinstall/Install File Name, run the shell program:
   ```
   ./preqdbmysql.sh
   ```
3. View the log report, **PreReqDbMySQL.log**, created in the same sub-directory, and check the following:
   a) In the MySQL Configuration File section, verify my.cnf file exists, typically in /etc.

To run the **preqmwaymysql.sh** script that collects necessary information on the application server, proceed as follows:

1. Log on to the application server as user, **root**.
2. From the MessageWay install sub-directory, typically /home/mway/mwayinstall/Install File Name, run the shell program:
   ```
   ./preqmwaymysql.sh
   ```
3. View the log report, **PreReqMWayMySQL.log**, created in the same sub-directory, and check the following:
   a) In the MessageWay User Info... section, verify the user_name and group_name, typically **mway** and **mway**.
   b) In the MySQL ODBC Driver Info section, verify the version of the library, **libmyodbc5-5.1.8.so**.
   c) In the Checking Installed unixODBC RPMs... section, verify unixODBC 2.3.2-pre or higher is installed.
NOTE: The log report may display the file name of the RPM, for example, unixODBC_DevBuild_Linux-2.3.2-2, rather than the version, for example, unixODBC 2.3.2-pre.

Creating the MySQL MessageWay Database Using the Scripts

Two scripts must be run to create and install the MySQL MessageWay database. The first script (instdbmysql.sh) must be run on the database server, and the second script (instmwaymysql.sh) must be run on the application server. Note that the database server and the application server can be the same server.

When you run the MySQL ODBC scripts to create the MySQL MessageWay database, you can accept the defaults shown between square brackets, [], by pressing RETURN or ENTER in response to the question, or you can type a value.

To run the instdbmysql.sh script on the database server, proceed as follows:

1. Log on to the database server as user, root.
2. From the /home/mway/mwayinstall/messageway-6.1.0-linux directory of the database server, run the instdbmysql.sh script:

   
   ./instdbmysql.sh

3. Respond to the prompts as they fit your configuration.

   In the following example, where there is no typed response to the prompt, the script uses the default shown in brackets:

   MessageWay Application Support Information

   Enter MySQL Admin/Root DB User Name: [root]:
   Enter MySQL Admin/Root DB User Password: [password]:
   Testing Connection to MySQL Server with supplied credentials
   MySQL Connection Attempt: SUCCESS !!

   Step (1) Add entries in MY.CNF file required for MessageWay
   This step will require a restart of the MySQL Server
   Press ‘y’ to ACCEPT or any other key to SKIP [n]: y
   MySQL Server needs to be shutdown to make the required edits to the MY.CNF file
   Press ‘y’ and enter to continue [n]: y
   MySQL Server needs to be started
   Press ‘y’ and enter to continue [n]: y

   Step (2) Create MessageWay Application Database and Add Schema
   Press ‘y’ to CREATE or any other key to SKIP [n]: y
   Enter MessageWay Application Database Name : [messageway]:

   Step (3) Test MessageWay Database and Application Configuration
Enter MessageWay Application Install Directory: [/home/mway/mwayinstall/messageway-6.1.0-linux]:
Checking Existence of MySQL Database [messageway]

**IMPORTANT**: If the MySQL Database already exists, the following alert will be displayed:

Alert !!! DATABASE [messageway] EXISTS. IT WILL BE DROPPED AND THEN CREATED.
and you will be asked whether or not you want to continue:
Are you SURE you want to DROP and CREATE the database [messageway]
Press ‘y’ to CONTINUE or any other key to TERMINATE [n]:

Connecting to MySQL Server
Creating MessageWay Application Database [messageway]
Adding MessageWay Application Schema to database [messageway]
MessageWay Application Database Schema Added

---

Step (3) Grant DB Users access to the MessageWay Application Database
Press ‘y’ to GRANT access or any other key to SKIP [n]: y
Enter MessageWay Application Database Name : [messageway]:
Enter localhost if the Database Server resides on the MessageWay Application Server
Enter Remote MessageWay Application Host IP Address1: [: <IP address of application server>
Enter Remote MessageWay Application DB Username1: [mway]:
Password should satisfy the password policy enforced by the MySQL Server
Enter Remote MessageWay Application DB Password1: [:]
Enter Remote MessageWay Application Host IP Address2: [:]:

**NOTE**: Potentially you can be prompted for up to four (4) MessageWay Application Host IP Addresses
and corresponding Username and Password. Hitting the Enter key without entering a value when
prompted for Host IP Address2, Host IP Address3 or Host IP Address4 will end the prompting for
MessageWay Application Host IP Addresses and corresponding Username and Password.

---

Connecting to MySQL Server
Granting DB User [mway] access to DB [messageway] from Host [<IP address of application server>]}

**NOTE**: A log file named InstalDbMySQL.log is created in the MessageWay Application Install
Directory, which contains information pertaining to the install.
To run the `instmwaymysql.sh` script on the application server, proceed as follows:

**IMPORTANT:** Perform the following steps as user `mway`. Your locations and version numbers may vary, so adjust these instructions as necessary.

1. Refer to the `system information` (on page 53) you gathered earlier, and if necessary, copy the MySQL ODBC driver, such as `libmyodbc5-5.1.8.so`, to the `/usr/lib` directory:
   ```
   cp -p libmyodbc5-5.1.8.so /usr/lib
   ```

2. If `preqmwaymysql.sh` did not find the MySQL ODBC driver:
   - Check your system for the `mysql-connector-odbc`, for example:
     - On RedHat, type, `rpm -qa | grep mysql`
     - To get the package, type, `yum install mysql-connector-odbc`
   - or -
   - Contact `MessageWay Technical Support` (*http://mwaysupport@ipswitch.com*) before you proceed.

3. Check to see if you have a `[MySQL]` entry in your `odbcinst.ini` file, and `[MessageWay_DSN]` entry in your `.odbc.ini` file.

   ```
   odbcinst -q -d -v
   odbcinst -q -s -v
   ```

   If you see the `[MySQL]` and `[MessageWay_DSN]` tags, this script will not update the files for you. You must do one of the following:
   - Edit the `.odbc.ini` and `odbcinst.ini` files on your system and remove these tags and the options below them before you run the script. The file `.odbc.ini` is located by default at `/home/mway` and can be modified by user `mway`. `odbcinst.ini` is located by default at `/etc` and can be modified by user `root`.
   - or -
   - Follow the procedures in the *Configuring the MySQL ODBC* (on page 59) section after you run the script.

**IMPORTANT:** Log on to the application server as user `root`.

1. From the `/home/mway/mwayinstall/messageway-6.1.0-linux` directory of the application server, run the `instmwaymysql.sh` script:

   ```
   ./instmwaymysql.sh
   ```

2. Respond to the prompts as they fit your configuration.

   In the following example, where there is no typed response to the prompt, the script uses the default shown in brackets:
MessageWay Application Support Information

Enter MessageWay (Linux/Unix) User ID: [mway]:
Enter localhost if the Database Server resides on the MessageWay Application Server
Enter MessageWay Database Host IP Address: []:
Enter MessageWay DB Name: [messageway]:
Enter MessageWay DB User Name: [mway]:
Enter MessageWay DB User Password: []:
Enter MySQL ODBC Driver Filename: [libmyodbc5-5.1.8.so]:

**CAUTION:** If you type a symbolic name here, for example, `libmyodbc5.so`, MessageWay will use the latest version of the driver. However, there is no guarantee that MessageWay will work with the latest version of the driver, so we highly recommend that you use the default value.

Testing Connection to MySQL Server
Testing ODBC Connection to MessageWay_DSN
MySQL ODBC Driver Added
MessageWay_DSN for user "mway" Added
ODBC Connection Test MessageWay_DSN....[SUCCESS]

**NOTE:** A log file named `InstallMWayMySQL.log` is created in the MessageWay Application Install Directory, which contains information pertaining to the install.

Creating the MySQL MessageWay Database Manually

The following instructions accomplish the same purpose as running the script: They create the database structure and its link, the Data Source Name (DSN). Note that most of the instructions are performed as user, `root`, and a few are performed as user, `mway`.

Creating the MessageWay Database in MySQL

**CAUTION:** MySQL 5.5 does not support the earlier syntax in the my.cnf file that included `set-variable = .`.
If you upgrade MySQL to version 5.5 in preparation for an upgrade to MessageWay 6.1, you may need to edit my.cnf and remove all `set-variable =` values that precede the actual parameter setting. For example, if you have the parameter `set-variable = max_connections=1000`, you must change it to read `max_connections=1000`. 
IMPORTANT: Perform the following as the user root from the installation directory, such as, 
/home/mway/mwayinstall/`name of install file`, which is created when you untar the install file as described 
in the topic, *Using the Installation File* (on page 51).

1 The MySQL install for versions 5 or higher does not create the my.cnf configuration file, which you 
must do as follows:
   a) In `/etc`, create a file, `my.cnf`.
   b) In the my.cnf file, create the section, `[mysqld]`, and add the following lines:
      
      ```
      lower_case_table_names=1
      interactive_timeout=2592000
      wait_timeout=2592000
      query_cache_size=20M
      thread_cache_size=40
      max_connections=1000
      ```

2 From `/etc/init.d`, restart the daemon process, mysqld:
   ```
   ./mysqld stop
   ./mysqld start
   ```

3 Run the MySQL client.
   ```
   mysql
   ```

4 Create the MessageWay database.
   ```
   mysql>
   create database messageway;
   ```

5 Grant access to the MessageWay database to user, `mway`, which will vary depending on whether the 
user is on the same machine as the database (local) or not (remote).
   - For a local user, enter the following:
     ```
     > grant all on messageway.* to mway@localhost identified by 'password';
     ```
   - For a remote user, enter one of the following:
     To grant access to a specific remote machine:
     ```
     > grant all on messageway.* to mway@'IP address' identified by 'password';
     ```
     To grant access to a range of remote machines:
     ```
     > grant all on messageway.* to mway@'nnn.mnn.mnn.mnn.' identified by 'password';
     ```
     To grant access to all remote machines:
     ```
     > grant all on messageway.* to mway@'%' identified by 'password';
     ```

6 Create the MessageWay database tables using the file, `mysqltablecreate.sql`, which is included in the 
installation tarball.
   ```
   > use messageway;
   ```
Configuring the MySQL ODBC

**IMPORTANT:** Perform the following from the installation directory, such as, /home/mway/mwayinstall/name of install file, which is created when you untar the install file as described in the topic, *Using the Installation File* (on page 51). We will refer to this location as the Install Directory.

1. Locate the following files in the Install Directory.
   - odbcinst.ini
   - odbc.ini

2. Modify these two files as appropriate for your system.
   **IMPORTANT:**
   - The only required modification is to set the DSN name in the odbc.ini file. Since we are configuring for MySQL, modify the MessageWay_DSN_MySQL tag to MessageWay_DSN.
   - Other modifications may be required if you installed MySQL Connector in a non-standard location.
   - Be very careful not to change any of the options in these files; some are required for MessageWay to run correctly.

3. Add the MySQL ODBC driver: This must be completed as the Root user.
   ```
   odbcinst -i -d -f odbcinst.ini
   ```
   **NOTE:** If a "command not found" error results, you will find the files in the following locations:
   - (Linux) /usr/bin/odbcinst
   - (UNIX) /usr/local/bin/odbcinst

4. Verify the MySQL driver installation:
   ```
   odbcinst -q -d -v
   ```
   [Oracle]
   [MySQL]

5. Add MessageWay_DSN as the Data Source Name (DSN). This must be completed as the mway user.
   ```
   odbcinst -i -s -h -f odbc.ini
   ```

   ```
   odbcinst -q -s -v
   ```
   [MessageWay_DSN]
   [MessageWay_DSN_Oracle]

7. Test the DSN connection to the database.
   ```
   isql MessageWay_DSN db-user db-password -v
   ```
NOTE: If a "command not found" error results, you will find the files in the following locations:

(UNIX) /usr/local/bin/isql

Troubleshooting the MessageWay ODBC Connection for MySQL

These tasks will help you verify the MySQL database connection.

IMPORTANT: You should execute all commands as user mway unless noted otherwise.

To Verify the MessageWay Connector to the Database

The following scenario tests the MessageWay connector to the database. These examples show a successful connection and an unsuccessful connection.

Command

```bash
isql MessageWay_DSN db-user db-password -v
```

Response (success)

```
Connected!
```

```bash
sql-statement
help [tablename]
quit
```

Command

```bash
Quit
```

Response (failure)

```
Bad logon
```

```bash
[mway@Linux mway]$ isql MessageWay_DSN mway yes -v
```

```
[S1000][unixODBC][MySQL][ODBC 5.1 Driver]Access denied for user 'mway'@'localhost' (using password: YES)

[ISQL]ERROR: Could not SQLConnect
```

If user name and password are correct, you should verify the ODBC configuration.
To Verify Required ODBC Software and Configurations

Verify the presence of the UNIX ODBC.

Command  
```bash
odbcinst --version
```

Response  
```
unixODBC 2.3.2-pre
```

NOTE: This is an example. You may have a later version.

Verify the presence of the MessageWay Data Source Name, MessageWay_DSN.

Command  
```bash
odbcinst -q -s
```

Response  
```
[MessageWay_DSN]
```

Verify the MessageWay_DSN configuration.

Command  
```bash
more /home/mway/.odbc.ini
```

Response  
```
[MessageWay_DSN]
Description  = MessageWay Database
Trace        = Off
TraceFile    = stderr
Driver       = MySQL
SERVER       = localhost
USER         =
PASSWORD     =
PORT         = 3306
DATABASE     = messageway
SOCKET       = /var/lib/mysql/mysql.sock
OPTION       = 4194304
```

NOTE: This is an example. These entries are subject to change. Also, values for the Server, Port, Database and Socket may vary.
To Verify the MySQL Driver Configuration

Find the location of the driver as user *mway*.

**Command**  
`odbcinst -j`

**Response**

```
unixODBC 2.3.2-pre

DRIVERS............: /etc/odbcinst.ini
SYSTEM DATA SOURCES: /etc/odbc.ini
USER DATA SOURCES..: /home/mway/.odbc.ini
```

**NOTE:** This is an example. These entries are subject to change.

View the ODBC driver configuration.

**Command**  
`more /etc/odbcinst.ini`

**Response**

```
[PostgreSQL]
Description       = ODBC for PostgreSQL
Driver            = /usr/lib/libodbcpsq5.so
Setup             = /usr/lib/libodbcpsqlS.so
FileUsage         = 1

[MySQL]
Description       = ODBC for MySQL
Driver            = /usr/lib/libmyodbcX.so
Setup             = /usr/lib/libodbcmys.so
FileUsage         = 1
Threading         = 3
UsageCount        = 1
```

**NOTE:** This is an example. These entries are subject to change.
Verify the existence and security of the library and setup files for the driver.

Command  
\textbf{ls -l /usr/lib/libmyodbc5.so}  

Response  
\texttt{lrwxrwxrwx. 1 root root 19 May 17 12:00 /usr/lib/libmyodbc5.so -> libmyodbc5-5.1.8.so}

Command  
\textbf{ls -l /usr/lib/libodbcmyS.so}  

Response  
\texttt{lrwxrwxrwx. 1 root root 19 Apr 27 13:45 /usr/lib/libodbcmyS.so -> libodbcmyS.so.2.0.0}

### Using an Oracle Database

Follow these instructions to build MessageWay database tables for an Oracle environment. Determine whether you want your DBA to perform the steps to create the database.

**IMPORTANT:** When you use an Oracle database, you must install Easysoft 32-bit drivers on all platforms where MessageWay servers run.

### Create the MessageWay Schema in Oracle

An Oracle Database Administrator (DBA) usually performs these steps.

1. Create the MessageWay schema in an Oracle database.
2. Create the MessageWay database tables using the file, oracletablecreate.sql, which is included in the installation tarball.
3. Install the Oracle Client on the system where the MessageWay Server will run.
4. Install the Easysoft 32-bit drivers on all platforms where MessageWay servers run.
5. Edit the tnames.ora file to make sure the configurations are appropriate for your site. For more information, refer to the topic, \textit{To Verify the Oracle Directory} (on page 72).
6. Test the connectivity between the Oracle Client and the MessageWay database.
Configure the Oracle ODBC

**IMPORTANT:** Perform the following as the user **root** from the installation directory, such as `/home/mway/mwayinstall/name of install file`, which is created when you untar the install file as described in the topic, *Using the Installation File* (on page 51). We will refer to this location as the **Install Directory**.

1. In the `.bash_profile` for the user, mway, add the following environment variables:

   **NOTE:** Please consult your Database Administrator if you require assistance with the following steps.

   a) **ORACLE_HOME**, to point to the home directory of the Oracle Client, as in the following example:

   ```bash
   ORACLE_HOME=/var/opt/oracle/OraHome;export ORACLE_HOME
   ```

   b) **LD_LIBRARY_PATH**, as in the following example:

   ```bash
   LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$ORACLE_HOME/lib;export LD_LIBRARY_PATH
   ```

   c) **NLS_LANG** to ensure no implicit CLOB data conversion occurs between MessageWay and Oracle. This **MUST** match the Oracle database’s **NLS_CHARACTERSET** configuration. If they do not match, CLOB data will not be encoded correctly in the database. The default **NLS_CHARACTERSET** for Oracle 10g and Oracle 11g are **WE8ISO8859P1** and **WE8MSWIN1252**, respectively. It is also possible that a UTF-8 character set (AL32UTF8) was selected when the database was deployed (this is the default for Oracle 12c). Follow these steps to confirm your database configuration and set the environment variable appropriately.
1. To determine your database’s current NLS_CHARACTERSET configuration, execute the following SQL statement in a database interface like ISQL or SQL*Plus:

   ```sql
   select * from NLS_DATABASE_PARAMETERS where PARAMETER = 'NLS_CHARACTERSET';
   ```

   If the Oracle database’s NLS_CHARACTERSET is not one of the following character sets, please contact Technical Support to confirm MessageWay is compatible with your database.

   - WE8ISO8859P1
   - WE8MSWIN1252
   - AL32UTF8

2. Place the following statement in your .bash_profile and replace `<NLS_CHARACTERSET>` with the character-set determined above:

   ```bash
   NLS_LANG=.<NLS_CHARACTERSET>; export NLS_LANG
   ```

   Note: Please note the period before the character-set name.

d) NLS_NCHAR to ensure no implicit NVARCHAR2 data conversion occurs between MessageWay and Oracle. This MUST match the Oracle database’s NLS_NCHAR_CHARACTERSET configuration. If they do not match, NVARCHAR2 data will not be encoded correctly in the database. The default NLS_NCHAR_CHARACTERSET for all Oracle databases is AL16UTF16. Follow these steps to confirm your database configuration and set the environment variable appropriately.

   1. To determine your database’s current NLS_NCHAR_CHARACTERSET configuration, execute the following SQL statement in a database interface like ISQL or SQL*Plus:

      ```sql
      select * from NLS_DATABASE_PARAMETERS where PARAMETER = 'NLS_NCHAR_CHARACTERSET';
      ```

      If the Oracle database’s NLS_NCHAR_CHARACTERSET is not AL16UTF16, please contact Technical Support to confirm MessageWay is compatible with your database.

   2. Place the following statement in your .bash_profile:

      ```bash
      NLS_NCHAR=AL16UTF16; export NLS_NCHAR
      ```

2 Set up the Easysoft ODBC driver software:

a) From the CD, copy the Easysoft Oracle ODBC driver tarball to the Install Directory.

   **NOTE:** The name of the Easysoft Oracle tarball will vary depending on the platform where MessageWay will be installed as follows, where x.x.x represents the version of the delivered tarball:

   - UNIX (Solaris)          odbc-oracle-x.x.x-sunos-sparc.tar
   - Linux (Red Hat)         odbc-oracle-x.x.x-linux-x86-glibc.tar

b) As the mway user, extract the files from the tarball.

c) As the root user, go to the subdirectory just created with the same name as the tarball, and run the ./install script.
d) Respond to the prompts below with the values provided. For all other prompts, you can use the default values:

- Do you want to use your installed unixODBC DM in preference to the version included with this distribution? (y/n [n]): y
- Would you like to request a Easysoft ODBC-Oracle Driver license now (y/n) [y]: n
- Do you wish to create a data source at this time? (y/n) [y]: n

**NOTE:** We will refer to the subdirectory where the Easysoft software is installed, such as /usr/local/easysoft, as the *Easysoft Install Directory*:

3 Install the Oracle client on the MessageWay application server.

4 From the CD, open easysoft.lic, and copy the license string to the licenses file in the *Easysoft Install Directory*/licenses.

5 Set up the ODBC configuration files.

a) Locate the following files in the *Install Directory*.
- odbcinst.ini
- odbc.ini

b) Modify these two files as appropriate for your system.

**IMPORTANT:**
- The only required modification is to set the DSN name in the odbc.ini file. Since we are configuring for Oracle, modify the MessageWay_DSN_Oracle tag to MessageWay_DSN.
- Other modifications may be required if you installed EasySoft in a non-standard location.
- Be very careful not to change any of the options in these files; some are required for MessageWay to run correctly.

c) Add the Oracle ODBC driver: This must be completed as the *root* user.

`odbcinst -i -d -f odbcinst.ini`

**NOTE:** If a "command not found" error results, you will find the files in the following locations:

(UNIX) /usr/local/bin/odbcinst

(d) Verify the Oracle driver installation:

`odbcinst -q -d -v`

[Oracle]  
[MySQL]

e) Add MessageWay_DSN as the Data Source Name (DSN). This must be completed as the *mway* user.

`odbcinst -i -s -h -f odbc.ini`

f) Verify the MessageWay_DSN configuration.
Installing a MessageWay System

odbcinst -q -s -v

[MessageWay_DSN]
[MessageWay_DSN_MySQL]

g) Test the DSN connection to the database.

isql MessageWay_DSN db-user db-password -v

NOTE: If a "command not found" error results, you will find the files in the following locations:

(Linux) /usr/bin/isql
(UNIX) /usr/local/bin/isql

6 Set up the database configuration files.

Add the open_cursors parameter, either manually or with Oracle Enterprise Manager, to the Oracle parameter initialization file, initdbname.ora, located in /ORACLE_HOME/dbs, as follows:

open_cursors=300

Troubleshooting the MessageWay ODBC Connection for Oracle

These tasks will help you verify the Oracle database connection.

IMPORTANT: You should execute all commands from /home/mway as user mway unless noted otherwise.

To help diagnose problems, users may run the checksys utility from Easysoft. Typically, users find it in /usr/local/easysoft/oracle. Checksys checks for prerequisites needed by the Easysoft Driver. For more information, visit http://www.easysoft.com/support/kb/kb00928.html (http://www.easysoft.com/support/kb/kb00928.html).

The command is as follows:

[mway@SUN2 oracle]$ /checksys -d MessageWay_DSN
To Connect to the Database

The following scenario shows a successful connection and an unsuccessful connection.

Command: `isql MessageWay_DSN db-user db-password -v`

Response (success): "Connected!"

```
sql-statement
help [tablename]
quit
```

Command: **Quit**

Response (failure): "Bad logon"

```
[mway@SUN2 mway]$ isql MessageWay_DSN db-user db-password -v
[28000][unixODBC][Easysoft][Oracle]ORA-01017: invalid username/password; logon denied
```

If user name and password are correct, you should verify the ODBC configuration.

To Verify Required ODBC Software and Configurations

Verify the presence of the UNIX ODBC.

Command: `odbcinst --version`

Response: `unixODBC 2.3.2-pre`

Verify the presence of the MessageWay Data Source Name, *MessageWay_DSN*.

Command: `odbcinst -q -s`

Response: `[MessageWay_DSN]`
Verify the MessageWay_DSN configuration.

**Command**

```
more /home/mway/.odbc.ini
```

**Response**

```
[MessageWay_DSN]
Driver                  = ORACLE
Database                = SUN4DB
User                    =
Password                =
METADATA_ID             = 0
ENABLE_USER_CATALOG     = 1
ENABLE_SYNONYMS         = 1
OCI_ATTR_PREFETCH_ROWS  = 100
with_unicode            = 1
pull_lob_locally        = 1
```

**NOTE:** This is an example. These entries are subject to change.

---

**To Verify the Oracle Driver Configuration**

Find the location of the driver.

**Command**

```
odbcinst -j
```

**Response**

```
unixODBC 2.3.2-pre

DRIVERS.......: /etc/odbcinst.ini
SYSTEM DATA SOURCES: /etc/odbc.ini
USER DATA SOURCES...: /home/mway/.odbc.ini
```

**NOTE:** This is an example. These entries are subject to change.
View the driver configuration.

Command   more /etc/odbcinst.ini

Response

[ORACLE]
Description     = Easysoft ODBC Oracle Driver
Driver          = /usr/local/easysoft/oracle/libesoracle.so
Setup           = /usr/local/easysoft/oracle/libesoraclesetup.so
DontDLClose     = 1
FileUsage       = 1
UsageCount      = 5

NOTE: This is an example. These entries are subject to change.

Verify the existence and security of the library and setup files for the driver.

Command   ls -l /usr/local/easysoft/oracle/libesoracle.so

Response

- r-xr-xr-x 1 root other 658292 Mar 24  2005  
/usr/local/easysoft/oracle/libesoracle.so

Command   ls -l /usr/local/easysoft/oracle/libesoraclesetup.so

Response

- r-xr-xr-x 1 1001 staff 11056 Feb 8  2005  
/usr/local/easysoft/oracle/libesoraclesetup.so

To Verify the Environment Variables (Oracle)

Verify the existence of the ORACLE_HOME and LD_LIBRARY_PATH environment variables for the user, mway.

Command   more .bash_profile
Response

# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
   . ~/.bashrc
fi

PATH=/usr/bin:/usr/sbin:/usr/bin:/usr/openwin/bin:/bin:/usr/local/bin:
$HOME/bin:/usr/ucb

LD_LIBRARY_PATH=

$LD_LIBRARY_PATH:/usr/local/lib:/usr/local/easysoft/oracle:
/home/mway/instantclient_10

ORACLE_HOME=/home/mway/instantclient_10_2

TNS_ADMIN=/home/mway/network/admin

NLS_LANG=.WEBISO8859P1; export NLS_LANG

NLS_NCHAR=AL16UTF16; export NLS_NCHAR

export PATH UID LD_LIBRARY_PATH ORACLE_HOME TNS_ADMIN

MWAY_CONF MWRES_CONF

#LD_PRELOAD_32="/usr/lib/extendedFILE.so.1"

ulimit -n 32767

ulimit -c unlimited

PS1=\

export PS1
To Verify the Oracle Directory

Verify the existence and security of the ORACLE_HOME directory.

Command  
```
ls -l /var/opt/oracle/
```

Response  
```
total 4
-rwxrwxr-x 1 oracle dba 140 Jun 15 2011 oraInst.loc
-rwxrwxr-x 1 oracle dba 734 Jun 16 2011 oratab
```

Verify the configuration of the tnsnames.ora file. There should be one entry for each host and database.

Command  
```
more /var/opt/oracle/tnsnames.ora
```

Response  
```
# tnsnames.ora
sun4db.ipswitch.com =

 (DESCRIPTION =
   (ADDRESS_LIST =
     (ADDRESS = (PROTOCOL = TCP)(HOST = sun4)(PORT = 1521))
   )

   (CONNECT_DATA =
     (SERVICE_NAME = sun4db.ipswitch.com)
   )
)
```

To Fix Oracle Unknown Host Error 21561

If you get an Oracle error 21561 "OID Generation Failed" when you try to use ISQL or other programs to connect through the MessageWay_DSN, you'll need to configure your /etc/hosts file on the machine where the MessageWay Messaging Server and the Oracle drivers run.

1. Type `ifconfig` to get your IP address.
2 Type `hostname` to get your hostname.
3 Open `/etc/hosts`, and add the following entry using the values you received in steps 1 and 2:
   `your_machine_IP     your_machine_hostname`
4 Restart your session to the machine.

## Installing MessageWay on UNIX or Linux

After the ODBC software is installed and the database tables are built, you can install MessageWay.

1 Log on as user `root`.
2 Go to the installation directory, and start the MessageWay installation by typing:
   `.install.sh`

**NOTE:** This command will start the installation script and lead the user through a series of prompts. The answers provided will determine the location of the MessageWay files and programs.

## Enable Core Files for UNIX/Linux

To facilitate troubleshooting, we recommend that users enable core files. In the event that an application process, such as an adapter or service, terminates abnormally, users may then send the core file to MessageWay Technical Support (http://mwaysupport@ipswitch.com) for analysis.

To enable the core files, proceed as follows:

1 Log on as the owner of MessageWay, which is the user ID under which you installed MessageWay.
2 From the home directory of the owner, edit the `.bash_profile` file to add the following line:
   `ulimit -c unlimited`
3 Save and close the file.
4 Log out and then log back in as the owner of MessageWay.

From now on, core files will be created when a MessageWay process terminates abnormally.

**IMPORTANT:** If you have already started MessageWay, you must restart it to make the change take effect.
**Post-installation Task for All Platforms**

There are a few tasks to perform after installation is complete, as described in the following table.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add license file</td>
<td>In order to start MessageWay, users must add the license file provided for them to the appropriate location.</td>
</tr>
<tr>
<td>(Conditional) Add the environment variable, MWAY_CONF</td>
<td>For installations where MessageWay is installed in a location other than the default or where the MessageWay configuration file is something other than the default, users should add an environment variable, MWAY_CONF.</td>
</tr>
<tr>
<td>(Optional) Encrypt database password</td>
<td>After installation, the MessageWay database password is in the clear. To encrypt it, use the mwadmin utility.</td>
</tr>
</tbody>
</table>

**NOTE:** Your system DBA may want to turn off audit logging of successful database logins. Otherwise, every remote user login will cause an entry in the system log file.

### Adding the License File

Before you can start MessageWay, you must first add the license file that was delivered on the installation CD.

**NOTE:** The licenses are based on the hostname of the machine and are case-sensitive.

To install the license you need to:

1. Locate the license file, *MySystem.lic*, on the installation CD.
2. Copy the license file to the following location, depending on your server platform:
   - Windows: \Program Files\MessageWay\bin
   - Linux or UNIX: /opt/messageway/bin
3. Rename the license file to *messageway.lic*.

**NOTE:** If you wish to add adapters or services after installation, a new license file is required. For more information, refer to the topic, *Installing Additional Adapters or Services* (on page 163).
Creating an Environment Variable for Custom Installations

When you install MessageWay in something other than the default directory or use a name other than the default name of the MessageWay configuration file, you should add the environment variable, MWAY_CONF to your system. All command line utilities, those in the /utils directory and the archive program, must have access to the MessageWay configuration file.

The location and name of the MessageWay configuration file vary depending on the operating system, as follows:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Location of the MessageWay Server Configuration File</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIX or Linux</td>
<td>/etc/messageway/messageway.conf</td>
</tr>
<tr>
<td>Windows</td>
<td>\Users\MessageWayUser\AppData\Roaming\messageway\messageway.conf</td>
</tr>
</tbody>
</table>

To add the variable to a UNIX/Linux system, set it in the mway owner’s profile file (typically bash_profile for user mway), as shown in the following example:

```bash
> export MWAY_CONF=/etc/messageway/messageway.conf
```

To add the variable to a Windows system, for example for Windows 7:

1. Log on as the owner of MessageWay.
2. From the Start menu, start typing Edit environment variables for your account in the ‘Search programs and files’ box, then select Edit environment variables for your account from the displayed list of Control Panel items.
   The Environment Variables window appears.
   A New User Variable dialog box appears.
4. In Variable name, type MWAY_USER, and in Variable value type the full path name of the file, for example, F:\Documents and Settings\mway\Application Data\messageway\messageway.conf.

5. Click OK until you have closed all windows.
(Windows only) Encrypting the Database Password

For Windows users that do not use Windows authentication to access the database, after the installation process, the database password appears in the MessageWay configuration file in the clear. To encrypt the password, use the `mwadmin` utility command-line option `setdblogon`.

1. Navigate to the location of mwadmin utility, C:\Program Files\MessageWay\utils.
2. Type the following, replacing *DSN*, *User*, and *Password* with your values:

   ```
   mwadmin setdblogon DSN User Password
   Example: mwadmin setdblogon MessageWay_DSN mway password
   ```
Upgrading a MessageWay System

Prior to any software upgrade, you should follow best practices for planning and executing the upgrade. Ipswitch is available to review your upgrade plans and provide guidance if necessary.

**CAUTION (Oracle):** Due to MessageWay Unicode support, there are several very critical pre-upgrade procedures that must be followed in the *MessageWay Installation Guide*. When preparing to upgrade, please pay close attention to the procedures outlined in the install guide, and contact Technical Support if you need assistance.

**NOTE:** As for all upgrades, if you intend to use any new MessageWay options, you will need an updated license.

The upgrade path varies depending on the version you want to upgrade from and to.

- To upgrade to MessageWay version 6.1 from versions 5.0 or later, the process is automated and seamless.
- To upgrade to MessageWay 6.1 from version 4.2, you must first upgrade to version 5.0.
- To upgrade to MessageWay version 6.0 from version 5.0, you must first upgrade to version 5.5.
- To upgrade to MessageWay version 6.0 from version 4.2, you must first upgrade to version 5.0 and then to 5.5.

**IMPORTANT (Upgrade from MessageWay 4.2):** Because of the program and service name changes included in 5.0, you will need to obtain a new MessageWay license from the Support Center before you can start your newly upgraded system.

The upgrade path based on the version you are starting from is:

<table>
<thead>
<tr>
<th>Version From</th>
<th>Version To</th>
<th>Upgrade Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 or later</td>
<td>6.1</td>
<td>5.0 or later &gt; 6.1</td>
</tr>
<tr>
<td>5.0</td>
<td>6.0</td>
<td>5.0 &gt; 5.5 &gt; 6.0</td>
</tr>
<tr>
<td>4.2</td>
<td>6.1</td>
<td>4.2 &gt; 5.0 &gt; 6.1</td>
</tr>
<tr>
<td>4.2</td>
<td>6.0</td>
<td>4.2 &gt; 5.0 &gt;5.5 &gt; 6.0</td>
</tr>
</tbody>
</table>
CAUTION: Make sure you are using the recommended database drivers for this release. You can find a list of the various drivers in the topic *Databases and Database Drivers for the MessageWay Server* (on page 4).

You may have to upgrade the unixODBC (on page 48) to version 2.3.2-pre using the RPM included in the Ipswitch installation package.

**WARNING:** Pay careful attention to the pre-upgrade tasks. With the introduction of Unicode to MessageWay 6.1, these steps are essential for proper database functionality. If you attempt to upgrade your database before making these changes, it is possible to corrupt the database, and some parts may be irrecoverable. Due to this risk, we also recommend backing up the MessageWay database (on page 78).

### Checking Current MessageWay Operations

As a precaution and to facilitate troubleshooting, check the current operation of MessageWay before installation, for example:

- Create a list of adapters and services that should start automatically
- Create a list of other servers that should start automatically (Reconciliation, Logging, Schedule, Service Interface)
- Verify that you can start/stop adapters and services

### Backing up the MessageWay Database and ODBC Configuration Files

**CAUTION:** It is essential that you back up the MessageWay database before you upgrade MessageWay, particularly if the upgrade requires a database conversion.

- Back up the MessageWay database. Although it is always a best practice to back up a database before you upgrade, this is particularly important when changes are also made to the database.
- Back up the ODBC configuration files `.odbc.ini` and `odbcinst.ini`. By default, these are located at `/home/mway/.odbc.ini` and `/etc/odbcinst.ini`. In the event that you need to revert to your previous MessageWay version, that process will be easier if you have these backup files.

1. Shutdown MessageWay and all perimeter servers.
2. Use the DBA’s preferred procedure to produce a backup.
3 Note that the following SQL commands identify all files that should be copied if you want to produce a full offline backup:

```sql
select name from sys.v_$datafile;
select member from sys.v_$logfile;
select name from sys.v_$controlfile;
```

### Performing Pre-upgrade Tasks for UNIX/Linux

**WARNING:** Pay careful attention to the pre-upgrade tasks. With the introduction of Unicode to MessageWay 6.1, these steps are essential for proper database functionality. If you attempt to upgrade your database before making these changes, it is possible to corrupt the database, and some parts may be irrecoverable. Due to this risk, we also recommend *backing up the MessageWay database* (on page 78).

The following pre-upgrade tasks are required and vary depending on your platform and database platform.

- Upgrading unixODBC
- Upgrading the database and database driver for MySQL databases
- Upgrading the EasySoft ODBC driver for Oracle databases
- Updating the Oracle environment variables for Oracle databases
- Updating ODBC configurations

### Upgrading unixODBC

Follow the appropriate instructions to upgrade unixODBC on your system.

#### Installing unixODBC on Linux 32 and 64-bit Platforms

1. Stop MessageWay and all perimeter servers.
2. Start a terminal session as root user.
3. Backup your odbcinst.ini settings (typically located at `/etc/odbcinst.ini`).
4. Remove any previous versions of unixODBC:
   a) If installed through YUM RPM Database:
      1. Search for existing installations:
         ```
         # yum list installed | grep unixODBC
         ```
      2. If any are found, erase them:
         ```
         # yum erase <unixODBC Packages>
         ```
   b) If installed through RPM file:
1. Search for existing installations:
   
   ```
   # rpm -qa | grep unixODBC
   ```

2. If any are found, erase them:
   
   ```
   # rpm -e <unixODBC Packages>
   ```

c) If installed through previous distribution source:

1. Navigate to the unixODBC extracted directory.

2. Uninstall the distribution:
   
   ```
   # make uninstall
   ```

**NOTE:** There may be some dependencies for unixODBC, for example, the MySQL-Connector ODBC driver. If you have this problem, follow similar procedures in step 4 to search and uninstall the dependant packages. After you complete the unixODBC installation, you can re-install the packages. If you are using a MySQL Database, you can wait to re-install the MySQL Connector ODBC driver, because you may need to install a newer version in subsequent steps.

5 Obtain a copy of the RPM created by Ipswitch “unixODBC_DevBuild_Linux-2.3.2-2.i386.rpm” from the install medium.

6 Install the RPM:

   ```
   # rpm -ivh ./unixODBC_DevBuild_Linux-2.3.2-2.i386.rpm
   ```

   If you run into dependency problems, use YUM to determine the necessary packages you are missing. When finished, rerun the RPM install.

   ```
   # yum provides <Missing Dependency>
   # yum install <Missing Package>
   ```

7 Confirm successful installation:

   ```
   # odbcinst --version
   ```

   ```
   unixODBC 2.3.2-pre
   ```

**Installing unixODBC on UNIX Solaris SPARC**

1 Stop MessageWay and all perimeter servers

2 Start a terminal session as root user

3 Backup your odbcinst.ini settings (typically located at /etc/odbcinst.ini)

4 Remove any previous versions of unixODBC
   
   a) If installed through package file:
1. Search for existing installations:
   
   # pkginfo | grep unixODBC

2. If any are found, erase them:
   
   # pkgrm <unixODBC Packages>

b) If installed through previous distribution source
   1. Navigate to the unixODBC extracted directory
   2. Uninstall the distribution
      
      # make uninstall

   **NOTE:** There may be some dependencies for unixODBC, for example, the MySQL-Connector ODBC driver. If you have this problem, follow similar procedures in step 5 to search and uninstall the dependant packages. After you complete the unixODBC installation, you can re-install the packages. If you are using a MySQL Database, you can wait to re-install the MySQL Connector ODBC driver, because you may need to install a newer version in subsequent steps.

   5 Obtain a copy of the Ipswitch created “unixODBC_DevBuild_Solaris-2.3.2.SPARC.pkg.tar.gz” from the install medium.

   6 Install the unixODBC-DevBuild package:
      
      # gunzip unixODBC_DevBuild_Solaris-2.3.2.SPARC.pkg.tar.gz
      # tar xvf unixODBC_DevBuild_Solaris-2.3.2.SPARC.pkg.tar
      # pkgadd -d .

   7 Confirm successful installation:
      
      # odbcinst --version
      unixODBC 2.3.2-pre
      # isql --version
      unixODBC 2.3.2-pre

      a) If you get an error from either command, then you’re probably missing a dependency

      b) To determine a missing dependency:
         
         # ldd /usr/local/bin/isql
         # ldd /usr/local/bin/odbcinst

      c) If any libraries report “(file not found)” from the above commands, then you need to track down the dependencies.
1. Search for existing libraries on your machine
   Search the system for existing library as a root user
   
   # find / | grep <Library_Name>
   
   If you find the library, you can add the directory it is located in to the $LD_LIBRARY_PATH environment variable. This should be done in the .bash_profile and should look like the following:
   
   # .bash_profile
   
   LD_LIBRARY_PATH=$LD_LIBRARY_PATH:<Path_To_Library>
   
   export LD_LIBRARY_PATH
   
   Restart your terminal session to the machine

2. Download the package containing the library you’re missing. A vast majority of Solairs utility packages can be found here: http://www.sunfreeware.com/programlistsparc10.html
   
   For example, a common missing library is libiconv.so.2
   
   Search for the libiconv package at the link provided above.
   
   Install the package.
   
   # pkgadd -d libiconv-1.14-sol10-sparc-local
   
   d) Retry the ldd commands to confirm that the library dependencies are resolved

Configure your odbcinst.ini settings if necessary.

8. Upgrading the Database and Driver for MySQL Databases

Make sure you perform the following tasks before you upgrade MessageWay 6.1.

Upgrading MySQL to version 5.5

If you are using a MySQL database for MessageWay, you must upgrade to MySQL 5.5 before you install MessageWay 6.1.

The normal path used to upgrade the database, namely to install the 5.5.x RPM (in Linux) or PKG (in Solaris), does NOT update MySQL’s master schema with the TRIGGER privilege. MessageWay 6.1 adds database triggers to the MessageWay schema.

To add the TRIGGER privilege, proceed as follows:

1. Upgrade your MySQL database. Please refer the MySQL documentation for additional info and command syntax.

2. After you install the 5.5.x RPM or PKG, run the mysql_upgrade program. Typically, this program is in /usr/bin.
Upgrading the MySQL ODBC Driver on Linux

Using MySQL from MessageWay 6.1 on Linux requires a more recent MySQL ODBC driver (mysql-connector) than used by previous versions of MessageWay. Previous versions of MessageWay required mysql-connector version 3.51, while version 6.1 requires mysql-connector 5.1.x. We specifically suggest version 5.1.8. Depending on your version of Linux, you may not be able to directly upgrade from 3.51 to 5.1.x using the built-in package manager.

**IMPORTANT:** you must install a 32-bit version of mysql-connector, even if your Linux system is 64-bit.

If you are unable to perform an upgrade, first remove the existing mysql-connector and then install the new version. The sample commands here are for versions of Linux based on the RedHat distribution.

1. Stop MessageWay and all perimeter servers.
2. Start a terminal session as *root* user.
3. Remove any previous versions of the MySQL ODBC Connector:
   a) If installed through YUM RPM Database:
      1. Search for existing installations:
         ```
         # yum list installed | grep mysql-connector-odbc
         ```
      2. If any are found, erase them:
         ```
         # yum erase <MySQL ODBC Connector Package>
         ```
   b) If installed through RPM file:
      1. Search for existing installations:
         ```
         # rpm -qa | grep mysql-connector-odbc
         ```
      2. If any are found, erase them:
         ```
         # rpm -e <MySQL ODBC Connector Package>
         ```
4. Download the 32-bit RPM for mysql-connector, for example, `mysql-connector-odbc-5.1.8-1.rhel5.i386.rpm`, which is our recommended version.
5. Install the mysql-connector. For example, type the following:
   ```
   rpm --install --force --nodeps <MySQL ODBC Connector Package>
   ```

**NOTE:** You must use “--force” and “--nodeps” because the unixODBC package we provide creates symbolic links for libraries that are required for the MySQL ODBC Connector but are not registered in the RPM database.
Upgrading the MySQL ODBC Driver on UNIX

Using MySQL for MessageWay 6.1 on UNIX requires a more recent MySQL ODBC driver (mysql-connector) than used by previous versions of MessageWay. Previous versions of MessageWay required mysql-connector version 3.51, while version 6.1 requires mysql-connector 5.1.x. We specifically suggest version 5.1.8.

**IMPORTANT:** you must install a 32-bit version of mysql-connector (not a SPARC-64bit version).

1. Stop MessageWay and all perimeter servers.
2. Start a terminal session as root user.
3. Remove any previous versions of the MySQL ODBC Connector:
   a) If installed through package file:
      1. Search for existing installations:
         ```
         # pkginfo | grep mysql-connector-odbc
         ```
      2. If any are found, erase them:
         ```
         # pkgrm <MySQL ODBC Connector Package>
         ```
   4. Download the 32-bit package for mysql-connector, for example, `mysql-connector-odbc-5.1.8-solaris10-x86-32bit.pkg.gz`, which is the version we recommend.
5. Install the mysql-connector:
   ```
   # gunzip mysql-connector-odbc-5.1.8-solaris10-x86-32bit.pkg.gz
   # pkgadd -d mysql-connector-odbc-5.1.8-solaris10-x86-32bit.pkg
   ```

Upgrading the EasySoft ODBC Driver for Oracle Databases

1. Upgrade the Easysoft ODBC driver software:
   a) Contact **Ipswitch Technical Support** (on page 17) to obtain the new version of the driver.
   b) Copy the Easysoft Oracle ODBC driver tarball to the Install Directory.
      **NOTE:** The name of the Easysoft Oracle tarball will vary depending on the platform where MessageWay will be installed as follows, where x.x.x represents the version of the delivered tarball:
      ```
      UNIX (Solaris)       odbc-oracle-x.x.x-sunos-sparc.tar
      Linux (Red Hat)     odbc-oracle-x.x.x-linux-x86-glibc.tar
      ```
   c) As the `mway` user, extract the files from the tarball.
   d) As the `root` user, go to the subdirectory just created with the same name as the tarball, and run the `.install` script.
   e) Respond to the prompts below with the values provided. For all other prompts, you can use the default values:
Do you want to use your installed unixODBC DM in preference to the version included with this distribution? (y/n [n]): y

Would you like to request a Easysoft ODBC-Oracle Driver license now (y/n) [y]: n

Do you wish to create a data source at this time? (y/n) [y]: n

NOTE: We will refer to the subdirectory where the Easysoft software is installed, such as /usr/local/easysoft, as the Easysoft Install Directory:

2 If you are upgrading to a new minor version of the EasySoft ODBC driver (for example, from 3.2.x or 3.3.x to 3.4.x), you will need a new license.

3 As user root, cd /usr/local/easysoft/license

4 ./licshell

NOTE: You MUST answer the prompts with the values provided below (The contact information needs to be a valid person, email address, and phone number):

5 > Option: 2

6 [2] Oracle ODBC Driver V3.4

7 NOTE: ‘V3.4’ MUST be displayed

8 > Name (Your full name) []:

9 > Company (Your company name) []:

10 > Email (A contact email address) []:

11 > Phone (Your telephone number) []:

12 > How would you like to obtain the license? 2

13 [2] Write information to file so you can fax, telephone it

14 License Request written to ./license_request.txt

15 Email license_request.txt to mwaysupport@ipswitch.com

Updating the Environment Variables for Oracle Databases

In the .bash_profile for the user, mway, add the following environment variables:

NOTE: Please consult your Database Administrator if you require assistance with the following steps.
a) **NLS_LANG** to ensure no implicit CLOB data conversion occurs between MessageWay and Oracle. This *MUST* match the Oracle database’s **NLS_CHARACTERSET** configuration. If they do not match, CLOB data will not be encoded correctly in the database. The default **NLS_CHARACTERSET** for Oracle 10g and Oracle 11g are WE8ISO8859P1 and WE8MSWIN1252, respectively. It is also possible that a UTF-8 character set (AL32UTF8) was selected when the database was deployed (this is the default for Oracle 12c). Follow these steps to confirm your database configuration and set the environment variable appropriately.

1. To determine your database’s current **NLS_CHARACTERSET** configuration, execute the following SQL statement in a database interface like ISQL or SQL*Plus

   ```sql
   select * from NLS_DATABASE_PARAMETERS where PARAMETER = 'NLS_CHARACTERSET';
   ```

   If the Oracle database’s **NLS_CHARACTERSET** is not one of the following character sets, please contact Technical Support to confirm MessageWay is compatible with your database.
   - WE8ISO8859P1
   - WE8MSWIN1252
   - AL32UTF8

2. Place the following statement in your `.bash_profile` and replace `<NLS_CHARACTERSET>` with the character-set determined above.

   ```bash
   NLS_LANG=.<NLS_CHARACTERSET>;
   export NLS_LANG
   ```

   Note: Please note the period before the character-set name.

b) **NLS_NCHAR** to ensure no implicit NVARCHAR2 data conversion occurs between MessageWay and Oracle. This *MUST* match the Oracle database’s **NLS_NCHAR_CHARACTERSET** configuration. If they do not match, NVARCHAR2 data will not be encoded correctly in the database. The default **NLS_NCHAR_CHARACTERSET** for all Oracle databases is AL16UTF16. Follow these steps to confirm your database configuration and set the environment variable appropriately.

1. To determine your database’s current **NLS_NCHAR_CHARACTERSET** configuration, execute the following SQL statement in a database interface like ISQL or SQL*Plus

   ```sql
   select * from NLS_DATABASE_PARAMETERS where PARAMETER = 'NLS_NCHAR_CHARACTERSET';
   ```

   If the Oracle database’s **NLS_NCHAR_CHARACTERSET** is not AL16UTF16, please contact Technical Support to confirm MessageWay is compatible with your database.

2. Place the following statement in your `.bash_profile`

   ```bash
   NLS_NCHAR=AL16UTF16; export NLS_NCHAR
   ```
**Upgrading ODBC Configurations**

**IMPORTANT:** Perform the following from the installation directory, such as, /home/mway/mwayinstall/name of install file, which is created when you untar the install file as described in the topic, *Using the Installation File* (on page 51). We will refer to this location as the *Install Directory*.

**CAUTION:** You *must* perform these steps before you convert the database, which is your next task.

1. Locate the following files in the *Install Directory*.
   - odbcinst.ini
   - odbc.ini

2. Modify these two files as appropriate for your system.
   **IMPORTANT:**
   - The only required modification is to set the DSN name in the odbc.ini file. If you are upgrading with a MySQL database, modify the MessageWay_DSN_MySQL tag to MessageWay_DSN. If you are upgrading with an Oracle database, modify the MessageWay_DSN_Oracle tag to MessageWay_DSN. Do not modify both.
   - Other modifications may be required if you are using an Oracle database and you installed EasySoft in a non-standard location, or if you are using a MySQL database and you installed the MySQL connector in a non-standard location.
   - Be very careful not to change any of the options in these files; some are required for MessageWay to run correctly.

3. Update the ODBC driver: This must be completed as the *Root* user.
   odbcinst -i -d -f odbcinst.ini
   **NOTE:** If a "command not found" error results, you will find the files in the following locations:
   (Linux) /usr/bin/odbcinst
   (UNIX) /usr/local/bin/odbcinst

4. Verify the driver installation:
   odbcinst -q -d -v
   [Oracle]
   [MySQL]

5. Update the Data Source Name (DSN) MessageWay_DSN. This must be completed as the *mway* user.
   odbcinst -i -s -h -f odbc.ini

   odbcinst -q -s -v
With Oracle databases you should see the following:

[MessageWay_DSN]
[MessageWay_DSN_MySQL]

With MySQL databases you should see the following:

[MessageWay_DSN]
[MessageWay_DSN_Oracle]

7 Test the DSN connection to the database.

isql MessageWay_DSN db-user db-password -v

**NOTE:** If a "command not found" error results, you will find the files in the following locations:

(UNIX) /usr/local/bin/isql

(UNIX) /usr/local/bin/isql

You have reached the end of the pre-upgrade tasks for UNIX/Linux. You are now ready to convert the MessageWay database to support Unicode. Follow the instructions in the next topic, *Converting the MessageWay Database* (on page 88).

## Converting the MessageWay Database

The process of upgrading your system to MessageWay release 6.1.0 includes a database conversion program that modifies the structure of your MessageWay database.

*Best Practice* With version 5.0 or later, users have the option to store messages on disk or in the MessageWay database. Best practice is to store messages on disk, particularly for large files. When users need MessageWay encryption or compression, they may prefer to store content in the database. The install process sets parameters to store messages on disk by default, but users may change that option from the MessageWay Manager. The option may be set at the system level or the location level. For more information, search in online help for "Message content".

As is the case with any database conversion, please follow these recommendations:

1. Upgrade your test system to evaluate the amount of time required for the upgrade.
2. Thoroughly test your data flows with your test system.
3. Prior to upgrading your production system, run the mwayarchive program to reduce the size of your database.
4. Back up all components of your MessageWay system, including your SQL database and all MessageWay files in these folders:

<table>
<thead>
<tr>
<th>MessageWay Server</th>
<th>Folders to backup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td></td>
</tr>
</tbody>
</table>
### Upgrade a MessageWay System

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Folders to backup</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Backup your SQL database</td>
</tr>
<tr>
<td>Windows</td>
<td>..\Program Files\MessageWay</td>
</tr>
<tr>
<td></td>
<td>..\MessageWay</td>
</tr>
<tr>
<td></td>
<td>..\ProgramData\MessageWay</td>
</tr>
<tr>
<td></td>
<td>..\Users\MessageWay\User\AppData\Roaming\messageway</td>
</tr>
<tr>
<td>UNIX/Linux</td>
<td>/opt/messageway</td>
</tr>
<tr>
<td></td>
<td>/var/opt/messageway</td>
</tr>
<tr>
<td></td>
<td>/etc</td>
</tr>
<tr>
<td></td>
<td>/etc/init.d</td>
</tr>
<tr>
<td></td>
<td>/etc/messageway</td>
</tr>
<tr>
<td></td>
<td>/home/root/.messageway.install</td>
</tr>
</tbody>
</table>

5 To upgrade your database, run the MessageWay server install program, because the database upgrade process is part of the normal MessageWay installation. Refer to the appropriate topic for your system as follows:

- For UNIX/Linux, follow the steps in the topic **Installing MessageWay on UNIX or Linux** (on page 73).
- For Windows, follow the steps in the topic **Installing MessageWay on Windows** (on page 40)

6 After the upgrade, review the dbconvert.log and the MWayInstall.log to ensure the database and all files were upgraded properly.
NOTE: During an upgrade to MessageWay 6.1, to reduce the time to convert archive messages, audit log, and event log tables that would need to support the Unicode changes, we do not convert the tables. Instead, we leave them in their 6.0 state for historical purposes and rename them to archivemessages_6_0, auditlog_6_0 and eventlog_6_0, respectively.

To convert any of these tables to 6.1 Unicode versions, contact Technical Support. You can convert any of the tables while the customer’s production server is live since these tables are not necessary MessageWay operations. This will mitigate production server downtime. Alternatively, the DB administrator can remove these tables once they have decided they are no longer useful.

Also, on a related note, we remove all entries from the TraceLine and TraceEvent tables.

In addition to the Customer Portal, there are two other ways to contact the Ipswitch Technical Support Center as shown in the following table:

<table>
<thead>
<tr>
<th>Type of Contact</th>
<th>Origin of Call</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice</td>
<td>North America</td>
<td>1-781-645-5570 or 1-678-287-0700</td>
</tr>
<tr>
<td></td>
<td>Outside North America</td>
<td>+44-203-137-6860</td>
</tr>
<tr>
<td>E-mail</td>
<td></td>
<td><a href="mailto:mwaysupport@ipswitch.com">mwaysupport@ipswitch.com</a></td>
</tr>
</tbody>
</table>

Additionally, you can find documentation and information about updates from the support Web site at: https://www.ipswitch.com/support/documentation/ by selecting MessageWay 6.1 under Additional File Transfer Products.
IMPORTANT: During the conversion, special modifications are made to Custom Processing service locations and Custom IO sites. For those types of locations, any data in the **Command** field or the **Script** box that contains a percent sign, %, that is NOT part of a MessageWay-defined token will be replaced with a release character of another percent sign immediately preceding the first, giving two percent signs, %%. Then when MessageWay resolves the tokens, it will strip one of the signs, leaving you with one as part of the data.

Any non-MessageWay tokens you use in the **Command** field or **Script** box must be enclosed in double percent signs, %%, so MessageWay can distinguish them from standard MessageWay tokens.

CAUTION: MySQL 5.5 does not support the earlier syntax in the my.cnf file that included `set-variable =`. If you upgrade MySQL to version 5.5 in preparation for an upgrade to MessageWay 6.1, you may need to edit my.cnf and remove all `set-variable =` values that precede the actual parameter setting. For example, if you have the parameter `set-variable = max_connections=1000`, you must change it to read `max_connections=1000`. 
Upgrading MWTranslator Service for MSSQL Authentication

If you are using MSSQL Authentication for a MessageWay database running on Windows, and you want to upgrade the MWTranslator Service from version 6.0 or lower, you will need to add database logon information to the Translator Runtime Module file, trm.ini.

1. From MessageWay Manager, on the Translator page of the MWTranslator Service Properties window, find the location of the trm.ini file.

2. Open the file in a simple text editor such as Notepad, and add the following lines to the end of the file:

```
DBUser=<user>
```
Upgrading a MessageWay System

DBPassword=<password>

3 Save and close the file, and restart the MessageWay Translator Service MWTranslator. The values for DBUser and DBPassword will be used to connect to the database.

Upgrading to MW Translator from Edikit

If you were running Edikit with MessageWay, you must first upgrade to MW Translator 5.0, then 5.5 and then to version 6.1.0. The MW Translator Workbench and Operator Program are delivered separately as noted earlier. To install those programs, please see the MW Translator Installation Guide.

For instructions to upgrade your existing Edikit Workbench environments to MW Translator environments, please see the "Upgrading an MW Translator Installation" section of the MW Translator Installation Guide.

IMPORTANT: If you plan to use Edikit 4.0 or 4.2 in addition to or instead of MW Translator 6.1, please contact the Support Center before running the upgrade. They will provide instructions for saving your previous Edikit environment and then configuring it to work with MessageWay 6.1.0.
Updating MessageWay Configuration Files

All MessageWay servers, internal and perimeter, that use configuration files retain their original configuration files during upgrades. The upgrade process never changes configuration files. However, parameters within the configuration files may have changed or been added. You will find a complete description of the latest configuration files and parameters in the following sections of the MessageWay User's Guide and Reference and online help:

- Configuring MessageWay Internal Servers
- Configuring MessageWay Perimeter Servers

Refer to the MessageWay Release Notes for a list of changes to configuration files since the previous release. Users must update their own configuration files as required.
Starting MessageWay

You are now ready to start the MessageWay system on the server. For all environments, MessageWay can only be started from the system where the server is installed, not from the manager.

**IMPORTANT:** You must add the license file to the appropriate location before you can start the MessageWay server.

Starting the MessageWay Server

You must start the MessageWay Messaging Server from the operating system. The procedure varies slightly depending on the platform, Windows or UNIX/Linux.

How to Start MessageWay on UNIX or Linux

To start MessageWay, proceed as follows:

1. Log on as the user that owns MessageWay, typically, mway.
2. At a command prompt, type the following commands and press Enter to:
   a) Change the directory to where the script runs, typically /opt/messageway/init:
      
      ```
      cd /installation_directory/init
      ```
   b) Run the script to start MessageWay
      
      ```
      ./messageway start
      ```
   The MessageWay Server starts and then starts any other required servers as well as any servers that are configured to start automatically.
3. To check the status of the Messaging Server, type the following command and then press Enter:
   
   ```
   ./messageway status
   ```
   The system returns a message similar to the following:
   
   ```
   MessageWay (pid 4436) is running...
   MWSched (pid 4448) is running...
   MWSI (pid 4480) is running...
   MWUser (pid 4464) is running...
   - or -
   ```
To determine what commands are available, type the following command:

```
./messageway
```

**NOTE:** For Red Hat 7.x, MessageWay supports the systemctl utility, including automatically starting MessageWay when the application server is rebooted, and automatically starting MessageWay perimeter servers when the perimeter server is rebooted. The systemctl files are named `messageway.service`, `mwftp.service`, `mwproxy.service`, `mwresd.service` and `mwsftp.service`, and are located in `/usr/lib/systemd/system/`, with symbolic links being added in `/etc/systemd/system/multi-user.target.wants/`. See above systemctl files for more details.

## How to Start MessageWay on Windows

On Windows, MessageWay runs as a Windows service.

Start MessageWay as follows:

**NOTE:** Exact instructions vary depending on your operating system.

1. From the **Start** menu or your desktop, right click **My Computer** or **Computer**, and then select **Manage**.
   A management window appears.
2. From the left pane, within **Services and Applications** or **Configurations**, click **Services**.
3. From the right pane, right click **MessageWay Messaging Server**.
4. From the pop-up menu, click **Start**.

   The MessageWay Messaging Server starts and then starts any dependent services. To view all started services, press **F5**.

## Logging On to the MessageWay Manager

All access to the MessageWay configuration screens is accomplished via the MessageWay Manager.

Make sure you have a valid MessageWay logon ID and password. You must also know your MessageWay security policies to create passwords.

1. To start the manager:
   a) From the **Start** menu, access the programs list.
   b) Click **MessageWay Client 6.1**, and then **MessageWay Manager 6.1**.

   The **Logon to environment** dialog box appears.
   - or -
If you are not already at a logon window, from the File menu, click Logon.

2 Click Change Password, type the appropriate information, and click Logon.

NOTE: The user ID that is delivered with MessageWay is Administrator, and the initial password is 12345. Your new password must be at least six characters.
MessageWay forces a password change before allowing the initial logon. The administrator account has special privileges, so take care to guard the new password you choose. The new password must conform to your MessageWay system logon requirements. The initial default is six characters.

If you use Windows authentication to access your database, the user ID and password are not included in the MessageWay configuration file. Otherwise, the user ID and password, in the clear, are written to the file. Use the mwadmin utility to encrypt the password.

The mwadmin utility is in the MessageWayInstall Directory/utils.

1 From a command line, to review the syntax of the command, type:

   mwadmin --help

   The syntax for the command appears.

2 To set the db logon and encrypt the password, type setdblogon, the data source name (DSN), the user ID to log on to the database, and the password, for example:

   mwadmin setdblogon MessageWay_DSN mway mway

At this point, your installation of MessageWay is complete and you may begin configuring MessageWay. More information about adding the new administrator-level ID and configuring MessageWay can be found in the MessageWay User’s Guide and Reference.

**Best Practice**

It is strongly recommended that you immediately configure another Administrator level ID and password and use that ID when adding users. The ID named Administrator has super-user level security and should not be used in your daily configuration activities.
Adding an Environment to the MessageWay Manager

Now that you have logged on to MessageWay, you will see that there is a default environment that points to your server. This task, creates a new environment and also points to your server. It is possible to delete all environments. Although it is easy to add an environment, it might be less disconcerting if you know that you have the default environment available. So, we recommend that you create a new one for your testing. Also, by default, each environment is associated with a single MessageWay system.

To configure the environment where you want to connect:

1. Click File|Select Environment, then click Add.
   The Add Environment dialog box appears.
2. Type a name for the environment to reflect where you are connecting, then click OK.
   ![Add Environment dialog box]
   The Connection Options window appears.
3. Click the Refresh Server List button to see a list of MessageWay servers available on your network. All MessageWay servers on the network are available for connections by any manager.
4. From the Server list, select the system to which you want to connect.
   - or -
   Enter the IP address of the system, which may be necessary if the server is not accessible using the name.

You should not have to change the port entry unless the default port of 6237 is configured and in use server for some other application. If it is, enter the port number that the workstation should use exclusively to communicate with the server.
NOTE: As of MessageWay 5.5, it is possible to configure multi-system environments. This allows you to monitor multiple systems simultaneously from a single MessageWay Manager. It also allows you to issue search across multiple systems and release and cancel messages across multiple systems. You can add up to 4 systems to an environment using the Add System button, which adds a new tab for each system. When you have more than one system, a delete button appears that allows you to remove systems.

5 Click OK.

6 The manager now points to the newly configured environment. The title bar shows you to which environment MessageWay attempts to connect.

7 When MessageWay connects to the remote environment and database, it presents a logon window. Log on using a logon ID and password provided to you by the administrator of the environment. Once you have successfully logged on you are ready to start using MessageWay.
Testing the Installation

MessageWay can be used in several different ways. It can be used to store and forward messages, hold messages for retrieval by a remote client, and it can be used to accept messages and translate them using the MW Translator product. Output can be delivered to a designated recipient via FTP, Email, or to a file location on a server.

Testing without Translation

The first setup and test provided is for simple data transfers from one disk location to another. This test will pick up a file from a folder on the server and deliver it to a location, which will then deliver the message out to another folder using the Disk Transfer Adapter.

- No changes are required to configure the adapter.
- You need to create two directories from the operating system and add two locations from the MessageWay Manager.

Create Directories

From the operating system, create two directories as follows:

Windows

C:\DT\DTIn
C:\DT\DTOut

Linux/UNIX

/var/opt/dt/dtout
/var/opt/dt/dtin

**IMPORTANT:** For UNIX and Linux systems, the MessageWay user, typically mway, must have read and write access to these directories.

Configure the Output Location

Configure an output location where messages will be delivered as follows:

1. From the left pane of the MessageWay Manager, click **Locations**.
2. In the right pane, right-click in an open space, and from the menu, click **Add Location**.
   The **Enter New Location Name** dialog box appears.
3 Type the Location name, **DTOut**, and click **OK**.
   The Location Properties screen appears.

4 In the **Adapter/Service Name** field, use the drop down list to select **MWDisk**.

5 On the **Disk Output** tab, click the **Output from MessageWay** box.

6 In the **Directory** field, type the full path of the DTOut folder that you created previously.

   **NOTE:** The folder buttons next to the directory fields appear only when you install the MessageWay Server on **(local)**. This allows you to search your system for the correct directory. Any other system designation, such as localhost, host name, host IP address, and 127.0.0.1, are all considered remote systems, and you will not see the folder buttons for browsing.

7 In the **Mask** box, accept the default.

   The mask is used to create the output file a name in the DTOut folder. Click the **Help** button, and then click the **Mask** box for an explanation of how the file mask works.

   The following example shows the **Disk Output** tab for Windows.
The next example shows the **Disk Output** tab for UNIX/Linux.

If you want a tool tip to appear for the location name, in the **General** tab, type a description for the location, such as **Test output location for Disk Transfer adapter**.

8 If you want a tool tip to appear for the location name, in the **General** tab, type a description for the location, such as **Test output location for Disk Transfer adapter**.

**NOTE:** To view tabs that are not currently displayed, click the right and left arrow buttons.

9 Click **OK**.

**Configure the Input Location**

Create a location for the input messages and identify the directory where the adapter will poll for messages.

1 From the left pane of the MessageWay Manager, click **Locations**.

2 In the right pane, right-click in an open space, and from the menu, click **Add Location**.

   The **Enter New Location Name** dialog box appears.

3 Type the location name, **DTIn**, and click **OK**.

   The location properties window appears.
4 In the **Adapter/Service** field, use the drop down list to select **MWDisk**.

5 On the **Disk Input** tab, click the **Input to MessageWay** box.

6 In the **Directory** field, type the full path of the DTIn folder that you created previously.

7 In the **Deliver To** box, use the **Select Destination Location** button and click the DTOut location that you created in the previous step.

The following example is for Windows.
Testing the Installation

The next example is for UNIX/Linux.

8 If you want a tool tip to appear for the location name, in the General tab, type a description for the location, such as Test input location for Disk Transfer adapter.

9 Click OK.

**Test Message Delivery**

You are now ready to load a file to be transferred from the server into MessageWay and out again.

1 In the left pane of the MessageWay Manager, double-click Adapters/Services.

2 In the right pane, right-click MWDisk.

3 From the menu, click Start. The status will change from Stopped to Running.

4 From the operating system, place a file in the dtin directory.

5 Return to the MessageWay Manager and note that the I/O statistics have changed. You will see Receiving and Sending change to 1, then 0, and the completed count will change to 1.

6 Double-click the Complete field to view the message.

7 From the operating system, navigate to the dtout directory, and verify that the file has been delivered to that location.
Testing with Translation

If you installed the optional MW Translator service, you can run a test translation to verify the installation. The sample test translates an X12 850 purchase order to a proprietary, fixed-format document and also generates an X12 997 acknowledgment.

This translation is the only translation that can be run through the newly installed MessageWay. To run other translations, you would move their configuration files to the MessageWay directories using the MW Translator Operator Program.

The MW Translator service does not need any changes to its configuration.

You need to create four directories from the operating system and add five locations from the MessageWay Manager.

Create Directories

From the operating system, create four directories as follows:

Windows
- C:\DT\X850TEST
- C:\DT\TESTREC-MAILBOX
- C:\DT\X12-SEND-LOC
- C:\DT\Translation Reports

Linux/UNIX
- /var/opt/dt/x850test
- /var/opt/dt/testrec-mailbox
- /var/opt/dt/x12-send-loc
- /var/opt/dt/translation reports

Configure the MW Translator Service Location

Use the following information to configure the MW Translator service location:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Name</td>
<td>MWTranslator</td>
</tr>
<tr>
<td>(General tab) Adapter/Service</td>
<td>MWTranslator</td>
</tr>
<tr>
<td>(Translator tab) Check box</td>
<td>Send Translation Report To</td>
</tr>
</tbody>
</table>
Configure the Output Locations

Use the instructions provided in the topic, *Configure the Output Location* (on page 101), to add output locations. From the MessageWay Manager, you will configure the following three output locations:

<table>
<thead>
<tr>
<th>Location Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation Reports</td>
<td>Location for MW Translator processing reports.</td>
</tr>
<tr>
<td>TESTREC-MAILBOX</td>
<td>Location for translated documents.</td>
</tr>
<tr>
<td>X12-SEND-LOC</td>
<td>Location for functional acknowledgment returned to the sender.</td>
</tr>
</tbody>
</table>

Use the following information to configure the Translation Reports location:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Name</td>
<td>Translation Reports</td>
</tr>
<tr>
<td>(General tab) Adapter/Service</td>
<td>MWDisk</td>
</tr>
<tr>
<td>(Disk Output tab) Check box</td>
<td>Output from MessageWay</td>
</tr>
<tr>
<td>(Disk Output tab) Directory:</td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>C:\DT\Translation Reports</td>
</tr>
<tr>
<td>Linux/UNIX</td>
<td>/var/opt/dt/translation reports</td>
</tr>
</tbody>
</table>

Use the following information to configure the TESTREC-MAILBOX location:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Name</td>
<td>TESTREC-MAILBOX</td>
</tr>
<tr>
<td>(General tab) Adapter/Service</td>
<td>MWDisk</td>
</tr>
<tr>
<td>(Disk Output tab) Check box</td>
<td>Output from MessageWay</td>
</tr>
<tr>
<td>(Disk Output tab) Directory:</td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>C:\DT\TESTREC-MAILBOX</td>
</tr>
<tr>
<td>Linux/UNIX</td>
<td>/var/opt/dt/testrec-mailbox</td>
</tr>
</tbody>
</table>
Use the following information to configure the X12-SEND-LOC location:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Name</td>
<td>X12-SEND-LOC</td>
</tr>
<tr>
<td>(General tab) Adapter/Service</td>
<td>MWDisk</td>
</tr>
<tr>
<td>(Disk Output tab) Check box</td>
<td>Output from MessageWay</td>
</tr>
<tr>
<td>(Disk Output tab) Directory:</td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>C:\DT\X12-SEND-LOC</td>
</tr>
<tr>
<td>Linux/UNIX</td>
<td>/var/opt/dt/x12-send-loc</td>
</tr>
</tbody>
</table>

**Configure the Input Location**

Use the instructions provided in the "Testing without Translation" topic, Configure the Input Location (on page 103), to add an input location from the MessageWay Manager.

Use the following information to configure the X850TEST location:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Name</td>
<td>X850TEST</td>
</tr>
<tr>
<td>(General tab) Adapter/Service</td>
<td>MWDisk</td>
</tr>
<tr>
<td>(Disk Input tab) Check box</td>
<td>Input to MessageWay</td>
</tr>
<tr>
<td>(Disk Input tab) Directory:</td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>C:\DT\X850TEST</td>
</tr>
<tr>
<td>Linux/UNIX</td>
<td>/var/opt/dt/x850test</td>
</tr>
<tr>
<td>(Disk Input tab) Deliver to:</td>
<td>MWTTranslator</td>
</tr>
</tbody>
</table>

**Test the Translation**

Now that the folders and locations are complete it is time to send a file through the translator.

1. Start the MWDisk adapter and MWTTranslator service.
2. Navigate to the MWTTranslator folder:
   - **Windows**: C:\MessageWay\Server\MWTTranslator
   - **Linux/UNIX**: /var/opt/server/MWTTranslator
3. Copy the file X850test.txt to the X850TEST directory.
   - **Windows**: C:\DT\X850TEST
Linux/UNIX  /var/opt/dt/x850test

4  Return to the MessageWay Manager and watch the statistics.
   - The Processing statistics should move across until the Complete box increments by 1.
   - The I/O statistics should move across until the Complete box increments by 3.

**Review the Output**

Once the test is completed, the output can be viewed a couple of different ways:

- From the locations
- From the operating system directories

To see contents from the locations, use the MessageWay Manager:

1  Click on the Complete box for the adapters.
   The Message List window appears with the 3 files that were produced. Notice that MessageWay gives you the source and destination information for each message.

2  To view the content of a message, double-click the message.
   The Message window appears.

3  To view information about a message, right-click the message, and select Properties from the menu.
   The Message Properties window appears.

4  To view all messages associated with the translation, right-click the message that was sent to MWTranslator, and select Get Related Messages from the menu.
   All outputs and reports associated with the input message will be shown in the message list.

You can also go to the individual directories to view the output.

You will find the content files in the following locations:

<table>
<thead>
<tr>
<th>Windows</th>
<th>Linux/UNIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation</td>
<td>Translation</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>Acknowledgment</td>
</tr>
<tr>
<td>Report</td>
<td>Report</td>
</tr>
<tr>
<td></td>
<td>C:\DT\TESTREC-MAILBOX</td>
</tr>
<tr>
<td></td>
<td>C:\DTX12-SEND-LOC</td>
</tr>
<tr>
<td></td>
<td>C:\DT\Translation Reports</td>
</tr>
<tr>
<td></td>
<td>/var/opt/dt/testrec-mailbox</td>
</tr>
<tr>
<td></td>
<td>/var/opt/dt/x12-send-loc</td>
</tr>
<tr>
<td></td>
<td>/var/opt/dt/translation reports</td>
</tr>
</tbody>
</table>
The conclusion of this test verifies that the MessageWay software is installed and operating correctly. For more information about using the software and configuring adapters and services and locations, refer to the *MessageWay User’s Guide and Reference*. 
Installing or Upgrading MessageWay Perimeter Servers

Select the appropriate topic to install or upgrade perimeter servers or interfaces. To configure these options, refer to the MessageWay User’s Guide and Reference.

**NOTE:** The perimeter server upgrade procedures are the same as the installation procedures. Please use the applicable installation topic for your perimeter server upgrade.

The upgrade process for perimeter servers is typically automatic from version 5.0 or above, except for the following:

- MessageWay AS2 Interface

## Installing the AS2 Interface

This is a check-list of the tasks you will perform to install the AS2 Interface and then configure it for initial testing. The following instructions install the interface. To configure the AS2 Interface, please refer to the section "Configuring MessageWay Perimeter Servers" in the MessageWay User's Guide and Reference.

The installation process installs the components of the AS2 Interface. The installation process also requires a Java Runtime Environment and a Web container, such as Apache Tomcat. For specific MessageWay and third-party requirements, refer to the topic, *Prerequisites for the MessageWay AS2 Interface* (on page 112).

These tasks assume that you have already installed MessageWay, which includes the following components of interest here:

- MessageWay Messaging Server, which processes messaging requests
- MessageWay User Server, which controls access to MessageWay
- MessageWay Service Interface, which provides access to MessageWay from MessageWay servers and the Internet
- MessageWay Manager, which provides the user interface to configure MessageWay

These are the basic tasks to install the MessageWay AS2 Interface:

- Install the MessageWay AS2 inbound and outbound servlets on any system within a Web container in the LAN or WAN
- Install the MessageWay AS2 adapter on the system where the MessageWay Server runs
IMPORTANT: You must have a license for the AS2 Interface before you can start the AS2 adapter.

After you have installed the AS2 Interface, you must perform the following tasks to configure and test the system:

- Modify the configuration file for the Service Interface on the MessageWay system
- Modify the configuration files for the AS2 Interface
- Configure MessageWay users and locations
- Create and populate Java Key Store (.jks) file to manage X.509 certificates
- Start the Service Interface
- Start the Web container, such as Apache Tomcat, which starts the AS2 servlets
- Test the connection from a browser to the AS2 Interface
- Test inbound AS2 transmissions
- Start the AS2 adapter
- Test outbound AS2 transmissions

Licensing Requirements for the AS2 Interface

The MessageWay AS2 server and the AS2 adapter require a license from Ipswitch, Inc. For more information, contact Technical Support at mwaysupport@ipswitch.com.

Prerequisites for the MessageWay AS2 Interface

The MessageWay AS2 Interface has been developed with and requires at a minimum specific versions of MessageWay software as well as third-party software. These are the prerequisites:

<table>
<thead>
<tr>
<th>Software Component</th>
<th>Minimum Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java Runtime Environment (JRE)</td>
<td>Java version 8.x</td>
</tr>
<tr>
<td>(<a href="http://www.java.com">http://www.java.com</a>)</td>
<td></td>
</tr>
<tr>
<td>Web container that supports Java Servlet</td>
<td>Apache Tomcat version 7.x</td>
</tr>
<tr>
<td>specification 2.4, such as Apache Tomcat</td>
<td></td>
</tr>
<tr>
<td>(<a href="http://tomcat.apache.org/">http://tomcat.apache.org/</a>)</td>
<td></td>
</tr>
</tbody>
</table>

IMPORTANT: Tomcat must be installed as a service. Not all versions of Tomcat do this automatically. Refer to the installation instructions provided with Tomcat, since the instructions may vary between versions.
Install the AS2 Servlets

The installation process for the AS2 servlets varies depending on the operating system where you install the components, UNIX/Linux or Windows.

To Install the AS2 Servlets on UNIX or Linux

Make sure you have already installed the Web container, Apache Tomcat. For more information, refer to the topic, *Prerequisites for the MessageWay AS2 Interface* (on page 112).

1. Log on as user, **root**.
2. Go to the mwayinstall directory, and unzip the MessageWay AS2 Interface zip file, `mwas2servlet-6.1.0-java.zip`. Type the following command:
   
   ```
   unzip mwas2servlet-6.1.0-java.zip
   ```
   
   This creates a subdirectory of the name of the install file.
3. Go to the directory you just created, and copy the directory, mwas2, and all of its contents to the `/webapps` subdirectory of the Apache Tomcat install directory. Type the following command:
   
   ```
   cp -rp ./mwas2 Apache Tomcat install path/webapps/
   ```
4. Optionally, delete the file `NTEventLogAppender.dll` and `NTEventLogAppender.amd64.dll` from the mwas2 directory, which is for the Windows installation.

Your directory structure should look something like the following:
To Install the AS2 Servlets on Windows

To install the AS2 inbound and outbound servlets, you unzip the installation package and copy a directory structure to the web container. The web container, Apache Tomcat, must be installed as a pre-requisite and must be installed as a service. Not all versions of Tomcat automatically install as a service. Refer to the installation instructions provided with Tomcat, since the instructions may vary between versions.

1 In some install directory, unzip the MessageWay AS2 Interface zip file, mwas2servlet-6.1.0-java.zip, using the folder path names.
   This creates a subdirectory of the name of the install file.

2 Go to the directory you just created, and copy the directory, mwas2, and all of its contents to the \webapps subdirectory of the Apache Tomcat install directory.
   This creates a subdirectory within the webapps directory. Your structure should look something like the following:

3 For 32-bit systems:
   a) Move the file NTEventLogAppender.dll (32-bit) from the mwas2 directory to the \Windows\System32 directory.
   b) Optionally, delete the file NTEventLogAppender.dll from the mwas2 directory, which is for the 64-bit Windows installation.

   - or -

For 64-bit systems:
   a) Move the file NTEventLogAppender.amd64.dll (64-bit) to the \Windows\System32 directory.
b) Move the file NTEventLogAppender.dll (32-bit) from the mwas2 directory to the \Windows\SysWOW64 directory.

**Install the AS2 Adapter**

The installation process for the AS2 adapter varies depending on the operating system where you install the components, UNIX/Linux or Windows. For more information, refer to the topic, *Installing Additional Adapters or Services* (on page 163).

**Start the AS2 Interface**

You start the AS2 Interface differently, depending on the operating system where the server resides, UNIX/Linux or Windows.

**To Start the AS2 Interface on UNIX or Linux**

Before you start the AS2 servlets, you must configure the file that identifies the location of the servlet configuration file. Then you start the Web container, Apache Tomcat, which starts the AS2 servlets.

**IMPORTANT:** These instructions allow you to start the servlets. To complete the configurations, refer to the topic, "Configuring the AS2 Interface" within the *MessageWay User's Guide and Reference* or in the manager online help.
1. Edit the file, web.xml, within the /webapps/mwas2/WEB-INF directory, to specify the current location of the servlet configuration file for both the inbound and outbound parameters, and save your changes. Typically, you would only replace the values {Tomcat root} with your install location, but be sure to check the entire path.

```xml
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE web-app
 PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"
 "http://java.sun.com/dtd/web-app_2_3.dtd">
<web-app>
  <servlet>
    <servlet-name>MWayAS2In</servlet-name>
    <servlet-class>MWayAS2In</servlet-class>
    <load-on-startup/>
    <init-param>
      <param-name>mwas2-conf</param-name>
      <param-value>/usr/apache/apache-tomcat-6.0.13/WEB-INF/mwas2.conf</param-value>
    </init-param>
  </servlet>
  <servlet>
    <servlet-name>MWayAS2Out</servlet-name>
    <servlet-class>MWayAS2Out</servlet-class>
    <load-on-startup/>
    <init-param>
      <param-name>mwas2-conf</param-name>
      <param-value>/usr/apache/apache-tomcat-6.0.13/WEB-INF/mwas2.conf</param-value>
    </init-param>
  </servlet>
</web-app>
```

2. To start the Apache Tomcat Web container, which in turn starts the servlets, from the /bin directory of Apache Tomcat, type:

   ./startup.sh.

3. Test to make sure the servlets are running and you can access them:
   a) To test access to the inbound servlet, from your Web browser, type:

   http://localhost:8080/mwas2/in
b) To test access to the outbound servlet, from your Web browser, type:

   http://localhost:8080/mwas2/out

**NOTE:** If you do not receive messages, "You have reached the MessageWay AS2 ... Interface", test to see if you can access the Web container. Type, http://localhost:8080. If the Web browser is on a different machine, replace localhost with the IP Address of the machine hosting the servlets.
To Start the AS2 Interface on Windows

Before you start the AS2 servlets, you must configure the file that identifies the location of the servlet configuration file. Then you start the Web container, Apache Tomcat, which starts the AS2 servlets.

**IMPORTANT:** These instructions allow you to start the servlets. To complete the configurations, refer to the topic, "Configuring the AS2 Interface" within the *MessageWay User's Guide and Reference* or in the manager online help.

1 In the file, web.xml, within the \webapps\mwas2\WEB-INF directory, specify the current location of the servlet configuration file for both the inbound and outbound parameters, and save your changes.
<?xml version="1.0" encoding='ISO-8859-1'?>

<!DOCTYPE web-app
    PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"
    "http://java.sun.com/dtd/web-app_2_3.dtd">

<web-app>

<servlet>
    <servlet-name>MessageWayAS2In</servlet-name>
    <servlet-class>MessageWayAS2In</servlet-class>
    <load-on-startup>1</load-on-startup>
    <init-param>
        <param-name>msgas2-conf</param-name>
        <param-value>C:\Program Files\Apache Software Foundation\Tomcat
6.0\webapps\msgas2\WEB-INF\msgas2.conf</param-value>
    </init-param>

    <init-param>
        <param-name>eventlevel</param-name>
        <param-value>INFO</param-value>
    </init-param>

</servlet>

<servlet>
    <servlet-name>MessageWayAS2Out</servlet-name>
    <servlet-class>MessageWayAS2Out</servlet-class>
    <load-on-startup>1</load-on-startup>
    <init-param>
        <param-name>msgas2-conf</param-name>
        <param-value>C:\Program Files\Apache Software Foundation\Tomcat
6.0\webapps\msgas2\WEB-INF\msgas2.conf</param-value>
    </init-param>

    <init-param>
        <param-name>eventlevel</param-name>
        <param-value>INFO</param-value>
    </init-param>

</servlet>

<servlet-mapping>
    <servlet-name>MessageWayAS2In</servlet-name>
    <url-pattern>/in</url-pattern>
</servlet-mapping>

<servlet-mapping>
    <servlet-name>MessageWayAS2Out</servlet-name>
    <url-pattern>/out</url-pattern>
</servlet-mapping>

<session-config>
    <session-timeout>5</session-timeout>
</session-config>

</web-app>
2 Start the Apache Tomcat Web container, which also starts the servlets. The task varies depending on how you installed the software:
   - From the Microsoft Management Console (MMC) Services window, start it as a Windows service.
   - or -
   - Right-click the icon in the system tray, and click Start service.

3 Test to make sure the servlets are running and you can access them:
   a) To test access to the inbound servlet, from your Web browser, type:
      http://localhost:8080/mwas2/in
   b) To test access to the outbound servlet, from your Web browser, type:
      http://localhost:8080/mwas2/out

NOTE: If you do not receive messages, "You have reached the MessageWay AS2 ... Interface", test to see if you can access the Web container. Type, http://localhost:8080. If the Web browser is on a different machine, replace localhost with the IP Address of the machine hosting the servlets.

### Upgrading the AS2 Interface

There is no automatic upgrade process for the MessageWay AS2 Interface.

To upgrade to MessageWay version 6.1, do the following:

1 Unzip the install file, mwas2servlet-6.1.0-java.zip.

2 Copy the following folders from mwas2servlet-6.1.0-java.zip\mwas2servlet-6.1.0-java\mwas2\WEB-INF:
   - classes
   - lib

   **CAUTION:** Do not also copy the configuration files, web.xml and mwas2.conf, unless you intend to overlay your current configuration files.

3 Paste the folders mentioned in the previous step into the Apache Install Directory/webapps/mwas2/WEB-INF, and overlay the old folders.

4 (Windows only) For 32-bit systems:
   a) Move the file NTEventLogAppender.dll (32-bit) from the mwas2 directory to the \Windows\System32 directory.
   b) Optionally, delete the file NTEventLogAppender.dll from the mwas2 directory, which is for the 64-bit Windows installation.

- or -

(Windows only) For 64-bit systems:
a) Move the file NTEventLogAppender.amd64.dll (64-bit) to the \Windows\System32 directory.

b) Move the file NTEventLogAppender.dll (32-bit) from the mwas2 directory to the \Windows\SysWOW64 directory.

- or -

(UNIX/Linux only):

- Optionally, delete the file NTEventLogAppender.dll and NTEventLogAppender.amd64.dll from the mwas2 directory, which is for the Windows installation.
Installing or Upgrading the FTP Perimeter Server

This is a check list of the tasks you will perform to install or upgrade the MessageWay FTP Perimeter Server. To upgrade the FTP perimeter server, you only need to perform the install, since the configuration files will not be changed for an upgrade.

For more information about configuring the FTP perimeter server, please refer to the section "Configuring MessageWay Perimeter Servers" in the MessageWay User's Guide and Reference.

The installation process installs the components of the MessageWay FTP Perimeter Server. These tasks assume that you have already installed MessageWay, which includes the following components of interest here:

- MessageWay Messaging Server, which processes messaging requests
- MessageWay User Server, which controls access to MessageWay from the manager
- MessageWay Service Interface, which provides access to MessageWay from the Internet
- MessageWay Manager, which provides the user interface to configure MessageWay

These are the tasks performed during initial installation for testing:

- Install the FTP perimeter server on any system
- Set up the configuration file for the Service Interface on the MessageWay system
- Start the Service Interface
- Test the connection to the Service Interface
- Set up the configuration file for the FTP perimeter server
- For secure transmissions, install the certificate obtained from a licensing authority

**NOTE:** Ipswitch, Inc. provides certificates with FTP perimeter server option to use for initial testing. These certificates allow anonymous logon. You should replace these certificates as soon as possible. Also note that these certificates are shared with the default installation of the MessageWay Service Interface Server.

- Configure MessageWay users and locations
- Test the system from end to end

Install the FTP Perimeter Server

The installation process for the FTP perimeter server varies depending on the operating system where you install the component, Windows or UNIX/Linux.
To Install the FTP Perimeter Server on Windows

When you are ready to install the FTP perimeter server, the first step is to run the installation program from your install medium:

1. Select **Start, Run** and type in your CD-ROM drive and the path as follows:

   \( CD\_ROM\ path: \text{MessageWay 6.1\windows\mwftp-6.1.0-win32\install.exe} \)

2. Click **OK** to begin the installation.

   An installation window appears as shown below, followed by a notice regarding the location of the MessageWay documentation files.

3. Click **Next**.

   The MessageWay FTP Server notice screen appears.

4. Click **Next** to continue.

5. Change the directory where you want to install the server by clicking the **Browse** button, then click **Next** to continue.

The Start Installation screen appears.
6 This screen allows you to cancel the installation, if necessary. To continue, click **Next**.

![MessageWay FTP Server](image)

**MessageWay FTP Server**

### Start Installation

You are now ready to re-install MessageWay FTP Server.

Press the **Next** button to begin the installation or the **Back** button to reenter the installation information.

7 When the installation is complete, the final screen will appear. Click **Finish** to exit the installation procedure.

The locations of all files for the FTP Server are as follows:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>mwftpd.exe</td>
<td>FTP Server Executable file</td>
<td>\Program Files\MessageWay\ftp</td>
</tr>
<tr>
<td>mwftpd.conf</td>
<td>FTP Server Configuration file</td>
<td>\ProgramData\MessageWay</td>
</tr>
<tr>
<td>testcert.pem</td>
<td>FTP Server SSL certificate</td>
<td>\ProgramData\MessageWay\certs\cert</td>
</tr>
<tr>
<td>testkey.pem</td>
<td>FTP Server SSL private key</td>
<td>\ProgramData\MessageWay\certs\private</td>
</tr>
</tbody>
</table>

**To Install the FTP Perimeter Server on UNIX or Linux**

1 Log on as user, **root**.

**NOTE:** The installer requires root access in order to create the initial install directories and install the startup script, typically in `/etc/init.d`.

2 Go to the `mwayinstall` directory, and untar the MessageWay FTP perimeter server tarball, `FTPServerinstall file`.  

Installing or Upgrading MessageWay Perimeter Servers

For a UNIX system, issue the following commands:

a) `gunzip FTPServerinstall file name`

b) `tar --xvf FTPServerinstall file name`

This creates a subdirectory of the name of the install file.

**NOTE:** Don’t include the `.tgz` extension in the `tar` command.

For a Linux system, issue the following command:

- `tar -xzvf FTPServerinstall file name`

  This creates a subdirectory of the name of the install file.

3. Go to the directory you just created, and run the install script by typing:

   `./install.sh`.

The locations of all files for the FTP perimeter server are as follows:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>mwftpd</td>
<td>FTP server executable file</td>
<td>/opt/messageway/ftp</td>
</tr>
<tr>
<td>mwftpd</td>
<td>FTP server startup shell script</td>
<td>/etc/init.d</td>
</tr>
<tr>
<td>mwftpd.conf</td>
<td>FTP server configuration file</td>
<td>/etc/messageway</td>
</tr>
<tr>
<td>testcert.pem</td>
<td>FTP server SSL certificate</td>
<td>/etc/messageway/certs/cert</td>
</tr>
<tr>
<td>testkey.pem</td>
<td>FTP server SSL private key</td>
<td>/etc/messageway/certs/private</td>
</tr>
</tbody>
</table>

**Start the FTP Perimeter Server**

You start the FTP perimeter server differently, depending on the operating system where the server resides: UNIX/Linux or Windows.

**To Start the FTP Perimeter Server on Windows**

To start the FTP perimeter server on Windows, proceed as follows:

1. From the **Start** menu, select **Programs|Administrative Tools|Computer Management**. The Computer Manager window appears.

2. In the left pane, expand the folder **Services and Applications**, and click **Services**. The Services window appears.

3. In the right pane, scroll to the service, **MessageWay FTP Server**.

4. Right-click **MessageWay FTP Server**, and select **Start** from the menu. The Status column should display **Started**.
To Start the FTP Perimeter Server on UNIX or Linux

On UNIX or Linux, you start the FTP perimeter server with a startup script. The startup script, `mwftpd`, has the following options:

<table>
<thead>
<tr>
<th>FTP script options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>condrestart</td>
<td>Restarts only if the FTP server is running. The script determines if the FTP server is running by looking for the PID file on disk. This process rereads the configuration file.</td>
</tr>
<tr>
<td>restart</td>
<td>Stops the server and then starts the server. This process rereads the configuration file.</td>
</tr>
<tr>
<td>start</td>
<td>Starts the server. This process rereads the configuration file.</td>
</tr>
<tr>
<td>status</td>
<td>Provides the status of the server.</td>
</tr>
<tr>
<td>stop</td>
<td>Sends the FTP server process a TERM signal; waits for 1 second; checks if the process is still running, and if it is, then sends the process a KILL signal.</td>
</tr>
<tr>
<td>stopnowait</td>
<td>Sends the FTP server a TERM signal and exits the script. This will cause the FTP server to stay around until the IdleLogonTime (configured in the Listeners section of the configuration file) before shutting down.</td>
</tr>
<tr>
<td>wait</td>
<td>Sends the FTP server a KILL signal and waits to make sure that the server is stopped.</td>
</tr>
</tbody>
</table>

**IMPORTANT:** The script and the daemon process that the script starts and stops can be started only by the user, `root`. Check the system logs for errors if the server daemon process fails to start.

To start the FTP perimeter server on UNIX or Linux, proceed as follows:

1. Make sure you are logged on as the user, `root`.

   **NOTE:** When running, MessageWay temporarily requires root access for the remote execution server, the SFTP proxy server and the FTP and SFTP perimeter servers. The FTP and SFTP perimeter servers require root access because they must listen on low ports (<1024), and both Linux and Solaris require root access to listen on low ports.

2. Go to the subdirectory where the script resides by typing:

   ```shell
cd /etc/init.d
   ```

3. To start the server daemon process, type:

   ```shell
   ./mwftpd start
   ```

   - or -

   To check the server status, type:

   ```shell
   ./mwftpd status
   ```
To stop the server, type:

```
./mwftpd stop
```

- or -

To restart the server, type:

```
./mwftpd restart
```

**NOTE:** For Red Hat 7.x, MessageWay supports the systemctl utility, including automatically starting MessageWay when the application server is rebooted, and automatically starting MessageWay perimeter servers when the perimeter server is rebooted. The systemctl files are named `messageway.service, mwftpd.service, mwproxy.service, mwresd.service` and `mwsftpd.service`, and are located in `/usr/lib/systemd/system/`, with symbolic links being added in `/etc/systemd/system/multi-user.target.wants/`. See above systemctl files for more details.

---

**Installing or Upgrading the Remote Execution Server**

This is a check list of the tasks you will perform to install the Remote Execution Server (RES). To upgrade the RES, you only need to perform the install, since the configuration files will not be changed for an upgrade.

For more information about configuring the Remote Execution Server, please refer to the section "Configuring MessageWay Perimeter Servers" in the *MessageWay User's Guide and Reference*.

The installation process installs or upgrades the components of the Remote Execution Server (RES) system, at which time you also set up the configuration file. These tasks assume that you have already installed MessageWay, which includes the MessageWay Server and the MessageWay Manager. The Remote Execution Client is by default installed with the MessageWay Server.
These are the tasks performed during initial installation for testing:

- Install the Remote Execution Server, typically on a system that is not where the client runs.

**NOTE:** You may want to install the server on the same machine as the client for testing purposes.

- Set up the configuration file for the client, and optionally, the monitor.
- Set up the configuration file for the server, typically on the remote machine.
- Configure shared keys for the client and server.
- Configure logon security for the user ID that will access the server.
- If needed, for the monitor, configure a location to receive the notifications.
- Start the Remote Execution Server.
- Test the connection to the server.
- Configure a Custom Processing or Custom IO location to invoke the client.
- Test the system from end to end.

### Licensing Requirements for the Remote Execution Server

The MessageWay Remote Execution Server (RES) is a licensed component of MessageWay from Ipswitch, Inc. For more information, contact Technical Support at mwaysupport@ipswitch.com.

### Pre-requisites to Install the Server Component of RES on a 64-bit RedHat System

If you install the server component of RES, mwresd, on a 64-bit RHEL6 system, you must first install these additional library components:

1. (Conditional) This step is *not* necessary if you install mwresd on the same machine as the MessageWay application. The MessageWay installation already required this step. To install the 32-bit libstdc++, type:
   ```
   # yum upgrade libstdc++
   # yum install libstdc++.i686
   ```

2. Install 32-bit pam.
   ```
   # yum install pam.i686
   ```
Installing the RES Components

The installation process for the Remote Execution Server Components varies depending on the operating system where you install the component, Windows or UNIX/Linux.

This option includes the following components:

- Remote Execution Server (RES)
- Remote Execution Client (installed with base MessageWay)
- Remote Server Monitor (part of MessageWay Schedule Server)

These components typically have the following physical relationships:

- The client resides with the MessageWay Server
- The monitor functionality is in the MessageWay Schedule Server, which resides with the MessageWay Server
- The RES resides on a remote machine

To install the RES server on IBM AIX, you must also have the following additional library components:

<table>
<thead>
<tr>
<th>Package</th>
<th>Level</th>
<th>Libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>bos.rte.libc</td>
<td>5.3.7.1</td>
<td>libc</td>
</tr>
<tr>
<td>bos.rte.security</td>
<td>5.3.7.1</td>
<td>libcrypt, libpam</td>
</tr>
<tr>
<td>bos.rte.libpthreads</td>
<td>5.3.7.0</td>
<td>libpthreads</td>
</tr>
<tr>
<td>xlC.rte</td>
<td>9.0.0.1</td>
<td>libC (C++ library)</td>
</tr>
</tbody>
</table>

To Install RES on Windows

Repeat these instructions for each server you must install on a separate Windows system.

When you are ready to install the RES server, the first step is to insert the MessageWay CD into your CD-ROM drive and run the installation program:

1. Select **Start, Run** and type in your CD-ROM drive and the path as follows:
   
   \texttt{CD\_ROM\ path:\MessageWay 6.1\windows\mwres-6.1.0-win32-install.exe}.

2. Click **OK** to begin the installation.
An installation window appears as shown below, followed by a notice regarding the location of the MessageWay documentation files.

3 Click Next.
A notice screen appears.

![MessageWay RES](image)

**Important Notice!!**

Welcome to the installation program for the MessageWay Remote Execution Server (MWaRES).

This installation process automatically installs the MessageWay Remote Execution Server (RES) on your computer. You may install over prior versions of RES as long as the prior version is 5.0 or above.

Detailed installation instructions and complete product documentation are stored in the 'Doc' folder of the MessageWay installation CD.

Thank you for your continued confidence in the products and services of Ipswitch, Inc.

4 Click **Next** to continue.
The MessageWay RES Directory screen appears.

5. Change the directory where you want to install the client or server by clicking the **Browse** button, then click **Next** to continue.
The Start Installation screen appears.

![MessageWay RES installation screen]

6 This screen allows you to cancel the installation, if necessary. To continue, click **Next**.

7 When the installation is complete, the final screen will appear. Click **Finish** to exit the installation procedure.

The Remote Execution Client was installed with the MessageWay Server. The locations of all files for the client are as follows:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>mwres</td>
<td>RES Client Executable file (installed with base MessageWay)</td>
<td>\Program Files\MessageWay\utils</td>
</tr>
<tr>
<td>mwkeygen</td>
<td>RES Key Generation Program</td>
<td>\Program Files\MessageWay\utils</td>
</tr>
<tr>
<td>mwres.conf</td>
<td>RES Client Configuration file</td>
<td>\Users\MessageWayUser\AppData\Roaming\messageway</td>
</tr>
</tbody>
</table>

The locations of all files for the RES server are as follows:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>mwresd</td>
<td>RES Server Executable file</td>
<td>\Program Files\MessageWay\res</td>
</tr>
</tbody>
</table>
**To Install RES on UNIX or Linux**

Repeat these instructions for each server you must install on a separate UNIX or Linux system.

1. Log on as user, **root**.

   **NOTE:** The installer requires root access in order to create the initial install directories and install the startup script, typically in `/etc/init.d`.

2. Go to the **mwayinstall** directory, and untar the MessageWay RES tarball, **RES install file name**.

   For a UNIX system, issue the following commands:
   
a) **gunzip** **RESinstall file name**
   
b) **tar --xvf** **RESinstall file name**

   This creates a subdirectory of the name of the install file.

   **NOTE:** Don’t include the `.tgz` extension in the **tar** command

   For a Linux system, issue the following command:

   - **tar -xzvf** **RES install file name**

   This creates a subdirectory of the name of the install file.

3. Go to the directory you just created, and run the install script by typing:

   ```bash
   ./install.sh
   ```

   The locations of all files for the RES client are as follows:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>mwres</td>
<td>RES Client Executable file</td>
<td><code>/opt/messageway/utils</code></td>
</tr>
<tr>
<td>mwkeygen</td>
<td>RES Key Generation Program</td>
<td><code>/opt/messageway/utils</code></td>
</tr>
<tr>
<td>mwres.conf</td>
<td>RES Client Configuration file</td>
<td><code>/etc/messageway</code></td>
</tr>
</tbody>
</table>

   The locations of all files for the RES server are as follows:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>mwresd</td>
<td>RES Server Executable file</td>
<td><code>/opt/messageway/res</code></td>
</tr>
<tr>
<td>mwresd.conf</td>
<td>RES Server Configuration file</td>
<td><code>/etc/messageway</code></td>
</tr>
</tbody>
</table>
Configuring Security for the Remote Execution Server

The Remote Execution Server system authorizes script execution and protects data exchanged between the client and server machines from public access. To do so, it uses three methods: connection security, script security context and logon security.

The RES uses a session-specific key to encrypt the data passing through the connection between the client and server. The remote server generates the session key, which it encrypts using the shared key and passes to the client at the beginning of the session.

If a passphrase is provided, the server will use it to modify the shared key before it is used. Users must manually distribute the key to the server system the first time. The key could be updated on a regular basis for increased security.

The server accepts connections only from a list of approved client IP addresses from the configuration file. All other connections are refused. A separate key may be configured for each IP address.

You set the security context of the script by passing a user ID and password over the encrypted connection.

Logon security controls access to the Remote Execution Server.

Generating the Shared Key File

You generate the shared key on the system where the client resides and distribute a copy to the server.

The default location for the program that generates the key files, mwkeygen, and the key files themselves depends on the operating system, as shown in the following table:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Default Location of Key Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIX or Linux</td>
<td>/opt/messageway/utils/mwkeygen</td>
</tr>
<tr>
<td>Windows</td>
<td>C:\Program Files\MessageWay\utils\mwkeygen.exe</td>
</tr>
</tbody>
</table>

The syntax for the shared-key generation program is simply the executable followed by the file name of the key file you want to create. Once you create the key file on the client system, you should put a copy on the system where the server resides. When both the client and server are on the same system, they will share the one key file.

The syntax for the file name is as follows:

\{fully-qualified file name|file name\}[.suffix]

- When a suffix is not supplied, the default suffix .mkf is used.
- File names that are not fully qualified are created in the current directory.
Here are some Windows examples that are executed from a command prompt where the program resides:

```
mwkeygen keyA
```
Creates a key file, `keyA.mkf`, in the current directory.

```
mwkeygen keyA.key
```
Creates a key file, `keyA.key`, in the current directory.

```
mwkeygen c:\keyfiles\keyA
```
Creates a key file, `keyA.mkf`, in the `c:\keyfiles` directory. The directory must exist.

Here are some UNIX and Linux examples that are executed from a command prompt where the program resides:

```
./mwkeygen keyA
```
Creates a key file, `keyA.mkf`, in the current directory.

```
./mwkeygen keyA.key
```
Creates a key file, `keyA.key`, in the current directory.

```
./mwkeygen /opt/keyfiles/keyA
```
Creates a key file, `keyA.mkf`, in the `/opt/keyfiles` directory. The directory must exist.
Security Context of Remote Script

**IMPORTANT:** You maintain the security of the script by not showing your password in clear text. The client will pass encrypted text to the server. Users should take care to make sure the password is not displayed as clear text in the location configuration.

You do this by configuring the password within the location configuration and then using the `%password%` replaceable parameter in the script. This way, the password never appears in clear text in the configuration files, as you can see in the following example. When you use the `%password%` token, you typically also use the `%user%` token, although either could be typed in clear text.

Logon Security

The Remote Execution Server requires certain security settings to enable the client to log on to the system on which the server resides.

You will perform different tasks, depending on where the server resides, UNIX/Linux or Windows.
Setting Logon Security for Windows

When the client sends a user ID to the Remote Execution Server, that user ID must have special privileges on the Windows system. If you need a special user ID to log on to Windows for this, create that user before you perform this task.

To grant the privileges, do the following:

1. From the Start menu, select Programs|Administrative Tools|Local Security Policy.
   - or -
   From the Control Panel window, select Administrative Tools|Local Security Policy.
   The Local Security Settings window appears.

2. In the left pane, within the Local Policies folder, select User Rights Assignment.

3. In the right pane, double-click Log on as a batch job.
   The Log on as a batch job Properties window appears.

4. Select the Add User or Group button.
   The Select Users or Groups window appears.

5. Do the following:
   a) In Enter the object names to select, type the following:
      
      *machine name\user ID to be passed by the client*
      
   b) Select Check Names and then OK twice to return to the Local Security Settings window.
      If the object name is valid, the properties window appears with the user ID added to the Member Of tab.

Setting Logon Security for UNIX or Linux

For a UNIX or Linux system, the RES Server uses Pluggable Authentication Modules (PAM) to authenticate the remote user specified by the RES Client. PAM uses system-supplied shared objects for user authentication. The installation provides files that contain instructions to setup PAM on the system where the RES Server will be running.

For Linux, copy the mwresd.pam.gcc file as follows:

<table>
<thead>
<tr>
<th>From Location</th>
<th>To Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>/opt/messageway/res/mwresd.pam.gcc</td>
<td>/etc/pam.d/mwresd</td>
</tr>
</tbody>
</table>
For UNIX, append the mwresd.pam.sol file as follows:

<table>
<thead>
<tr>
<th>From Location</th>
<th>To Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>/opt/messageway/res/mwresd.pam.sol</td>
<td>/etc/pam.conf</td>
</tr>
</tbody>
</table>

For more information about PAM, visit the site [http://www.kernel.org/pub/linux/libs/pam/](http://www.kernel.org/pub/linux/libs/pam/).

## Installing or Upgrading the SFTP Perimeter Server

The MessageWay SFTP Server allows trading partners to send messages to MessageWay using the SFTP protocol. This is a check list of the tasks you will perform to install the SFTP Server and then configure it for initial testing.

To upgrade the SFTP perimeter server, you only need to perform the install, since the configuration files will not be changed for an upgrade.

To configure the SFTP Server, please refer to the section "Configuring MessageWay Perimeter Servers" in the *MessageWay User's Guide and Reference*.

This installation process installs the components of the SFTP Perimeter Server. These tasks assume that you have already installed MessageWay, which includes the following components of interest here:

- MessageWay Messaging Server, which processes messaging requests
- MessageWay User Server, which controls access to MessageWay
- MessageWay Service Interface, which provides access to MessageWay from MessageWay servers and the Internet
- MessageWay Manager, which provides the user interface to configure MessageWay

These are the basic tasks to install the SFTP Perimeter Server:

- For UNIX or Linux, install the MWay SFTP Perimeter Server
  - or -
- For Windows
  - Install the open source product Cygwin to provide a Linux-like environment for SFTP
  - Install the MessageWay SFTP Perimeter Server to run under Cygwin
NOTE: The SSH host keys are generated during the MessageWay SFTP Server installation. The mwsftpd.conf is pre-configured with these production-ready keys.

After you have installed the SFTP Perimeter Server, you must perform the following tasks to configure and test the system:

- Set up the configuration file for the Service Interface on the MessageWay system
- Start the Service Interface
- Test the connection to the Service Interface
- Set up the configuration file for the SFTP Perimeter Server
- Install the certificate obtained from a licensing authority to perform SSL communications, if desired, between the MWay SFTP Server and Service Interface

NOTE: Ipswitch, Inc. provides certificates with the MessageWay installation as part of the Service Interface to use for initial testing. These certificates allow anonymous logon. You should replace these certificates as soon as possible. If the SFTP Server is not installed on the local MessageWay box, the value in the CertFingerprint parameter, which comes pre-configured in the MSI section of mwsftpd.conf, must be used in order to establish an SSL connection using the provided test certificates. If the SFTP Server is installed locally, an SSL connection can be established using either the CertFingerprint or CertVerifyFile parameter. Only one of the two parameters must be active.

- Configure MessageWay users and locations
- Test the system from end to end

**Licensing Requirements for the SFTP Perimeter Server**

The MessageWay SFTP Perimeter Server, the MessageWay SFTP Adapter and the MessageWay SFTP Proxy Server are all included in the MessageWay base license, although you install and configure them separately. For more information, contact Technical Support at mwaysupport@ipswitch.com.

The SSH host keys are generated during MessageWay SFTP Perimeter Server installation to enable secure communications between SFTP clients and the SFTP Perimeter Server. These keys are production-ready and do not require replacement. The configuration file is pre-configured to use the keys generated during installation.

Ipswitch, Inc. has provided certificates with the MessageWay installation as part of the Service Interface for users to be able to test SSL communications between the MessageWay SFTP Perimeter Server and the Service Interface. At least for the final stages of testing, users should obtain their own certificates from a trusted licensing authority.

To install the SFTP Server on Windows, you must first install Cygwin (http://www.cygwin.com), which is open software that provides a Linux-like environment on a Windows system.
Pre-requisites to Install the SFTP Perimeter Server on a 64-bit RedHat System

If you install the SFTP perimeter server on a 64-bit RHEL6 system, you must first install these additional library components:

1. (Conditional) This step is not necessary if you install the SFTP perimeter server on the same machine as the MessageWay application. The MessageWay installation already required this step. To install the 32-bit libstdc++, type:
   
   ```
   # yum upgrade libstdc++
   # yum install libstdc++.i686
   ```

2. Install the 32 bit zlib
   
   ```
   # yum upgrade zlib
   # yum install zlib.i686
   ```

Install the SFTP Perimeter Server

The installation process for the SFTP server varies depending on the operating system where you install the components, UNIX/Linux or Windows.

To Install the SFTP Perimeter Server on UNIX or Linux

1. Log on as user, root.

   **NOTE:** The installer requires root access in order to create the initial install directories and install the startup script, typically in /etc/init.d.

2. Go to the mwayinstall directory, and untar the MessageWay SFTP Server tarball, SFTPServerinstall file.

   For a UNIX system, issue the following commands:
   a) `gunzip SFTPServerinstall file name`
   b) `tar -xvf SFTPServerinstall file name`

   This creates a subdirectory of the name of the install file.

   **NOTE:** Don’t include the .tgz extension in the tar command.

   For a Linux system, issue the following command:

   ```
   tar -xzvf SFTPServerinstall file name
   ```

   This creates a subdirectory of the name of the install file.

3. Go to the directory you just created, and run the install script by typing:

   ```
   ./install.sh
   ```
IMPORTANT: For SUSE 10, 64-bit systems, if you use password authentication rather than public key authentication, you may need to enable password authentication in the SSH configuration file, typically /etc/sshd_config. If this is not enabled, and you attempt to use password authentication, you will get a 1113 error stating that the system has exhausted authentication methods.

To review the locations of files for the SFTP perimeter server, refer to the topic, *MessageWay Files and Locations for UNIX/Linux* (on page 13).

**To Install the SFTP Perimeter Server on Windows**

The SFTP server runs on Windows under the Cygwin, which is open software that provides a Linux-like environment for Windows. First, you must install Cygwin 32-bit version as an administrative user and then install the SFTP server.

**NOTE:** The following instructions describe how to install the 32-bit version of Cygwin from the Internet.

To install Cygwin, make sure you are logged on as an administrative user, then proceed as follows:

1. From the Cygwin site ([http://www.cygwin.com/](http://www.cygwin.com/)), run the 32-bit setup program to install the latest version of Cygwin and its associated packages.

   **NOTE:** If you receive a security warning dialog about an unknown publisher, click Run.

   The Cygwin Setup window appears.

2. Click Next.
The **Choose Installation Type** window appears.

3 Select **Install from Internet**, and click **Next**.

The **Choose Installation Directory** window appears.

4 Accept the defaults, and click **Next**.
The **Select Local Package Directory** window appears.

![Select Local Package Directory](image1)

5. Specify where you want the program to store the files it downloads, and click **Next**. The **Select Connection Type** window appears.

![Select Connection Type](image2)

6. Select the type of connection you want to make, and click **Next**.
The **Choose Download Site(s)** window appears.

![Choose Download Site](image)

7 Choose the download site, and click **Next**.

The **Select Packages** window appears to show you which base packages it will install.

![Select Packages](image)

8 Click the drop down arrow next to **Category** and select **Not Installed** view.

Another **Select Packages** window appears to allow you to choose which packages to install.

**IMPORTANT:** If you are updating rather than uninstalling and reinstalling cygwin, the packages you currently have installed will be selected automatically and will not be visible in this view, since this view shows only those packages that are not already selected to be installed.
9 Use the **Search** function to locate the following packages, and for each of the following packages found:

a) Find the package in the **Package** column.

b) Click **Skip** in the **New** column and select the latest version. This puts a mark in the box in the **Bin?** column.

- **csih**: Provides support for installing cygwin services.
- **cygrunsrv**: NT/W2K service initiator
- **inetutils**: Common networking clients and servers (clients)
- **libcrypt0**: Encryption/Decryption utility and library
- **libssp0**: GCC Stack-Smashing Protection runtime library
- **syslog-ng**: Next generation system logging daemon
- **vim**: Vi IMproved - enhanced vi editor
- **zlib**: gzip de/compression library (documentation)

10 Click the drop down arrow next to **Not Installed** and select **Pending** view, and make sure that you see the packages listed previously. If you missed one, repeat step 9 for that package.
IMPORTANT: DO NOT deselect any packages that are already selected. DO NOT click the Clear button, because that removes all selections.

11 Click Next. The Review and confirm changes window will appear with a list of additional packages required to resolve dependencies. Click Next.

A progress window appears.
12 When the installation completes successfully, the **Installation Status and Create Icons** window appears.

![Create Icons and Installation Status](image)

13 Choose whether you want to create icons, and click **Finish**.

**CAUTION:** For new installs, before you proceed, you may need to temporarily disable your anti-virus program when you install the SFTP server. This process uses ssh-keygen to create the SSH host keys for the server.

The examples show a full install, but you can use these steps for re-installs and upgrades as noted. To install the SFTP server to run under Cygwin, make sure you are logged on as the administrative user that will own the installed files, and proceed as follows:

1 To start Cygwin, you must run it as an administrator. Right-click the Cygwin shortcut (Cygwin Terminal) or the .bat file and select *Run as Administrator*.

   - From the **Desktop** or **Start** menu, find **Cygwin Terminal**, which is typically in a Cygwin folder, and right-click and select *Run as Administrator*.
   - or -

   - From the **Start** menu, click **Run**, browse to the location where you installed Cygwin, right-click the Cygwin.bat file and select *Run as Administrator*.

   A Linux-type command-line environment window appears.

2 Create a MessageWay installation directory in your user directory.
a) Type `mkdir mwayinstall`, and press Enter.

b) Type `cd mwayinstall`, and press Enter.

3 Put the installation file, which is a tarball, in the c:\ root folder using Windows Explorer.

4 At the Cygwin prompt, copy the tarball to the mwayinstall folder.
   - Type `cp -p /cygdrive/c/SFTPServerinstall file name`.

   **NOTE:** The name of the tarball must be followed by a space and a period.

5 Untar, unzip, the MessageWay SFTP Server tarball.
   - Type `tar -xzvf SFTPServerinstall file name`.

   This creates a subdirectory of the name of the install file.

   **NOTE:** If you are installing a maintenance release, you may see fewer files than those shown here.
Your directory structure will look similar to the following:

```

  cygwin
    bin
    dev
    etc
  home
    pmarkey
  mwayinstall
    mwsftp-5.1.0-cygwin
```

6 List the owner/group of the files in the mwayinstall directory to know what user name and group you should enter, and then go to the directory you just created, and run the install script.

   a) At the mwayinstall directory, type `ls -l`.
   b) Type `cd SFTPInstall directory`.
   c) Type `./install.sh`, and press Enter.
Your screen should look something like the following:

```
$ ls -l
 total 4072
 drwxr-x-x 1 pmarkey  None  0 Nov 21  2012 mwsftp-6.1.0-cygwin
    rwx---- 1 Administrators  None 2545034 Nov 21  2012 mwsftp-6.1.0-cygwin.tgz

$ cd mwsftp-6.1.0-cygwin

$ ./install.sh
 Installing MessageWay SFTP Server On Host: [pmarkey-pc] OS: [CYGWIN_NT-6.1-WOW64]

Welcome to the installation program for the MessageWay SFTP Server 6.1

This installation process automatically installs the MessageWay SFTP Server (FTP
SSH) on your computer. You may install over prior versions of MessageWay SFTP S
server if the prior version is 5.0 or above.

Detailed installation instructions and complete product documentation are stored
in the 'Doc' folder of the MessageWay installation CD.

Thank you for your continued confidence in the products and services of Ipswitch
, Inc.

PATH Variable for root should include the directories
PATH=/bin:/usr/bin:/usr/sbin:/usr/local/bin:/usr/tech

Installing MessageWay SFTP Server On Host: [pmarkey-pc] OS: [CYGWIN_NT-6.1-WOW64]
Enter SFTP Server System User (mway) : pmarkey
Enter SFTP Server System Group (mway) : None
```

7 To specify the user and group, use the values shown when you did the list command on the
mwayinstall directory:

a) At the prompt, `Enter SFTP Server System User (mway)`:, type `system_user_name`, and press `Enter`.

b) At the prompt, `Enter SFTP Server System Group (mway)` :, type `system_user_group` or `None`, and
press `Enter`.

8 For new installs, at the `Would you like to change these directories?` prompt, type `N`, and press `Enter`. 
NOTE: If you are re-installing or installing a hotfix update, you will not see this prompt. Continue to the next step.

**MessageWay SFTP default directories**

| SFTP Server directory: | [/opt/messageway/sftp] |
| SFTP Configuration directory: | [/etc/messageway] |
| SFTP Startup Script directory: | [/etc/init.d] |

Would you like to change these directories? \(N\) : N

9 At the **Proceed?** prompt, type **Y**, and press **Enter**.

**MessageWay SFTP Server: [New Install]**

SFTP Server Directory: \([/opt/messageway/sftp]\)
SFTP Configuration Directory: \([/etc/messageway]\)
SFTP Startup Script Directory: \([/etc/init.d]\)

**MessageWay SFTP Server Install List**

<table>
<thead>
<tr>
<th>M</th>
<th>way SFTP Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proceed? (Y) : Y</td>
<td></td>
</tr>
</tbody>
</table>

For the locations of all files for the SFTP Server, refer to the topic, *MessageWay Servers Default Locations* (on page 9).

For a new install, to create the SFTP service and add the appropriate privileges for the local administrator that owns the service:

1 Log on to the Windows server as the local administrator that installed the SFTP Server.

2 In Cygwin, perform the following commands, replacing the \(<\) and \(>\) symbols and information within the symbols with the appropriate information:

   a) cygrunsrv -I "MWSFTPServer" -u "<local admin>" -w "<password>" -d "MessageWay SFTP Server" -p "/opt/messageway/sftp/mwsftpd" -a "-D -f /etc/messageway/mwsftpd_config" -e CYGWIN=server

   b) editrights -a SeTcbPrivilege -u <local admin>

   c) editrights -a SeAssignPrimaryTokenPrivilege -u <local admin>

   d) editrights -a SeCreateTokenPrivilege -u <local admin>

   e) editrights -a SeIncreaseQuotaPrivilege -u <local admin>

   f) editrights -a SeServiceLogonRight -u <local admin>
For a new install, you may optionally install the ‘CYGWIN syslogd’ service if you would like the SFTP server events written to the Cygwin /var/log/messages file instead of to the Windows Application Log. Ipswitch recommends that you only perform this step if SFTP server events are not being written to the Windows Application Log for some reason, or if you would prefer that these events not be written to the Windows Application Log since they could be substantial in volume:

1. Type \texttt{cd /bin}, and press \texttt{Enter}.
2. Type \texttt{/syslogd-config}, and press \texttt{Enter}.
3. When asked if you want to install syslogd as a service, type \texttt{Yes}.
4. To start the logging service, type:
   \texttt{net start syslogd}

### Upgrading Cygwin and the SFTP Perimeter Server on Windows

To run MWSFTPD on Windows, you should use the 32-bit Cygwin version 1.7.9 or newer. If you need to upgrade or re-install Cygwin on Windows, you may have to uninstall the existing version of Cygwin and the SFTP Perimeter Server and then install the new versions.

\textbf{NOTE:} You do not need to upgrade Cygwin if you are currently running 1.7.9 or newer. Simply run the MWSFTP upgrade.

To uninstall Cygwin, proceed as follows. You must have administrative rights.

1. Delete the syslogd service, if it exists,
   a) From the Start menu>Administrative Tools group, double-click \textit{Services} and stop the CYGWIN Syslogd service.
   b) Start the Cygwin bash shell as an administrator. Right-click the Cygwin shortcut (Cygwin Terminal) or the \texttt{.bat} file and select \textit{Run as Administrator}.
      - From the \textbf{Desktop} or \textbf{Start} menu, find \textit{Cygwin Terminal}, which is typically in a Cygwin folder, and right-click and select \textit{Run as Administrator}.
      - or -
      - From the \textbf{Start} menu, click \textit{Run}, browse to the location where you installed Cygwin, right-click the Cygwin.bat file and select \textit{Run as Administrator}.
   c) From the Cygwin bash shell, type:
      \texttt{sc delete syslogd}
2. Delete the MWSFTPServer service, if it exists:
   a) Stop the MWSFTPServer service within Services (see step 1a for instructions).
   b) From the Cygwin bash shell type:
      \texttt{sc delete MWSFTPServer}
3. From the Cygwin bash shell type `exit` to close it.

4. Install Cygwin and the SFTP Perimeter Server (on page 144).

---

Start the SFTP Perimeter Server

You start the MessageWay SFTP Server differently, depending on the operating system where the server resides: UNIX/Linux or Windows.

To Start the SFTP Perimeter Server on UNIX or Linux

You start the MessageWay SFTP Perimeter Server with a startup script. The startup script, `mwsftpd`, has the options, `start, stop, restart` and `status`. Make sure you configure the server before you start it.

**IMPORTANT:** The script and the daemon process that the script starts and stops can be started only by the user, `root`. Check the system logs for errors if the server daemon process fails to start.

To start the SFTP server daemon, proceed as follows:

1. Log on as the user, `root`.

   **NOTE:** When running, MessageWay temporarily requires root access for the remote execution server, the SFTP proxy server and the FTP and SFTP perimeter servers. The FTP and SFTP perimeter servers require root access because they must listen on low ports (<1024), and both Linux and Solaris require root access to listen on low ports. Also, the SFTP perimeter server runs as root for the listener, but after a connection is accepted, it switches to the MessageWay user.

2. Go to the subdirectory where the script resides by typing:

   ```
   cd /etc/init.d
   ```

3. To start the server daemon process, type:

   ```
   ./mwsftpd start
   ```

   - or -

   To check the server status, type:

   ```
   ./mwsftpd status
   ```

   - or -

   To stop the server, type:

   ```
   ./mwsftpd stop
   ```

   - or -

   To restart the server, type:

   ```
   ./mwsftpd restart
   ```
NOTE: For Red Hat 7.x, MessageWay supports the systemctl utility, including automatically starting MessageWay when the application server is rebooted, and automatically starting MessageWay perimeter servers when the perimeter server is rebooted. The systemctl files are named messageway.service, mwftpd.service, mwproxy.service, mwresd.service and mwsftpd.service, and are located in /usr/lib/systemd/system/, with symbolic links being added in /etc/systemd/system/multi-user.target.wants/. See above systemctl files for more details.

IMPORTANT: For SUSE 10, 64-bit systems, if you use password authentication rather than public key authentication, you may need to enable password authentication in the SSH configuration file, typically /etc/sshd_config. If this is not enabled, and you attempt to use password authentication, you will get a 1113 error stating that the system has exhausted authentication methods.

To Start the SFTP Perimeter Server on Windows

From Windows, before you start the MessageWay SFTP Perimeter Server, you must first start Cygwin, which provides command-line access in a Linux type environment. If you have not yet installed Cygwin, refer to the topic, "To Install the SFTP Perimeter Server on Windows (on page 144)".

1. If you installed the syslogd service and want to start it, start the syslogd service as follows:
   - From Windows Services, right-click Cygwin syslogd, and click Start.
   - The status of the server should change to Started.

2. From Windows Services, right-click MessageWay SFTP Server, and click Start.
   - The status of the server should change to Started.

Installing or Upgrading the SFTP Proxy Server

The MessageWay SFTP Proxy Server provides connection service for the MessageWay SFTP Adapter to an external SFTP server. Once the connection is established, the proxy server acts as a pass-thru, and the adapter communicates directly with the external SFTP server.

These instructions allow you to install or upgrade the SFTP proxy server.

For more information about configuring the SFTP proxy server, please refer to the section "Configuring MessageWay Perimeter Servers" in the MessageWay User's Guide and Reference.
Licensing Requirements for the SFTP Proxy Server

The MessageWay SFTP Proxy Server, the MessageWay SFTP Adapter and the MessageWay SFTP Perimeter Server are all included in the MessageWay base license, although you install and configure them separately. For more information, contact Technical Support at mwaysupport@ipswitch.com.

The SSH keys enable secure communications between the SFTP adapter and an external SFTP server. You can either enter the server key manually, or accept the server key transmitted by the server during the next connection. You use the MessageWay Key Management feature to generate new or import existing client keys. If you are using the proxy server, you configure a shared secret to secure the connection between the adapter and the proxy server.

Install the SFTP Proxy Server

The installation process for the SFTP proxy server varies depending on the operating system where you install the components, UNIX/Linux or Windows.

To Install the SFTP Proxy Server on UNIX or Linux

1. Log on as user, root.
   
   **NOTE:** The installer requires root access in order to create the initial install directories and install the startup script, typically in /etc/init.d.

2. Go to the mwayinstall directory, and untar the MessageWay SFTP Proxy Server tarball, ProxyServerinstall file.
   
   For a UNIX system, issue the following commands:
   
   a) `gzip -d ProxyServerinstall file name`
   
   b) `tar -xvf ProxyServerinstall file name`
   
   This creates a subdirectory of the name of the install file.
   
   **NOTE:** Don’t include the .tgz extension in the tar command.

   For a Linux system, issue the following command:
   
   ```
   tar -xzvf ProxyServerinstall file name
   ```
   
   This creates a subdirectory of the name of the install file.

3. Go to the directory you just created, and run the install script by typing:
   
   `./install.sh`

To review the locations of files for the SFTP proxy server, refer to the topic, *MessageWay Files and Locations for UNIX/Linux* (on page 13).
To Install the SFTP Proxy Server on Windows

When you are ready to install the SFTP proxy server, the first step is to run the installation program from your install medium, for example a CD:

1. Select **Start, Run** and type in your CD-ROM drive and the path as follows:

   CD-ROM path: `\MessageWay 6.1\windows\mwproxy-6.1.0-win32-install.exe`

2. Click **OK** to begin the installation.

   An installation window appears as shown below, followed by a notice regarding the location of the MessageWay documentation files.

3. Click **Next**.

   The MessageWay Proxy Server notice screen appears.

4. Click **Next** to continue.

Change the directory where you want to install the server by clicking the **Browse** button, then click **Next** to continue.

The Start Installation screen appears.
6  This screen allows you to cancel the installation, if necessary. To continue, click **Next**.

![MessageWay Proxy Server installation screen](image)

**MessageWay Proxy Server**

**Start Installation**

You are now ready to install MessageWay Proxy Server.

Press the Next button to begin the installation or the Back button to reenter the installation information.

7  When the installation is complete, the final screen will appear. Click **Finish** to exit the installation procedure.

The locations of the main files for the SFTP Proxy Server are as follows:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>mwproxy.exe</td>
<td>SFTP Proxy Server Executable file</td>
<td><code>\Program Files\MessageWay\proxy</code></td>
</tr>
<tr>
<td>mwproxy.conf</td>
<td>SFTP Proxy Server Configuration file</td>
<td><code>AllUsersApplicationFolder\MessageWay</code></td>
</tr>
</tbody>
</table>

**Start the SFTP Proxy Server**

You start the MessageWay SFTP Proxy Server differently, depending on the operating system where the server resides: UNIX/Linux or Windows.
To Start the SFTP Proxy Server on UNIX or Linux

You start the MessageWay SFTP Proxy Server with a startup script. The startup script, `mwproxy`, has the options, `start`, stop, restart and status. Make sure you configure the server before you start it.

**IMPORTANT:** The script and the daemon process that the script starts and stops can be started only by the user, root. Check the system logs for errors if the server daemon process fails to start.

To start the proxy server daemon, proceed as follows:

1. Log on as the user, root.

   **NOTE:** When running, MessageWay temporarily requires root access for the remote execution server, the SFTP proxy server and the FTP and SFTP perimeter servers. The FTP and SFTP perimeter servers require root access because they must listen on low ports (<1024), and both Linux and Solaris require root access to listen on low ports.

2. Go to the subdirectory where the script resides by typing:
   ```
   cd /etc/init.d
   ```

3. To start the server daemon process, type:
   ```
   ./mwproxy start
   ```
   - or -
   To check the server status, type:
   ```
   ./mwproxy status
   ```
   - or -
   To stop the server, type:
   ```
   ./mwproxy stop
   ```
   - or -
   To restart the server, type:
   ```
   ./mwproxy restart
   ```

To Start the SFTP Proxy Server on Windows

To start the MessageWay SFTP Proxy Server on Windows, proceed as follows:

1. From the Start menu, select Programs|Administrative Tools|Computer Management.
   The Computer Manager window appears.

2. In the left pane, expand the folder Services and Applications, and click Services.
   The Services window appears.

3. In the right pane, scroll to the service, MessageWay Proxy Server.

4. Right-click MessageWay Proxy Server, and select Start from the menu.
   The Status column should display Started.
Installing or Upgrading Additional Adapters or Services

MessageWay is licensed and delivered with one copy of each of the following adapters and services enabled:

- MessageWay Compression Service
- MessageWay Character Set Conversion Service
- MessageWay Custom Processing Service
- MessageWay Distribution List Service
- MessageWay Rules Service
- MessageWay Custom IO Adapter
- MessageWay Disk Transfer Adapter
- MessageWay Email Adapter
- MessageWay FTP Adapter
- MessageWay SFTP Adapter

Additional adapters and services including additional instances can be added to the main MessageWay server, but a license must be purchased and installed before they can be started.

NOTE: The perimeter server upgrade procedures are the same as the installation procedures. Please use the applicable installation topic for your perimeter server upgrade.

Before installation, make sure you review the topic, *Pre-requisites to Install Optional Adapters or Services* (on page 22).

NOTE: If you were already running the translation service option Edikit with MessageWay, the upgrade program will automatically install MW Translator. If not, you must install MW Translator separately.
Installing Additional Adapters or Services for Windows

Except for a couple of screens, installing additional adapters or services is similar to the original installation of MessageWay on a Windows server.

**IMPORTANT:** Before you can use the adapter or service, you must have an updated license. For more information, contact MessageWay Technical Support.

When you are ready to install an additional adapter or service on your Windows server, the first step is to insert the MessageWay CD into the server’s CD-ROM drive and run the setup program:

1. Select **Start**, **Run** and type in your CD-ROM drive and the path as follows:
   
   ```
   CD-ROM path:\MessageWay 6.1\windows\messageway-6.1.0-win32\install.exe.
   ```

2. Click **OK** to begin the installation.

   The same setup screens will appear as shown in the installation of the server earlier in this document.

3. When the User ID/Password window appears, enter the same user and password that were used in the original install, and click **Next**.

   The Select Option window appears.

![Select Option](image.png)
4 Select **Install New Adapter/Service**, then click **Next** to see the list of adapters and services that can be installed.

Select the adapter or service that you wish to install, and click **Next**.

5 Select the adapter or service that you wish to install, and click **Next**.
6  MessageWay allows you to run multiple copies of adapters and services. If the base adapter or service already exists, the Enter Adapter/Service Name window appears to allow you to add another adapter or service of that type with a different name.

![Enter Adapter/Service Name Window](image)

a) In the **Service Name** box, type the name of the new adapter or service. The Service Name may not contain spaces.

b) In the **Service Display Name** box, type the name that will allow you to identify the adapter or service more easily.

7  Click **Next** when complete.

   A Start Installation window appears to allow you to double-check your information.

8  Click **Next** again if you are sure you want to create the new adapter.

9  Click **Finish** once the setup program has completed.

10 Restart the MessageWay Manager.

   The new adapter or service will appear under the **Adapters/Services** folder.

   By default the new adapter or service will be set to **Manual** startup. That can be changed to **Automatic** by double-clicking the adapter or service name and changing the **Startup Type** on the properties window.
Installing Additional Adapters or Services for Linux and UNIX

Installing additional adapters or services on Linux and UNIX servers is similar to the original installation of MessageWay on a Linux or UNIX server.

When you are ready to install an additional adapter or service on your server:

1. Log on as user **root** and access the install directory.
2. Start the installation program by typing:
   
   ```sh
   ./install.sh
   ```
3. This command will start the installation script and lead you through a series of prompts. The answers provided will which additional adapters or services get added to the server. An example of an adapter installation on Linux or UNIX is shown below:

```
Installing MessageWay On Host: [LinuxRH] OS: [Linux]
Enter MessageWay System User (mway) :
Enter MessageWay System Group (mway) :
DB User: mway
Enter MessageWay DB Password :

MessageWay install path - /opt/messageway
MessageWay data path - /var/opt/messageway
(R)einstall Messageway or Install new (A)Adapter/Service? (R) : A
Enter type of Adapter/Service to add -

(A)S2
(C)ompression
Character Set Con(v)ersion
Custom (I)/O
Custom (P)rocessing
(D)isk Transfer
(T)ranslator
E-(m)ail
(F)TP
```
(S)FTP
(R)ules Processing
IBM WebSphere M(Q)

? : I
Enter name for new Custom I/O Adapter : MWCustomIO_2

The following adapter/service will be installed

MessageWay Install List
-------------------------------
MWCustomIO_2, Custom I/O Adapter

Proceed? (Y) : Y
Starting Install...
MWCustomIO_2 daemon installed

NOTE: This same process can be used to add other adapters or services. When you add a second copy of an existing adapter or service, the script will prompt you for a new name. The name cannot contain spaces, and will be used by Ipswitch, Inc. to generate the new license file that contains an entry for the new adapter or service.

Licensing the New Adapter or Service

To enable a new adapter or service, Ipswitch, Inc. must deliver a new license file. Once the new license has arrived, add it to MessageWay using the procedure shown in the Post-installation Tasks for All Platforms (on page 74) section earlier in this document.

Starting the New Adapter or Service

The newly installed adapter or service can be started one of two ways from the MessageWay Manager as follows:

- Right-click the adapter or service name, and click Start from the drop down box.
- or -
- Left-click the adapter or service, and click the green start arrow in the task bar.
Custom Logging of Events in UNIX/Linux

The following steps explain how to route MessageWay events on a UNIX or Linux operating system to a location other than the default messages file.

**Overview of Custom Logging in UNIX/Linux**

By default, MessageWay writes events to the daemon facility. In most cases, the syslog.conf file does not contain an entry for the daemon facility so MessageWay events get routed by a default or wildcard entry.

The default locations of the MessageWay event log for UNIX and Linux systems are:

- **UNIX**  
  `/var/adm/messages`

- **Linux**  
  `/var/log/messages`

This information is intended for system administrators and describes the necessary configurations for both MessageWay files and system files.

**Changing the Default Logging Locations**

In order for MessageWay to isolate events to independent location(s), one of the syslog LOCAL(0-7) facilities must be dedicated to MessageWay.

**Changing Logging Locations for UNIX**

There are four files that need to be modified. Each file is discussed separately. The following section uses LOCAL2 as the dedicated facility.

**IMPORTANT:** After you modify the following files, you must stop and restart both MessageWay and the syslogd processes.

1. Edit the messageway file, typically `/opt/messageway/init/messageway`, and search for `$UID`. Add the following two modifications shown in bold lettering:

   ```
   if [ $UID -eq 0 ]; then
   ```
su - ${MWAY_USER} -c "${BIN_PATH}/mwaymsg -l LOG_LOCAL2"
else
  ${BIN_PATH}/mwaymsg -l LOG_LOCAL2
fi

2 Edit the initfunc file, typically /opt/messageway/init/initfunc, and perform a search for “Start the Service”. Make the following modification shown in bold lettering:

```bash
# Start The Service
#
# echo "$Starting ${SERVICE_NAME}: "
export LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:${BIN_PATH}
${BIN_PATH}/${PROG_NAME} -l LOG_LOCAL2 ${SERVICE_NAME}
RETVAL=$?
```

3 Edit the syslog.conf file, typically /etc/syslog.conf. The following is an example of how you might configure your system to log MessageWay events. Changes are shown in bold lettering:

```bash
# If used, comment existing entry for local2
# insert pound character at column 1.
#
#local2.info - /var/adm/localmessages
#
# The following example shows info, warning, # and error events all to one file. Unlike the # Linux section examples, the Solaris platform # does not have the ability to log specific # priority levels to individual log files. # Instead, when using a particular priority # level, for example, “info”, Solaris will log # all events of info and greater priority. # Please use the man utility for syslog.conf # for further details.
#
local2.info - /var/adm/MWayAllEvents.log

local1.info - /var/adm/localmessages
```
local3.info - /var/adm/localmessages
local4,local5.info - /var/adm/localmessages
local6,local7.info - /var/adm/localmessages

4 Create the file `/var/adm/MWayAllEvent.log`.

5 In the `/var/adm` folder issue the following command:
   ```bash
touch MWayAllEvent.log
   ```

6 To manage and maintain the new MessageWay log files, add them to the logadm.conf file, typically `/etc/logadm.conf`. Edit the logadm.conf file to add an entry for the new MessageWay log(s). Changes are shown in bold lettering:
   ```bash
   # Sample entry to rotate MessageWay log files
   # each month and keep 5 generations of files.
   #
   /var/adm/MWayAllEvent.log -C 5 -p 1m -a 'kill
   -HUP `cat /var/run/syslog.pid`'
   ```

---

### Changing Logging Locations for Linux

There are two files that need to be modified. Each file is discussed separately. The following example uses LOCAL0 (zero) as the dedicated facility.

**IMPORTANT:** After you modify the following files, you must stop and restart both MessageWay and the syslogd processes.

1 Edit the syslog.conf file, typically `/etc/syslog.conf`. In bold characters below are three options depending how you want to log the MessageWay events:
   ```bash
   #
   # If used, comment existing entry for LOCAL0.
   # Insert pound character at column 1.
   #
   #local0.* - /var/log/localmessages
   #
   # The following are three options shown for
   # LOCAL0; <option 1> is # uncommented.
   #
   # <option 1> info, warning, and error events
   # all to one file.
   ```
As user mway, open /opt/messageway/init/logfacility, and edit the logfacility file to reflect the setting used in syslog.conf in Step1.

```
#LOG_FACILITY="-l LOG_LOCAL7"
LOG_FACILITY="-l LOG_LOCAL7"
```

Stop and Start the syslog.
```
/etc/init.d/.syslog restart
```

Stop and start MessageWay.
```
/opt/messageway/init/.messgeway restart
```

To manage and maintain the new MessageWay log files, add them to the logrotate.conf file, typically /etc/logrotate.conf. Edit the logrotate.conf file to add an entry for the new MessageWay log(s), as shown in bold characters:

```
# System-specific logs may be also be configured
# here. This sample entry rotates MessageWay
# log files each month.
```
#

/var/log/MwayAllEvents.log {
    rotate 5
    monthly
    postrotate
        /sbin/killall -HUP syslogd
    Endscript}

Here are some suggestions to tune your MessageWay system.

### Recommendations for High-volume Transfers Through Perimeter Servers on UNIX and Linux

We recommend the following changes to handle high volume transfers via perimeter servers on Linux and Solaris. These are the recommended minimums to handle 1000 parallel sessions for an extended period of time.

**CAUTION:** MySQL 5.5 does not support the earlier syntax in the my.cnf file that included `set-variable =`. If you upgrade MySQL to version 5.5 in preparation for an upgrade to MessageWay 6.1, you may need to edit my.cnf and remove all `set-variable =` values that precede the actual parameter setting. For example, if you have the parameter `set-variable = max_connections=1000`, you must change it to read `max_connections=1000`.

### Recommendations for a Bash Profile for MySQL

These are recommended personal environment variables to set in the .bash_profile files for the root user and for the owner of MessageWay.

1. Log on as the root user.
2. From the home directory of the owner of MessageWay, typically `mway`, and then `root`, edit the .bash_profile files of each user to add the following lines:
   
   The following sets the maximum number of open file descriptors:
   
   ```bash
   ulimit -n 2048
   ```
   
   The following sets the maximum number of processes available to a single user:
   
   ```bash
   ulimit -u 4096
   ```
   
   The following setting enables core file dumps, which may be required for troubleshooting:
   
   ```bash
   ulimit -c unlimited
   ```

3. Save and close the files.
4. Log out and then log back in as the owner of MessageWay.
**IMPORTANT:** If you have already started MessageWay, you must restart it to make the change take effect.

## Recommendations for Hard and Soft Limits on UNIX and Linux

We recommend that you set the HARD and SOFT limits for the owner of MessageWay.

For Linux systems, proceed as follows.

1. Open the file: `/etc/security/limits.conf` (linux)
2. Add the following lines to set the hard and soft limits for the owner of MessageWay, typically `mway`.
   If the owner is some user other than `mway`, replace `mway` in the following commands with your user:
   ```
   mway soft nproc=4096
   mway hard nproc=16384
   mway soft nofile=2048
   mway hard nofile=65536
   ```

For UNIX systems (solaris on global zone), proceed as follows:

1. Open the file `/etc/system`.
2. Add the following lines:
   ```
   set max_nprocs=16384
   set rlim_fd_max=65536
   ```

## Recommendations for MessageWay Servers

We recommend the following settings for the MessageWay FTP Perimeter Server and the MessageWay Service Interface.

1. Add the following lines to the MessageWay FTP Perimeter Server configuration file `/etc/messageway/mwftpd.conf` in the Global section:
   ```
   MaxConnections=1100
   PortRange=20000 - 21500
   ```

2. Add the following line to the MessageWay Service Interface configuration file `/etc/messageway/mwsi.conf` in the Global section:
   ```
   MaxConnections=2200
   ```
Recommendations for MySQL Databases

Here are some suggestions to improve performance with a MySQL database.

**CAUTION:** MySQL 5.5 does not support the earlier syntax in the my.cnf file that included `set-variable =`. If you upgrade MySQL to version 5.5 in preparation for an upgrade to MessageWay 6.1, you may need to edit my.cnf and remove all `set-variable =` values that precede the actual parameter setting. For example, if you have the parameter `set-variable = max_connections=1000`, you must change it to read `max_connections=1000`.

**IMPORTANT:** Perform the following as the user **root** from the installation directory, such as, `/home/mway/mwayinstall/name of install file`, which is created when you untar the install file as described in the topic, *Using the Installation File* (on page 51).

The MySQL install for versions 5 or higher does not create the my.cnf configuration file. You should have already created this file, but if not, refer to the topic *Creating the MessageWay Database in MySQL* (on page 57).

1. In `/etc`, open **my.cnf**.
2. In the section `[mysqld]`, add or change the following text in bold using the values specified.

   - `max_allowed_packet=64M` (default was 1M)
   - `max_connections=5000` (default was 1000)
   - `lower_case_table_names=1`
   - `interactive_timeout=2592000`
   - `wait_timeout=2592000`
   - `query_cache_size=20M`
   - `thread_cache_size=40`
   - `innodb_buffer_pool_size=128M`
   - `innodb_log_buffer_size=8M`
   - `innodb_log_file_size=64M`
   - `innodb_flush_log_at_trx_commit = 0`
   - `innodb_additional_mem_pool_size = 1M`
Recommendations for Oracle Databases

To improve performance, especially when starting adapters, you can execute the following commands:

```sql
DBMS_STATS.GATHER_SCHEMA_STATS
(OWNNAME=>'MWAY',
estimate_percent=>20,
degree=>1,
cascade=>TRUE);

DBMS_STATS.GATHER_TABLE_STATS
(OWNNAME=>'MWAY',
TABNAME=>'MESSAGES',
estimate_percent=>20,
cascade=>TRUE,
METHOD_OPT=>'FOR COLUMNS SIZE 10 status',
degree=>4);
```
Installing Hotfixes

Hotfixes are released intermittently as required to correct software issues. They are available as downloads from the support Web site. Hotfixes affect only software object code. Hotfixes never change user configurations or environments.

**Best Practice**

Before you install a hotfix, make sure you take a backup of the MessageWay database.

The process to install emergency repairs is automated. A readme file accompanies each patch with specific information about the changes that it contains and with instructions for installation.

**IMPORTANT:** When you install a MessageWay Manager hotfix on a Windows 7 or later system, the system may display the following notice from the Program Compatibility Assistant: "This program might not have installed correctly." This is an erroneous notice generated by the Microsoft Program Compatibility Assistant. If you receive this message, click the option "This program installed correctly."

The basic procedure is as follows:

1. Download the hotfix from the MessageWay support Web site ([https://community.ipswitch.com/s/About-Support/](https://community.ipswitch.com/s/About-Support/)).
2. Read the readme file associated with the hotfix, either directly from the site, or download it to your system and read it locally.
   
   **NOTE:** The install file that you download contains a copy of the readme file.

3. Follow the instructions in the readme file, which vary depending on the system where you have installed the software – Windows, Linux or UNIX.
   
   **NOTE:** The hotfix replaces the software in the /bin directory for the affected components. It does not change environments or user configurations.

   a) For hotfixes that apply to the MessageWay Manager, run the hotfix wherever the manager is installed.

   b) For hotfixes that apply to the MessageWay server and its components, such as adapters, services and related servers, run the hotfix wherever a MessageWay server is installed.
Uninstalling MessageWay

Users may want to uninstall MessageWay for various reasons, particularly during testing. These instructions describe basic procedures to uninstall the minimal components of MessageWay as well as additional components, depending on a user's needs.

When you uninstall MessageWay, you uninstall two parts:

- MessageWay Manager, also called the MessageWay Client
- MessageWay Server

To uninstall MessageWay, you will perform the following tasks:

1. Stop the MessageWay servers and then the MessageWay Manager.
2. Uninstall the MessageWay Manager.
3. Uninstall the MessageWay servers.

Stopping the MessageWay Servers

To uninstall MessageWay, you must first stop the MessageWay servers. How you do this will depend on the whether you are running the MessageWay servers on Windows or UNIX/Linux.

How to Stop MessageWay on Windows

On Windows, MessageWay runs as a Windows service. You can stop MessageWay from Windows Services.

**IMPORTANT:** Closing the MessageWay Manager window does not stop servers or log you off the database.

To stop a MessageWay server on Windows, proceed as follows:

1. Open Windows Services for the machine where the server runs.
2. Right-click the MessageWay Messaging Server, and click **Stop**.
**How to Stop MessageWay on UNIX or Linux**

Make sure you are logged on as the user that owns MessageWay, typically `mway`. Stop MessageWay as follows:

1. At a command prompt, type the following commands and press Enter to:
   a) Change the directory to where the script runs:
      
      ```
      cd /installation_directory/init
      ```
   b) Run the script to stop MessageWay
      
      ```
      ./messageway stop
      ```
   The MessageWay Server stops other servers and then itself.

2. To check the status of the Messaging Server, type the following command and press Enter:
   
   ```
   ./messageway status
   ```

**Uninstalling the MessageWay Manager**

To uninstall the MessageWay Manager, also called the MessageWay Client, proceed as follows:

1. Make sure the MessageWay servers and the MessageWay Manager are stopped.

2. From the Control Panel, which is usually accessible from Start\Settings, select Add or Remove Programs.
   
   The Add or Remove Programs window appears.

3. From the list, select MessageWay Client 6.1 and follow the instructions.

**Uninstalling the MessageWay Servers**

How you uninstall the MessageWay servers depends on whether you are running the MessageWay servers on Windows or UNIX/Linux.

When you uninstall the MessageWay servers, if you want to save information for a future reinstallation, save these files:

<table>
<thead>
<tr>
<th>Server Location</th>
<th>Default Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• MessageWayUserApplicationsFolder \messageway\messageway.conf</td>
</tr>
<tr>
<td></td>
<td>• C:\Program Files\MessageWay\bin\messageway.lic</td>
</tr>
</tbody>
</table>
Uninstalling MessageWay

### Server Location

<table>
<thead>
<tr>
<th>Default Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIX/Linux</td>
</tr>
<tr>
<td>/etc/messageway/messageway.conf</td>
</tr>
<tr>
<td>/opt/messageway/bin/messageway.lic</td>
</tr>
<tr>
<td>RootHome/.messageway.install</td>
</tr>
</tbody>
</table>

If you do not remove the MessageWay database, the following information remains.

### Server Location

<table>
<thead>
<tr>
<th>Information that remains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
</tr>
<tr>
<td>..\MessageWay\audit folder</td>
</tr>
<tr>
<td>..\MessageWay\archives folder</td>
</tr>
<tr>
<td>..\MessageWay\msgstore folder</td>
</tr>
<tr>
<td>..\MessageWay\db folder</td>
</tr>
<tr>
<td>C:\Program Files\MessageWay\bin\messageway.lic</td>
</tr>
<tr>
<td>ODBC connection</td>
</tr>
</tbody>
</table>

### UNIX/Linux

- /etc/messageway.conf
- Database
- ODBC connection

---

**Uninstalling the MessageWay Servers from Windows**

When you uninstall MessageWay from a Windows system, it uninstalls the servers controlled from the MessageWay Manager.

**IMPORTANT:** You must uninstall any optional servers that are not controlled from the MessageWay Manager, such as the MessageWay Remote Execution Server (RES), the MessageWay FTP Perimeter Server or the MessageWay SFTP Perimeter or Proxy Server, from all systems separately.

The Add or Remove Programs process does not delete all files and folders. It only deletes those files that the installation process created initially. Folders whose contents users created while running MessageWay remain. They must be deleted manually, as desired. This process does not delete the configuration database. Users must do that separately also.

To perform a basic uninstall without removing the database and other messaging information, proceed as follows:

1. If you are going to re-install MessageWay on Windows and want to retain your basic settings, you should save a copy of `\Users\MessageWayUser\AppData\Roaming\messageway\messageway.conf`.
2. From the Control Panel, which is usually accessible from **Start\Settings**, select **Add or Remove Programs**.
   The Add or Remove Programs window appears.
3. From the list, select **MessageWay** and follow the instructions.
To also remove the database and associated files, do the following:

1. To delete the database:
   a) Back up your database, if required.
   b) Delete the ODBC data source name (DSN), typically `MessageWay_DSN`.
   c) Delete the database using your database administrator software.

2. To clean out actual messages or files related to messaging that are used by the database:
   a) To remove audit files, delete the `..\MessageWay\audit` folder.
   b) To remove archive files, delete the `..\MessageWay\archive` folder.
   c) To remove message files, delete the `..\MessageWay\msgstore` folder.

3. To remove all remaining programs and files, delete the `..\Program Files\MessageWay` folder.

4. If a program was added as a service in a separate command process, as we do with mwsftp when we add syslogd as a service, you must also uninstall the service separately. To uninstall a service, such as Cygwin syslogd, at a command prompt type the following:
   ```
   sc delete syslogd
   ```

   **CAUTION:** The display name and the name of the program may be different. For example, the name of the service program is `syslogd`, but the display name is `Cygwin Syslogd`.

---

**Uninstalling the MessageWay Servers from UNIX/Linux**

When you uninstall MessageWay from a UNIX/Linux system, you must manually delete the necessary files and directories.

To perform a basic uninstall without deleting the database and its supporting files, proceed as follows:

1. Delete all files in the `/opt/messageway` directory and the directory itself.
2. Delete all files in the `/var/opt/messageway/pipe` directory and the directory itself.
3. Delete all files in the `/var/opt/messageway/server` directory and the directory itself.

To delete the database and additional files, do the following:

1. To delete the database:
   a) Back up your database, if required.
   b) Delete the ODBC data source name (DSN), typically `MessageWay_DSN`.
   c) Delete the database using your database administrator software.

2. To clean out other files:
   a) To remove audit files, delete the files in the `/var/opt/messageway/audit` directory and the directory itself.
   b) To remove archive files, delete the files in the `/var/opt/messageway/archives` directory and the directory itself.
c) To remove message files, delete the files in the `/var/opt/messageway/msgstore` directory and the directory itself.

d) To remove configuration files, delete `messageway.conf` from the `/etc/messageway` directory, as well as any other configuration files used for optional processes, such as `mwresd.conf` or `mwftpd.conf`.

e) To remove certificates, agents file, delete `/etc/messageway/certs` directory and all contents.

   **IMPORTANT:** This removes keys and certificates for secure processes such as secure FTP, HTTP and Remote Execution Server. To save these files, copy them from the appropriate subdirectories.

f) To remove daemon files, delete them from the `/etc/init.d` directory.

g) To remove system logs, delete them from the `/var/log` (Linux) or `/var/adm` (UNIX) directory.