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</tr>
</tbody>
</table>
Using this Guide

This guide introduces you to installing RemoteWare, a remote systems management tool specifically designed to automate data collection and systems management with mobile systems. It contains fundamental information necessary to install the software, including a conceptual overview and step-by-step procedures.

We recommend you print this guide so it is readily available as you perform your tasks. If you prefer to use this guide online, you may find it helpful to zoom to 150% for enhanced readability.

RemoteWare Support Services

Customers have a variety of support options to help you get the most out of RemoteWare. Documentation and online help is available for all customers.

Product support site

Customers on a maintenance plan may register with the product support site. Visit the Technical Support link on our product support site for product-specific technical information and the most current release notes.

www.iAnywhere.com/support/support.html

North American phone support

(678) 585-7320 Atlanta, Georgia
(800) 669-1211 toll-free
EMEA phone support
+44 (0) 1628 50 5321 Maidenhead, Berkshire, UK
0825 800372 toll-free

What’s in this guide
This guide includes the following chapters:

Table 1. Chapters in this guide

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1 - Understanding RemoteWare Installation</td>
<td>Overview of RemoteWare installation, requirements, understanding licensing, and client installations.</td>
</tr>
<tr>
<td>Chapter 2 - Environment and Network Considerations</td>
<td>Describes security considerations, database considerations, preparing Windows for RemoteWare. This chapter also describes controlling the RemoteWare Service.</td>
</tr>
<tr>
<td>Chapter 3 - Configuring SQL Server for RemoteWare</td>
<td>Overview of configuring the SQL Server, and creating the databases.</td>
</tr>
<tr>
<td>Chapter 4 - Installing RemoteWare</td>
<td>Describes the installation procedures for Server, workstation, clustered environment. This chapter also discusses upgrading from a previous release.</td>
</tr>
<tr>
<td>Appendix A - Using the RWDBVal Utility</td>
<td>Describes the RemoteWare Logging Database Schema Validation utility.</td>
</tr>
<tr>
<td>Appendix B - Tuning RemoteWare Cluster</td>
<td>Describes advanced information for the experienced Server Administrator. It describes the configuration for a file server connection used when implementing a RemoteWare Cluster, or a single Server with a remote data drive.</td>
</tr>
<tr>
<td>Appendix C - Uninstalling RemoteWare</td>
<td>Describes the step for uninstalling RemoteWare.</td>
</tr>
</tbody>
</table>

Related publications
In addition to this manual, the following related manuals are available in electronic format on the RemoteWare installation image as described in the following section.
RemoteWare Server Reference Guide. Contains a detailed description of every application, facility, window, menu, and control present in the RemoteWare Server. Use this book when you want to know what something does, how it is used, or why it behaves as it does.

Electronic documentation
The following documents are available on the RemoteWare installation image. Unless otherwise specified, all documents reside in the \Documents directory. All electronic documents require the Adobe Acrobat Reader to view and print PDF files. Install the reader from the RemoteWare installation image using the \AcroRead\adbeRdr60_enu_full.exe file.

Administrator guides
- **RemoteWare Server Administrator’s Guide.** Explains how to operate and maintain a RemoteWare system. It takes a task-oriented approach to describing features.
- **RemoteWare Workshop Developer’s Guide.** Explains how to use RemoteWare Workshop to create and publish customized desktop-style Workshop applications.
- **RemoteWare Subscriber Administrator’s Guide.** Shows how to build and deploy lists of files and applications to the Client. It also explains how to use the Subscriber Lists at the RemoteWare Client.
- **RemoteWare Inventory Manager Administrator’s Guide.** Explains how to use Inventory Manager for centralized monitoring and reporting of hardware and software resources on RemoteWare Clients. Instructions include how to create Inventory Manager Profiles that control the operating and scheduling of Client inventory scans, and how to assign those Profiles to Clients. The guide also describes how to view and interpret the centrally stored resource information for each Client.
- **RemoteWare Software Manager Administrator’s Guide.** Explains how to use Software Manager to efficiently and securely distribute, install, and manage software for enterprise system users. Includes how to create and define software package contents and then assign that package to a RemoteWare Client.
- **RemoteWare Migration Guide.** Explains how to plan and implement many aspects of migration from RemoteWare for OS/2 to RemoteWare.
- **RemoteWare Multicast System Administrator’s Guide.** Explains how to use RemoteWare Multicast. Multicast allows administrators to distribute files to a large number of RemoteWare Clients with a single communication session from the Server. It contains fundamental information necessary to use the software, including a conceptual overview and highly interactive walkthroughs.
RemoteWare ActiveX Controls Reference Manual. Presents the 32-bit ActiveX controls that are included with the RemoteWare 32-bit Client software. These controls add selected Client functionality to ActiveX or OLE container applications.

RemoteWare API Manual. Describes the RemoteWare Application Programming Interfaces (APIs) that allows you to control and configure the RemoteWare Server and Clients using a third-party programming language such as Microsoft Visual C++ or Microsoft Visual Basic.

RemoteWare Workshop Programmer’s Guide. Describes optional programmatic extensions that enhance Workshop environments.

Summit BasicScript Reference Manual and Summit BasicScript User’s Guide provide information on the options and structure for RemoteWare scripting. These documents are available in the ‘Document\Development Tool Administrator Guides\Summit BasicScript Documentation directory on the RemoteWare installation image.

pcAnywhere™. Assists you in using pcAnywhere with RemoteWare Remote Control.


Client guides

RemoteWare 32-Bit Windows Client User’s Guide. Helps the 32-bit Windows Client user install, set up, and understand the functionality in the RemoteWare Client.

RemoteWare Windows 3.x Client User’s Guide. Helps the 16-bit Client user install, learn, and take advantage of all the features available in the RemoteWare Windows 3.x Client software.

RemoteWare OS/2 Client User’s Guide. Presents the features, setup procedures, available options, and connection methods for the OS/2 Client software.

RemoteWare Text-Based Clients User’s Guide. Explains how to use the UNIX, VMS, 4690 and DOS Clients to communicate with the RemoteWare Server.

RemoteWare Software Manager Client User’s Guide. Describes how Client users can subscribe to Software Manager packages and then communicate with a RemoteWare Server to receive those packages.
Understanding RemoteWare Installation

This chapter provides an overview of installing RemoteWare Server software.

This chapter includes:

- “What’s on the installation image?” on page 12
- “System Requirements” on page 21
- “Understanding Licensing” on page 25
- “Feature packs, service packs, and hot fixes” on page 26
- “About Client installations” on page 26
What’s on the installation image?

The RemoteWare installation image contains all the components you need to get RemoteWare installed and operating on the Server or Workstation. Your licensing agreement is embodied in the licensing disk, and determines the components you can install.

The setup program includes the following RemoteWare components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developer's Kit</td>
<td>Includes 32-bit ActiveX controls that add selected Client functionality to ActiveX or OLE container applications. Also includes RemoteWare Application Programming Interfaces (APIs) that allow you to control and configure the RemoteWare Server and Clients using a third-party programming language such as Microsoft Visual C++ or Microsoft Visual Basic. Typically installed on a developer's computer.</td>
</tr>
<tr>
<td>Exchange Gateway</td>
<td>The RemoteWare Gateway is required if RemoteWare Client users transport messages through a Microsoft Exchange server. Its function is to exchange messages between the two messaging subsystems of the Microsoft Exchange Server and the RemoteWare Server. The RemoteWare Gateway is installed on the standalone Microsoft Exchange Server where it creates the RemoteWare Gateway service and references the RemoteWare Server. It also registers itself on the RemoteWare Server and accesses the \SYSFILES\GATEWAYS shared directory. <strong>Note:</strong> The RemoteWare Gateway is installed on your Microsoft Exchange Server.</td>
</tr>
<tr>
<td>Inventory Manager</td>
<td>Enables administrators to automatically scan and retrieve detailed configuration data on all remote Windows 32-bit systems. This ensures administrators have a clear picture of remote assets prior to performing hardware and software updates, troubleshooting and other administrative tasks. If you are licensed for this component, it is installed as part of the RemoteWare Server or Workstation software.</td>
</tr>
</tbody>
</table>
Messaging Services (also called messaging) is a RemoteWare component that provides transport, storage, and processing for electronic messages. Its purpose is to provide a uniform and transparent method for messaging-aware applications to transfer information among other applications and computers in any network. Other RemoteWare programs such as RemoteWare Workshop rely on messaging to exchange information. Other messaging-aware applications can use RemoteWare Messaging Services to receive and send messages from the application. Messaging is installed on RemoteWare Server and Workstation.

RemoteWare Multicast extends traditional point-to-point transmission by transferring outbound data simultaneously to multiple sites. RemoteWare Multicast enables one-to-many data transfer, sending one copy of each packet to an entire group of remote locations. The network then forwards the packets to only the destinations identified to receive them, reducing network congestion and strains on server resources.

Provides your information systems professionals the ability to connect to and interact with RemoteWare Clients from their home or other remote locations. Portable is typically installed on a computer separate from the RemoteWare Server or Workstation.

The RemoteWare Server provides centralized data administration and powerful communications capabilities to vast numbers of remote computers.

Gives system administrators all the tools they need to automatically distribute, install, manage commercial, and custom-built software applications for remote Windows 32-bit systems. If you are licensed for this component, it is installed as part of the RemoteWare Server or Workstation software.

Offers content subscription, and publishing features that support both administrator-initiated (push) and user-subscribed (pull) distribution methods, enabling businesses to develop custom information distribution strategies for the enterprise. If you are licensed for this component, it is installed as part of the RemoteWare Server or Workstation software. This editor component can be installed on a standalone computer.

### Table 1. RemoteWare Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messaging</td>
<td>Messaging Services (also called messaging) is a RemoteWare component that provides transport, storage, and processing for electronic messages. Its purpose is to provide a uniform and transparent method for messaging-aware applications to transfer information among other applications and computers in any network. Other RemoteWare programs such as RemoteWare Workshop rely on messaging to exchange information. Other messaging-aware applications can use RemoteWare Messaging Services to receive and send messages from the application. Messaging is installed on RemoteWare Server and Workstation.</td>
</tr>
<tr>
<td>Multicast</td>
<td>RemoteWare Multicast extends traditional point-to-point transmission by transferring outbound data simultaneously to multiple sites. RemoteWare Multicast enables one-to-many data transfer, sending one copy of each packet to an entire group of remote locations. The network then forwards the packets to only the destinations identified to receive them, reducing network congestion and strains on server resources.</td>
</tr>
<tr>
<td>Portable</td>
<td>Provides your information systems professionals the ability to connect to and interact with RemoteWare Clients from their home or other remote locations. Portable is typically installed on a computer separate from the RemoteWare Server or Workstation.</td>
</tr>
<tr>
<td>RemoteWare Server</td>
<td>The RemoteWare Server provides centralized data administration and powerful communications capabilities to vast numbers of remote computers.</td>
</tr>
<tr>
<td>Software Manager</td>
<td>Gives system administrators all the tools they need to automatically distribute, install, manage commercial, and custom-built software applications for remote Windows 32-bit systems. If you are licensed for this component, it is installed as part of the RemoteWare Server or Workstation software.</td>
</tr>
<tr>
<td>Subscriber Editor</td>
<td>Offers content subscription, and publishing features that support both administrator-initiated (push) and user-subscribed (pull) distribution methods, enabling businesses to develop custom information distribution strategies for the enterprise. If you are licensed for this component, it is installed as part of the RemoteWare Server or Workstation software. This editor component can be installed on a standalone computer.</td>
</tr>
</tbody>
</table>
RemoteWare Server Installation Guide

Table 1. RemoteWare Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshop Editor</td>
<td>Allows an administrator to create a custom user environment, controlling access to applications and executables. Using this component, an administrator can restrict users from accessing the operating system, and registry. If you are licensed for this component, it is installed as part of the RemoteWare Server or Workstation software. This editor component can be installed on a standalone computer.</td>
</tr>
</tbody>
</table>

Other information included

For your convenience, the installation image also includes:

- Documentation for every RemoteWare component is presented in PDF format. The free Acrobat Reader is included in the AcroRead folder.

Installation image structure

The files in the root directory of the installation image are associated with running the setup menu. These files are not specific to any one component or product.

Table 2. Installation Files

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETUP.EXE</td>
<td>The Setup Menu program runs if Autoplay is enabled, or if you use the setup command.</td>
</tr>
<tr>
<td>INSTUTIL.DLL</td>
<td>A DLL needed by the setup program.</td>
</tr>
<tr>
<td>MENU.BMP</td>
<td>The background bitmap for the setup menu.</td>
</tr>
<tr>
<td>README.TXT</td>
<td>The product readme notes.</td>
</tr>
<tr>
<td>AUTORUN.INF</td>
<td>Enables running setup.exe automatically if Autoplay is enabled.</td>
</tr>
</tbody>
</table>
Installation Directories

\Server
This directory contains all of the files needed to install the RemoteWare Server, and all Server-related components.

*Note:* Due to the similarities between Servers and Workstations, the same install is used for Workstation installations. You must select either the Workstation or Portable installation option from the RemoteWare Setup Menu dialog box.

---

**Table 3. Server Files**

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETUP.EXE</td>
<td>The Server installation program. This is the program which runs if you select “Install RemoteWare Server” from the menu.</td>
</tr>
<tr>
<td>INSTUTIL.DLL</td>
<td>A DLL needed by the setup program.</td>
</tr>
<tr>
<td>SERVER.DFI, SERVER.000</td>
<td>These are all of the other files that make up the basic Server and client types, including product files, bitmaps, etc. (Similar to a ZIP file or InstallShield’s &quot;Z&quot; files)</td>
</tr>
<tr>
<td>MESSAGE.DFI, MESSAGE.000</td>
<td>These are the files for the Messaging component.</td>
</tr>
<tr>
<td>INVMGR.DFI, INVMGR.000</td>
<td>These are the files for the Inventory Manager files.</td>
</tr>
<tr>
<td>SOFTMGR.DFI, SOFTMGR.000</td>
<td>These are the Software Manager files.</td>
</tr>
<tr>
<td>SUBSCRIB.DFI, SUBSCRIB.000</td>
<td>These are the Subscriber Server component files.</td>
</tr>
<tr>
<td>WORKSHOP.DFI, WORKSHOP.000</td>
<td>These are the Workshop Server component files.</td>
</tr>
</tbody>
</table>
\**Portable\**

This directory contains the files used to install the standalone portion of Portable.

*Table 4. Portable Files*

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETUP.EXE, INSTUTIL.DLL</td>
<td>These are the Setup program and DLL files.</td>
</tr>
<tr>
<td>PORTABLE.DFI, PORTABLE.000</td>
<td>These are the files specific to Portable installation.</td>
</tr>
</tbody>
</table>

\**Gateway\**

This directory contains all of the files needed to install Exchange Gateway.

*Table 5. Exchange Gateway Files*

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETUP.EXE</td>
<td>This is the Setup program for Exchange Gateway.</td>
</tr>
<tr>
<td>EDKADT.HLP</td>
<td>Back Office help file</td>
</tr>
<tr>
<td>EX2RW.DLL, GWPERF.DLL, GWUISTF.DLL, MFC40.DLL, MFC42.DLL, MSCOMSTF.DLL, MSDETSTF.DLL, MSINSSTF.DLL, MSSHLSSTF.DLL, MSUILSTF.DLL, OTSW32.DLL, RW2EX.DLL, RWADMIN.DLL, RWPROXY.DLL, RW_MSG.DLL</td>
<td>These are the DLL files for Exchange Gateway.</td>
</tr>
<tr>
<td>GWSETUP.BIN</td>
<td>Gateway install program</td>
</tr>
<tr>
<td>REDIRSYNC.EXE</td>
<td>Directory Synchronization program</td>
</tr>
<tr>
<td>RWADMIN.HLP</td>
<td>This is the RemoteWare Administrator help file.</td>
</tr>
</tbody>
</table>
Table 5. Exchange Gateway Files

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWADT.BLT, RWADT.OEL, RWOPTION.DAT, RWPMT.BLT, RWPRT.BLT, RWSETUP.INF</td>
<td>Gateway internal configuration files</td>
</tr>
<tr>
<td>RWCOUNT.H, RWCOUNT.INI</td>
<td>Internal performance monitoring installation files</td>
</tr>
<tr>
<td>RWEXGW.EXE</td>
<td>RemoteWare Exchange Gateway executable</td>
</tr>
</tbody>
</table>

\SubscrEd

This directory contains all of the files needed to install Subscriber Editor.

Table 6. Subscriber Editor Files

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETUP.EXE, INSTUTIL.DLL</td>
<td>Setup program and DLL.</td>
</tr>
<tr>
<td>SUBSCRED.DFI, SUBSCRED.000</td>
<td>These are the Subscriber Editor product files.</td>
</tr>
</tbody>
</table>

\WrkshpEd

This directory contains all of the files needed to install Workshop Editor.

Table 7. Workshop Editor Files

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETUP.EXE, INSTUTIL.DLL</td>
<td>Setup program and DLL.</td>
</tr>
<tr>
<td>WRKSHPED.DFI, WRKSHPED.000</td>
<td>These are the Workshop editor product files.</td>
</tr>
</tbody>
</table>
\DevKit

This RemoteWare Developer’s Kit files are in this directory.

\begin{center}
\textit{Table 8. Developer’s Kit Files}
\end{center}

\begin{center}
\begin{tabular}{ |l|p{5cm}| }
\hline
\textbf{File} & \textbf{Description} \\
\hline
SETUP.EXE, INSTUTIL.DLL & Setup program and DLL. \\
DEVKIT.DFI, DEVKIT.000 & These are the Developer’s Kit files. \\
\hline
\end{tabular}
\end{center}

\MDAC

This directory contains the Microsoft Data Access Pack 2.8. It is provided on the installation image as a convenience for the user. During installation you are prompted to install MDAC 2.8, when you select \textbf{Yes} this version of MDAC is installed.

\Documents

This directory contains all of the online documentation for the product. The documents available are detailed in the Preface of this guide.
Computers types involved in installation

RemoteWare is a powerful systems management tool that helps you to automate the collection and exchange of data from many locations, therefore system configurations can vary widely. Understanding the software you can install in each situation can help in your installation process.

The types of computers on which you can install RemoteWare are as follows:

Table 9. Types of Computers

<table>
<thead>
<tr>
<th>Computer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RemoteWare Server</td>
<td>A RemoteWare Server provides centralized data administration and powerful communications capabilities to vast numbers of remote computers. Servers can also be clustered into a collection for improved performance and load balancing.</td>
</tr>
<tr>
<td>RemoteWare Workstation</td>
<td>A Server feature that gives a non-Server computer the ability to perform most functions available on the Server. Some functions, such as shutting down the Server, are not available from a Workstation.</td>
</tr>
<tr>
<td>Standalone Computer</td>
<td>A standalone computer is a computer other than the RemoteWare Server or Workstation. It has an option of being linked to the RemoteWare Server, but may not always be linked. For example, a developer may use portions of RemoteWare to program applications using RemoteWare developer tools.</td>
</tr>
</tbody>
</table>
Installation Options

You install portions of RemoteWare on these different types of computers, depending on the intended use and your license agreement.

You can use the following table to determine based upon RemoteWare component, and computer type, which setup option you should select.

*Table 10. Installation Options*

<table>
<thead>
<tr>
<th>RemoteWare component</th>
<th>Type of computer</th>
<th>Select this Setup menu option</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Server</td>
<td>Workstation</td>
</tr>
<tr>
<td>RemoteWare Server</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>RemoteWare Workstation</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Portable</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Messaging</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exchange Gateway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developer’s Kit</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Software Manager</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Inventory Manager</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Subscriber</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Workshop</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

1. Exchange Gateway must be installed on a working Exchange Server. Before you start Exchange Gateway, you must configure RemoteWare Gateway Synchronization.

Note: If you do not configure the Gateway immediately after installation, an error may occur.
**System Requirements**

Before you install your RemoteWare components, validate all the prerequisites and system requirements in order to take full advantage of its features and to ensure that your system operates with maximum efficiency. The most up-to-date detailed list of the RemoteWare system requirements are listed in the [Release Notes](#) located on the RemoteWare product support site.

Note: System requirements are based on currently available hardware and software and are subject to change as technology environments advance.

**System limitations**

- A single Server can support up to 64 concurrent sessions, depending on licenses.
- A maximum of one (1) Client can be run on a computer at a time.
- A Client can be installed and run on the same computer as RemoteWare Server, if the RemoteWare Messaging Service is not installed on the Client.

This table lists the limits or maximum values for the RemoteWare system.

*Table 11. System Limitations*

<table>
<thead>
<tr>
<th>Item</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients</td>
<td>17,000</td>
</tr>
<tr>
<td>Client Groups</td>
<td>8,000</td>
</tr>
<tr>
<td>Clients in Client Group</td>
<td>16,378</td>
</tr>
<tr>
<td>Client Registration</td>
<td>16,383 entries</td>
</tr>
<tr>
<td>Defined Sessions</td>
<td>8,000</td>
</tr>
<tr>
<td>Scheduled Sessions</td>
<td>16,378</td>
</tr>
<tr>
<td>Objects (Work, ESD, Application)</td>
<td>5,000</td>
</tr>
<tr>
<td>Objects Assigned to a Client¹</td>
<td>250</td>
</tr>
<tr>
<td>Objects Assigned to a Session²</td>
<td>200</td>
</tr>
</tbody>
</table>
### Table 11. System Limitations

<table>
<thead>
<tr>
<th>Feature</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objects Executed in a Session</td>
<td>1,000</td>
</tr>
<tr>
<td>Groups Assigned to a Client</td>
<td>64</td>
</tr>
<tr>
<td>Sessions Assigned to a Client</td>
<td>250</td>
</tr>
<tr>
<td>Asynchronous Resources</td>
<td>64/Server</td>
</tr>
<tr>
<td>Process Only</td>
<td>32/Server</td>
</tr>
<tr>
<td>NetBIOS Resources</td>
<td>32/Server</td>
</tr>
<tr>
<td>TCP/IP Resources</td>
<td>64/Server</td>
</tr>
<tr>
<td>SPX Resources</td>
<td>32/Server</td>
</tr>
<tr>
<td>Worklist Events</td>
<td>1,000</td>
</tr>
<tr>
<td>File Transfer Log</td>
<td>Defaults to 100,000 log entries, maximum # dependent upon SQL Server hardware size.</td>
</tr>
<tr>
<td>Message Log</td>
<td>Defaults to 100,000 log entries, maximum # dependent upon SQL Server hardware size.</td>
</tr>
<tr>
<td>Session History Log</td>
<td>Defaults to 100,000 log entries, maximum # dependent upon SQL Server hardware size.</td>
</tr>
<tr>
<td>Server Log</td>
<td>Defaults to 100,000 log entries, maximum # dependent upon SQL Server hardware size.</td>
</tr>
<tr>
<td>Messaging Users</td>
<td>20,000</td>
</tr>
<tr>
<td>Messaging Users per Client</td>
<td>10</td>
</tr>
<tr>
<td>Messaging User Groups</td>
<td>1,000</td>
</tr>
<tr>
<td>Messaging Users in User Group</td>
<td>20,000</td>
</tr>
<tr>
<td>Messaging Users Assigned to Objects</td>
<td>20,000</td>
</tr>
<tr>
<td>Modem Types</td>
<td>255</td>
</tr>
<tr>
<td>Long Distance Services</td>
<td>128</td>
</tr>
</tbody>
</table>
**System Requirements**

Table 11. System Limitations

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dial Scripts</td>
<td>500</td>
</tr>
<tr>
<td>Client Comment Size</td>
<td>2,000 characters</td>
</tr>
</tbody>
</table>

1. More Objects can be assigned via a Group/Application (members of the group/application are not counted)
2. See footnote 1.
Logging database sizing requirements

Proper sizing of the Logging database will result in optimal overall system performance. The following information provides a general formula and examples for estimating your logging database sizing requirements.

A gross estimate of the database size requirements can be made based on the number of events expected to be maintained in the logging tables. For each 1 million events, you should reserve at least 800 MB of disk space.

Formula:

$$DISK\_SPACE = \frac{SESSIONS \times EVENTS/SESSION}{1,000,000} \times 800MB$$

Example 1:
To maintain 100,000 session logs with an average 100 events/session, reserve 8 GB of disk space.

$$DISK\_SPACE = \frac{(100,000 \times 100)}{1,000,000} \times 800MB = 8000 MB$$

Example 2:
To maintain 100,000 session logs, with an average 600 events/session, reserve 48 GB of disk space.

$$DISK\_SPACE = \frac{(100,000 \times 600)}{1,000,000} \times 800MB = 48,000 MB$$

Example 3:
To maintain 1,000,000 session logs with an average 100 events/session, reserve 80 GB of disk space.

$$DISK\_SPACE = \frac{(1,000,000 \times 100)}{1,000,000} \times 800MB = 80,000 MB$$
Understanding Licensing

Your particular licensing agreement, as embodied in the licensing disk or license code, determines what you can install. RemoteWare Setup requires one or more product identification codes to activate specific products and resources. Depending on the requirements at your site, the license may either be stored on a floppy disk shipped with the installation image or provided to you as an alphanumeric code that you type in a window during installation.

If you purchase or install additional components, you can update your existing licensing or provide new licensing information during the Setup process. New licensing does not erase old values.

Note: When you upgrade from an earlier version of RemoteWare, you must get new licensing information, either in a license file or a license code. If you are upgrading Portable from an earlier version, you will need to access the License file for this installation.
Feature packs, service packs, and hot fixes

The RemoteWare product development team continually updates and makes improvements to RemoteWare. These updates are available to existing customers from the Downloads area of the RemoteWare product support site. Be sure to visit the web site regularly to check for new features, and improved functionality. The web site also contains instructions for downloading and applying these items.

Feature packs

Feature packs are released as they are completed. Feature packs for RemoteWare expand the product's performance, flexibility and ease-of-use for both systems administrators and end-users. Developed in cooperation with customers' needs and requests, the majority of the feature packs are available at no charge to customers currently enrolled in a RemoteWare maintenance program. Installation of feature packs are optional.

Service packs

Service packs are released on a periodic basis. They are comprised of all existing general hot fixes for a specific RemoteWare release. It is highly recommended you apply the RemoteWare service packs to keep the product current, and extend and update your computer's functionality. If you report an issue in the future and are not running the current service pack, the resolution will first include applying the service pack.

Hot fixes

Hot fixes are single patches to specific problems reported to Customer Support, or discovered in the field by our consultants. You can apply hot fixes individually. Periodically, through a release's history, hot fixes are bundled into a service pack.

Note: All service packs and hot fixes must be installed on all RemoteWare Servers and workstations before the cluster is brought back up unless otherwise specified.

About Client installations

The RemoteWare software provides the ability to create client kits. There are two methods to create RemoteWare clients. The first is to create a client installation kit, which is a client profile that can be used to install a client at a remote location. A client installation kit can be created on a diskette or saved to a shared drive. The second way is to create a client template, which can be used to create multiple, identical clients.
Environment and Network Considerations

This chapter contains environment and network information as it pertains to RemoteWare. For specific procedures necessary for setting up your environment and network, see your manufacturer’s documentation.

This chapter includes:

- “Security considerations” on page 28
- “Pre-Installation Considerations” on page 29
- “Database considerations” on page 30
- “Network considerations” on page 31
- “Windows 2000 and Windows 2003” on page 33
Security considerations

RemoteWare allows multiple configurations of servers, and remote users. Security is an important issue to consider prior to installing and configuring RemoteWare. It is essential for you to understand the security issues in your particular environment.

Administrative User access

After you have installed RemoteWare, it will be necessary to provide access for administrative users to the RemoteWare applications. As part of your installation and implementation plan, you should consider user rights and access to RemoteWare applications. You need to select individuals who will be responsible for the following:

- Administration
- Operation
- Monitoring RemoteWare operations

RemoteWare's security allows you to assign multiple levels of security to authorized users and groups of users. You determine who has access to RemoteWare, and the functions they can use. The RemoteWare Administrator program is used to view, grant, and deny users access to RemoteWare applications. For information about user rights see the RemoteWare Administrator online help, and the RemoteWare Server Administrator's Guide.

You can give users authority to perform only specific functions. For example, you can grant a user authority to add, and edit Clients but not to delete Clients. In order to grant rights in the Administrator program, users and groups must first exist within Windows 2000 or Windows 2003. Using the Administrator program, you can grant rights to individual users or groups.

Windows 2000/2003 Security

RemoteWare must have privileges to perform high-level administration over the network. Just as a technician would need to be a Domain Administrator to perform many administrative functions, it is recommended the RemoteWare Service account be a Domain Administrator.
Windows 2000/2003 domains

The Windows domain security model is based on the concept a user may want to have an account which is functional on more than one computer. The user's environment should be the same regardless of which computer he is logged in on. Users and groups are established on the domain, computers are attached to the domain, and the domain user can log in to any one of these computers.

Pre-Installation Considerations

- A RemoteWare Server should be installed on a separate computer. The computer should be one that does not serve as a Windows 2000/2003 Domain Controller due to the potentially heavy load which may be placed on the computer.
- A RemoteWare Server should not be installed on the same PC as SQL Server or Exchange Server
Database considerations

RemoteWare requires Microsoft’s SQL Server to be installed and configured before installing RemoteWare. The RemoteWare components that use the SQL Server include:

- Logging
- Inventory Manager (if licensed for this component)
- Messaging (if licensed for this component)
- Server Data (Scheduler)

These components require Messaging, and consequently require SQL Server:

- Subscriber
- Workshop

For larger environments, you may want to create separate databases for each component you install. For smaller environments, you may only need one database for all components.

---

Important: Microsoft SQL Server must reside on a separate Server from the RemoteWare Server.

---

The RemoteWare setup program requires specific database information during the installation. This information includes:

- SQL Server Name
- SQL Login account and password or a Windows Authentication account (The Windows Authentication account option is only available for Server Message Log Logging. All other logs use SQL Authentication.)
- SQL databases
Network considerations

RemoteWare provides several methods for RemoteWare Clients to access the Server. These methods include modem, and/or network connections. These guidelines are for basic setup and configuration with RemoteWare. Refer to the manufacturer’s documentation for additional information.

Asynchronous connections require extra communications hardware. Many customers use multiport devices to fulfill this function, such as those manufactured by Digi and Equinox. Contact Product Support for recommendations about your specific environment.

Table 1. Network and resource considerations

<table>
<thead>
<tr>
<th>Item</th>
<th>Details and Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modems</td>
<td>Clients that use the asynchronous transport require a modem. Modems require a serial cable and a serial port. Multiple modems allow multiple simultaneous connections. Make cable lengths as short as possible to minimize RF interference. <strong>Note:</strong> If this is an internal modem use a slot, and an open comport/IRQ setting.</td>
</tr>
<tr>
<td>Telephone</td>
<td>One telephone line is required for every modem in your system. For best results, lines should not be shared with voice lines, and should be free of RF interference. Lines from different communication carriers could be used as an alternate resource and to minimize outages.</td>
</tr>
<tr>
<td>Direct connect cable</td>
<td>Local Clients may use a null modem cable for testing and evaluation. Systems configured this way cannot be used to test or diagnose modem or communications issues.</td>
</tr>
<tr>
<td>Multichannel communications board</td>
<td>This is the most efficient solution for multiple modem installations. Verify the device driver you use is compatible with Windows, and is the most recent version. Verify the latest drivers for Windows 2000/2003 are installed. If your system stops loading during startup, restart Windows 2000/2003 in VGA mode. Also verify with the communications board manufacturer that the driver is current.</td>
</tr>
<tr>
<td>Network transports</td>
<td>NetBIOS, IPX/SPX, and TCP/IP are supported network protocols for communicating with Clients. The NetBIOS Interface, NWLink IPX/SPX Compatible Transport, or TCP/IP Protocol must be a component of the Windows NT environment on the Server. XcelleNet offers RemoteWare Multicast, which allows you to distribute files to a large number of RemoteWare Clients during one communication session. Your network must be Multicast enabled to use this component. For information on Multicast, refer to the <em>RemoteWare Multicast Administrator’s Guide</em> or contact your Product Support representative.</td>
</tr>
</tbody>
</table>
Installing RemoteWare from a network

You can set up the installation process to install RemoteWare from a network drive. Map the RemoteWare volume using the Map Network Drive command in Windows Explorer, or use the `net use` command from the command line.

Clustered Environment

In a clustered environment RemoteWare must maintain a steady connection to the data drive. It is recommended RemoteWare be installed on its own 100 MB segment with all NIC cards set to Full Duplex. To learn more about clustered servers, see “Clustered Server Environment Overview” on page 59.

For information on tuning a RemoteWare Cluster, see “Tuning RemoteWare Cluster” on page 75.
Windows 2000 and Windows 2003

RemoteWare takes advantage of a number of Windows 2000 and Windows 2003 features. One way it does this is by running as a service. During installation RemoteWare is configured to run as a service. By running as a service, the RemoteWare Server does the following:

- Starts when Windows 2000 or Windows 2003 starts.
- Runs separately from the user currently logged in. The Server does not require a user to log in to begin processing.
- Continues to run even as users log in and out.

Setting up a RemoteWare Service account

Before installing RemoteWare, you need to set up a user account for RemoteWare to use as a Service account. During the installation, you enter this account name.

The user account you set up for administering RemoteWare should have the following properties:

- Password Never Expires
- User cannot change password (you add this right when you install RemoteWare)
- Log on as a Service
- Member of the Administrators Group (Domain or Local)

For security reasons, it is recommended you enable User Cannot Change Password for the user account. This option prevents users from inadvertently changing the service’s password. If the password is changed after initial configuration of a user account assigned to the RemoteWare Server Service, that password must also be changed in the Service Startup dialog located in Administrative Tools.

Important: Do not change the user account name assigned to the RemoteWare Server. This may prevent anyone from accessing the service, running Server programs, maintaining trust relationships, or interfacing with databases.

The administrator user account must have full privileges to the local computer. This account must also have sufficient access rights to start and stop services on any computer in the RemoteWare system because RemoteWare Setup automatically attempts to stop RemoteWare services on all computers. If the currently logged in
account does not have sufficient access rights, you must manually stop the RemoteWare services on all computers in the RemoteWare system before running Setup.

Note: If necessary a local account may be used. This account must be created on each clustered PC, this includes the SQL Server and Exchange Server. This account must be a member of the local administrators group.

**Setting up the service login in 2000 or 2003 Domains**

If your network uses Windows 2000 or Windows 2003 domains, you may want to set up the service login on the Domain Controller. The user account will be available to the other computers in the domain. This may save you time if you use RemoteWare’s Cluster or Workstation features.

**Using Windows 2000 or 2003 groups**

The RemoteWare Service account should be a member of the domain administrator’s group. The RemoteWare Service account must have full administrator privileges on every Server in the cluster, which includes the SQL Server and the Exchange Server.
Installing Microsoft Data Access Pack (MDAC)

Requirements

Microsoft Data Access Pack™ (MDAC) version 2.8 is the minimum required on the RemoteWare Server and on the data drive PC.

You may be prompted to install a newer version of MDAC with Windows 2000 or Windows 2003 if the current version of MDAC is not the most recent version.

For the current MDAC version supported, refer to the system requirements located on the RemoteWare product support site.
Configuring SQL Server for RemoteWare

The Microsoft SQL Server must be installed before you install RemoteWare. Instructions to create and configure the databases in SQL Server are provided in this chapter.

This chapter includes:

- “SQL Server Overview” on page 38
- “Configuring SQL Server” on page 39
- “RemoteWare Messaging considerations” on page 40
- “SQL Server Configuration Before Installing RemoteWare” on page 44
- “Creating databases in SQL Server 2000” on page 48
- “Creating databases in SQL Server 2005” on page 49
- “Configuring a database in SQL Server 2000 & SQL Server 2005” on page 50
**SQL Server Overview**

The RemoteWare components that use SQL Server include:

- Logging
- Inventory Manager (if licensed for this component)
- Messaging (if using this component)
- Server Data (Scheduler)

These components require Messaging, and consequently require SQL Server:

- Subscriber
- Workshop

SQL Server must be installed and configured for your environment prior to implementing RemoteWare. To review a SQL configuration worksheet, see “SQL Configuration Before installing RemoteWare” on page 44. Also, refer to Microsoft's SQL Server documentation for details.

---

**Important:** Microsoft SQL Server must reside on a separate computer from the RemoteWare Server.

---

**Note:** For enterprise scale deployments, a separate dedicated SQL Server for RemoteWare Logging is recommended.

### Requirements

- Windows 2000 Service Pack 4 or Windows 2003
- SQL Server 2000 Service Pack 4 or SQL Server 2005
- Exchange 5.5 Service Pack 4 (Required for RemoteWare Gateway)
Configuring SQL Server

Configuring the SQL Server and creating the databases are prerequisites for installing and upgrading RemoteWare components. Follow these steps to configure SQL Server on a separate computer accessible to the RemoteWare network.

1. Create the databases
2. Create a SQL Server Authentication or Windows Authentication login account.
3. Alias the user as the DBO (Database Owner), see “Database Alias for SQL 2000” on page 52, and “Database Alias for SQL 2005” on page 53.

A worksheet is provided for you to copy and keep track of the information pertinent to your SQL Server configuration. To review this worksheet, see “SQL Server Configuration Before Installing RemoteWare” on page 44.
RemoteWare Messaging considerations

RemoteWare Message Services provides the basic servers to create, transport, store, and process MAPI messages with the RemoteWare network. Messaging also includes the tools to install, configure, and assign message capabilities to RemoteWare Clients, and users.

Databases used in RemoteWare Messaging

Databases are used in RemoteWare Messaging Services to store user information, messages, associated data, and the messaging activity log. This section discusses the issues influencing database sizes and how to arrive at an estimate for database and table allocations. It also presents information about settings needed for SQL Server to work with RemoteWare.

Your messaging activity determines how many databases are needed and their sizes. One database is sufficient for light activity, but multiple databases or several computers may be necessary if you have extremely heavy activity in one or more of the four required databases listed in the following table.

Table 1. Databases required by RemoteWare Messaging Services

<table>
<thead>
<tr>
<th>Subsystem</th>
<th>Activity</th>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Directory</td>
<td>Usually low</td>
<td>Large</td>
<td>Contains user profiles, attributes, and other user-oriented information. Updated from the Directory Manager program; propagates to each Client user database.</td>
</tr>
<tr>
<td>Messaging Log</td>
<td>Very high</td>
<td>Very large</td>
<td>Holds all data displayed in the Messaging Log program; updated after each message transfer is received and processed.</td>
</tr>
<tr>
<td>Incoming Queue</td>
<td>High</td>
<td>Small</td>
<td>Temporarily stores all messages from the Clients. These messages go to the Message Transfer Agent (MTA) for processing by the Outgoing Queue.</td>
</tr>
<tr>
<td>Outgoing Queue</td>
<td>High</td>
<td>Large</td>
<td>Stores all messages processed by the MTA and destined for individual Clients.</td>
</tr>
</tbody>
</table>
RemoteWare Messaging considerations

For instructions on Messaging databases, see “Configuring a database in SQL Server 2000 & SQL Server 2005” on page 50.

Calculating Messaging database sizes

Database space used in the RemoteWare Messaging Services SQL database is broken down into a maximum of four (4) segments of data, determined during installation from the ODBC connect strings. The data can be held in separate databases on different SQL Servers or computers, separate databases on one SQL Server, or in one combined database. Some forethought on the correct size requirements will avoid the inconvenience of increasing the database size at a later date.

Note: SQL includes the Automatically grow file option, which applies to the Data file, and Transaction Log; and is the default option.

User data space

A large number of users supported by RemoteWare Messaging Services requires some precalculated space considerations on the SQL Server. Data on the SQL Server is compressed, therefore an exact space requirement cannot be calculated. The following guidelines provide an estimate.

A RemoteWare user record occupies 596 bytes in an SQL table. Therefore, 1000 users require 596 kilobytes (K) of space in the SQL database. The maximum number of users
supported in RemoteWare is limited only by system resources. However, performance may cause the system to be unusable with over 10,000 users.

**Messaging Log data space**

The Messaging Log is the largest consumer of permanent SQL database space. Events recorded by the Messaging Log are controllable by the Server administrator from the Messaging Administration program. Messaging Log entries depend on the number of recipients, amount of logging, and whether logging is on or off. Record sizes start at 900 bytes, and are on the average 1.2 K. The database storage amount to allocate to the Messaging Log can be calculated as follows:

<table>
<thead>
<tr>
<th>Database Storage Space</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messaging Log Size (K)</td>
<td>≈ Total messages sent per day X Users X Number of days to keep log X 1.2</td>
</tr>
</tbody>
</table>

**Example**

Your company has 2400 users. You want to keep Messaging Logs for a week before removing the old entries. You estimate your users send about 3 messages per day. Using the formula, you need at least:

<table>
<thead>
<tr>
<th>Database Storage Space</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>59 megabytes (MB)</td>
<td>≈ 3 messages/day X 2400 users X 7 days X 1.2 = 60480 kilobytes (K)</td>
</tr>
</tbody>
</table>

You may decide to add another 16 MB to bring the total to 75 MB and create a SQL database for the data.

This is the space needed by the Messaging Log, assuming a constant average over several days. You may want to increase the estimate to account for periods when large amounts of messaging take place.
Another method to compute the database storage space:

<table>
<thead>
<tr>
<th>Database Storage Space</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messaging Log Size (K)</td>
<td>≈ Number of users</td>
</tr>
<tr>
<td></td>
<td>× Messages sent per user per day</td>
</tr>
<tr>
<td></td>
<td>× Number of days to keep log</td>
</tr>
<tr>
<td></td>
<td>× (596 bytes/record + (Average no. of recipients per message × 387 bytes/record))</td>
</tr>
</tbody>
</table>

**Incoming and Outgoing message queue data space**

These databases are small compared to the space requirements of the User Directory and Messaging Log databases. The Incoming and Outgoing Queue databases do not hold the contents of the message or attachments. The RemoteWare Server data drive is used to hold the physical message and attachments. Be certain you have enough space on the Server data drive to handle messages and attachments.

If the RemoteWare Server frequently runs out of storage, you may need to decrease the Non-Delivery Report (NDR) time-out value in the Messaging Administration program. Until an NDR is sent, uncollected mail takes up space on the Server data drive.

Storage requirements for the message queue databases can be determined by this formula:

<table>
<thead>
<tr>
<th>Database Storage Space</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message queue size (K)</td>
<td>≈ Number of users</td>
</tr>
<tr>
<td></td>
<td>× Messages sent per user per day</td>
</tr>
<tr>
<td></td>
<td>× Average number of recipients per message</td>
</tr>
<tr>
<td></td>
<td>× (Percent of users who do not connect daily + 1.0)</td>
</tr>
<tr>
<td></td>
<td>× 120 bytes/message</td>
</tr>
</tbody>
</table>

**Example**

Your company has 1000 users. About 60% of your users do not connect daily. You estimate your users send about 5 messages per day to an average of 20 people. Using the formula, you need at least:

<table>
<thead>
<tr>
<th>Database Storage Space</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 MB</td>
<td>≈ 1000 users</td>
</tr>
<tr>
<td></td>
<td>× 5 messages/day</td>
</tr>
<tr>
<td></td>
<td>× 20 recipients/message</td>
</tr>
<tr>
<td></td>
<td>× (0.60 × 1.0) 5 120 = 19200 kilobytes (K)</td>
</tr>
</tbody>
</table>
RemoteWare Server Installation Guide

SQL Server Configuration Before Installing RemoteWare

When you create a database, storage space is designated for the new database. When a database is created a transaction log is also created. Transaction logs contain information about every change made to the database. You create the databases before you start the RemoteWare installation procedures.

Instructions

This worksheet is provided as a checklist and area to record pertinent information required to install the Microsoft SQL Server for Windows 2000 or Windows 2003 server components. Use this worksheet when you perform an installation of the SQL Server for RemoteWare Server. To review instructions to create a specific database, see “Creating databases in SQL Server 2000” on page 48 or “Creating databases in SQL Server 2005” on page 49.

You may make a copy of this worksheet. Complete this worksheet before starting the SQL setup program. Keep the completed copy for your records.

Worksheet # 1 SQL Configuration Before installing RemoteWare

1 Pre-installation

☐ Check that the server computer meets the configuration requirements.

2 RemoteWare server information (for remote installation only)

Remote server name: ____________________________

RemoteWare Service Account: ________________________

Execution Drive: ____________________________

Data Drive: ____________________________

SQL Server Name: ____________________________

SQL Server Login or Windows Authentication: Account Name: ____________________________

RemoteWare Logging Database: ____________________________

3 SQL Server Parameters
Worksheet #1 SQL Configuration Before installing RemoteWare

These parameters are the default if you select a Typical install, use these defaults.

- ISO Character Set
- Dictionary order, case-insensitive Sort Order
- TCP/IP Sockets Network Protocol
- TCP/IP Port: (default is 1433)

4 SQL Server Configuration

☐ SQL Server performs self-tuning.

5 Databases

Logging Database

General Tab

Database File Name:

Data Files tab (SQL Server 2000) or New Database window (SQL Server 2005):
Location (Drive & Path):
Size:
(Minimum 2 MB per client is required for logging. Additional space is required if implementing other SQL-based components such as Inventory Manager and Messaging.)

Transaction Log Tab

File Name:
Location (Drive & Path):
File size:
(Minimum 40 MB is recommended for the Xlogger database. If additional free space is available, it is recommended you create a larger database. In SQL the database can be set to autogrow. Microsoft’s recommendation is 25% of size of the data file.)

Configure Properties for Logging Database

☐ Set Recovery Model to Simple
☐ Create an Administrative Login
Worksheet # 1 SQL Configuration Before installing RemoteWare

**Inventory Manager Database (if licensed for this component)**

**General Tab**
Database File Name: ________________________________

**Data Files tab (SQL Server 2000) or New Database window (SQL Server 2005):**

Location (Drive & Path): ____________________________________________
Size: ________________________________

(Minimum Inventory Manager database size 50 MB. 300 MB serves about 2200 Clients with 40 KB inventory scans.)

**Transaction Log Tab**
File Name: ________________________________
Location (Drive & Path): ____________________________________________
File size: ________________________________

(Minimum 40 MB is recommended for the Inventory Manager database. If additional free space is available, it is recommended you create a larger database. In SQL the database can be set to autogrow. Microsoft’s recommendation is 25% of size of the data file.)

**Configure Inventory Manager Database**

- [ ] Set Recovery Model to Simple
- [ ] Create an Administrative Login
- [ ] Alias the user into the database as DBO

**Messaging Database (if using this component)**

**General Tab**
Database File Name: ________________________________

**Data Files Tab (SQL Server 2000) or New Database window (SQL Server 2005):**

Location (Drive & Path): ____________________________________________
Size: ________________________________

(For information on Messaging database size, see “RemoteWare Messaging considerations” on page 40).

**Transaction Log Tab**
File Name: ________________________________
Location (Drive & Path): ____________________________________________
File size: ________________________________

(Use 1 or 4 databases based on your messaging activity.)
Worksheet #1 SQL Configuration Before Installing RemoteWare

**Configure Messaging Database**

- [ ] Set Recovery Model to Simple
- [ ] Create an Administrative Login

**6 ODBC settings**

You must use ODBC drivers on the RemoteWare server MDAC 2.8 and SQL Server ODBC driver 2000 Service Pack 4.

*Note:* The default protocol for a new SQL ODBC data source is TCP/IP.

**7 RemoteWare SQL Logins and Windows Authentication**

- [ ] Create a SQL Login or Windows Authentication Login for Logging
- [ ] Create a SQL Login for Inventory Manager (if licensed for this component)
- [ ] Create SQL Login for Messaging (if licensed for this component)
- [ ] Assign new account DBO (Database Owner) access to database
- [ ] Select a user who is a member of the db_owner database role when you create the database(s).
Creating databases in SQL Server 2000

This section provides instructions applicable to all databases you create in SQL Server 2000. These instructions are specific to SQL Server 2000. If you are using SQL Server 2005, see “Creating databases in SQL Server 2005” on page 49.

Create a separate database for each of these components:

- Logging
- Server Data (Scheduler)
- Inventory Manager (if licensed for this component)
- Messaging (if using this component)

**Note:** You have the option of making four different databases for Messaging. For information on calculating the size of the Messaging database, see “Calculating Messaging database sizes” on page 41.

**Verify the SQL Services are running:**

Make sure the SQL Services are running on the SQL Server, before you create the databases.

1. In the Control Panel, double-click Administrative Tools and double-click Services (Windows 2000/2003).
2. Verify the MSSQLServer Service and the SQLServerAgent Service have the status “Started.” (If not, select these services and click Start.)
3. Click Close.

**Create the database:**

Create a database with the following attributes before you install the RemoteWare Server:

- **Datafiles.** Select Automatically grow file and Unrestricted file growth, and set the initial size under Data Files to approximately 2 MB per Client Logging.
- **Transaction Log.** Set the size to a 25% of the data file size with a minimum of 40 MB and a maximum of 100 MB.

**Note:** Repeat this task for each database you create.
Creating databases in SQL Server 2005

This section provides instructions applicable to all databases you create in SQL Server 2005. These instructions are specific to SQL Server 2005. If you are using SQL Server 2000, “Creating databases in SQL Server 2000” on page 48.

Create a separate database for each of these components:

- Logging
- Server Data (Scheduler)
- Inventory Manager (if licensed for this component)
- Messaging (if using this component)

Note: You have the option of making four different databases for Messaging. For information on calculating the size of the Messaging database, see “Calculating Messaging database sizes” on page 41.

Verify the SQL Services are running:

Make sure the SQL Services are running on the SQL Server, before you create the databases.

1. Use the SQL Server Surface Area Configuration tool to either start the SQLServerAgent Service and the MSSQLServer Service or verify that these services are running.

2. Verify the MSSQLServer Service and the SQLServerAgent Service have the status “Started.”

Create the database:

Create a database with the following attributes before you install the RemoteWare Server.

- Datafiles. Select Automatically grow file and Unrestricted file growth, and set the initial size under Data Files to approximately 2 MB per Client Logging.

- Transaction Log. Set the size to a 25% of the data file size with a minimum of 40 MB and a maximum of 100 MB.

Note: Repeat this task for each database you create.
Configuring a database in SQL Server 2000 & SQL Server 2005

Next you configure each database you create.

- Verify the SQL Server includes:
  - Sort order set to Dictionary order and case insensitive.

**Note:** This is the default during installation. The sort order cannot be changed after installation. If this is not the sort order used when you installed the SQL Server, you need to either re-install the SQL Server or rebuild the Master database, rebuild user databases, and reload the data.

- Verify the logs are set to Simple for the Recovery Model.
- Create an Administrative login.
- Assign new account DBO (Database Owner) access to database.
- Set the login account permissions for RemoteWare.

**To verify the Logs are set to Recovery Method of Simple for SQL 2000:**

1. Expand the Databases folder and right-click Properties for the database you created.
2. On the **Options** tab, select **Simple** under Recovery Method.
3. Click OK.

**To verify the Logs are set to Recovery Method of Simple for SQL 2005:**

1. Expand the **Databases** folder and select the database you created.
2. Right-click on the database, and then click **Properties**.
3. In the **Select a Page** pane, click **Options**.
4. Select **Simple** from the **Recovery Model** list box.
5. Click OK.

**To create a SQL Server Authentication Login for SQL Server 2000:**

1. Expand the **Security** folder and right-click the **Logins** folder.
2. Select **New Login**.
3. On the **General** tab, enter the name of the SQL Server Login in the **Name** field.
4 Select **SQL Server authentication** and enter a password.

5 Select a database from the **Database** drop-down list and click **OK**.

To create a Windows Authentication Login:

**Note:** SQL Server Authentication must be used for Inventory Manager and Messaging and can be used for Logging

---

1 Expand the **Security** folder and right-click the **Logins** folder.

2 Select **New Login**.

3 On the **General** tab, enter the name to be used for authentication in the **Name** field.

4 Select **Windows authentication**.

5 Select a database from the **Database** drop-down list and click **OK**.

6 Click **Yes** in the Error screen.

7 Expand the **Security** folder and open the **Logins** folder.

8 Right-click on the applicable database and select **Properties** to view the **Login Properties** window.

9 Click the **Server Roles** tab, and then check the **System Administrators**.

10 Click the **Database Access** tab and select the appropriate row(s) in the **Permit** column to grant RemoteWare login access to the database(s) you just created and select **db_owner** in the **Database roles** area of the window.

**Note:** If you are using more than one Messaging database, select each database.

---

11 Close the login window.

12 Right-click the database, then click **Properties**.

13 For messaging, set up the login account so the RemoteWare Server has at least **Create Table** and **Create Views** permissions to the databases it needs to use.

**Note:** Repeat these steps for each database you create.

---

To create a **SQL Server Authentication Login for SQL Server 2005**:

1 Expand the **Security** folder and right-click the **Logins** folder.

2 Select **New Login**.
3. Select SQL Server Authentication and enter a password.
4. Select your database and language defaults and click OK.

**Database Alias for SQL 2000**

If database access was not granted on the Database Access tab when the login was created, you need to select each database and create a database alias in the SQL Server Query Analyzer.

**To set the Database Alias:**

1. Select **Tools → SQL Server Query Analyzer** from the SQL menu.
2. Select the database you created from the **DB** list.
3. Enter the following command in the text window in order to alias the user into the database as DBO (database owner):
   
   ```
   sp_addalias rwmadmin, dbo
   ```
4. Click  or select **Query → Execute**.
5. Close the SQL Server Query Analyzer.
6. Click **Yes** to save this alias text or **No** to continue.
   
   If you selected Yes, enter a title for this text.

**Note:** Repeat these configuration steps for each database you create.
Database Alias for SQL 2005

If database access was not granted on the Database Access tab when the login was created, you need to select each database and create a database alias in the using SQL Server Configuration Manager.

To set the Database Alias:

1. Open SQL Server Configuration Manager.
2. Expand SQL Native Client Configuration.
3. Right-click Alias, and then click New Alias.
4. For the protocol option, specify Named Pipes, and then provide the information for Alias Name, Pipe Name, and Server.
5. Click OK.
Installing RemoteWare

This chapter describes the steps to install the RemoteWare Server and RemoteWare components. Your licensing agreement determines the components you can install.

This chapter provides the following:

- “Installing on a Server or Workstation” on page 56
- “Installing Components on Standalone System” on page 57
- “Installing RemoteWare 4.3” on page 58
- “Clustered Server Environment Overview” on page 59
- “Upgrading from a Previous Release” on page 63
- “Windows 2000 and Windows 2003 Services” on page 68
Installing on a Server or Workstation

**Note:** Before installing RemoteWare Server, be sure that all antivirus software on the server and data drive is disabled or turned off. Not doing so can cause errors during the installation process.

To install the server software:

1. Insert the RemoteWare CD into your CD drive or if you have copied the installation CD to the network, locate the network drive.

2. Click **Start** on the task bar.

3. Select **Run**, and type in the location or use the Browse button to locate the installation program.

4. Click **OK**.

5. Follow the instructions. To view specific installation screens, see “Installing RemoteWare” on page 65.

The setup program prompts you for the name of the root directory in which to copy the files. The default root directory is **C:\RWS**. If you install the software in a different directory, be sure to add the directory to your Install Path.

**Note:** Installation freezes if there is insufficient disk space. If this occurs, use Task Manager to end RemoteWare Setup, free up some disk space, then restart the installation.
Installing Components on Standalone System

When installing RemoteWare-related components on a standalone computer you select the individual components. Depending on your licensing, some instructions may not apply to your environment.

**To install the RemoteWare components:**

1. Insert the RemoteWare CD into your CD drive or if you have copied the installation CD to the network, locate the network drive.
2. Click **Start** on the task bar.
3. Select **Run**, and type in the location or use the Browse button to locate the installation program.
4. Click **OK**.
5. Select the components to install.
6. Follow the instructions. To view specific installation screens, see “Installing RemoteWare” on page 65.
Installing RemoteWare 4.3

Install RemoteWare 4.3 using the supported environments, cluster configurations, and upgrade information provided in this chapter.

Supported environments

Refer to system requirements on the RemoteWare product support site for the most current details on supported environments.

System requirements

- MDAC 2.8
- Microsoft Windows Installer version 2.0 (msiexec.exe) only if using pcAnywhere.

Note: The Microsoft Windows Installer version 2.0 must also be installed on the Client if using pcAnywhere.

System limits

For a detailed list of the RemoteWare system limits, see “System limitations” on page 21.

Service pack prerequisite

- None.

Upgrading prerequisite

- None.

Cluster upgrade practices

It is important to shut down and upgrade all RemoteWare Servers and Workstations to the same version, at the same time. Do not operate a Cluster with different RemoteWare versions or patch levels.
Clustered Server Environment Overview

The RemoteWare system is highly scalable to accommodate growing business needs. This is accomplished by configuring several Servers to interact using a common data storage called a Cluster. All of the Servers in the Cluster act as a single unit, providing system redundancy in the event of failure. If one RemoteWare Server fails during a session, another Server in the Cluster can pick up where the first Server failed, and complete the session.

A Clustered environment can also provide scalability to the RemoteWare system. The RemoteWare architecture supports up to six Clustered Servers. For example, each 64/U Server supports up to 64 concurrent communications sessions. Therefore, up to 384 communications sessions can be executing simultaneously to support up to 16,000 remote clients. As a result of the shared data drive, the RemoteWare clustered system acts as a single system, sharing defined and assigned tasks, executing sessions, and logging session results.

With a RemoteWare Cluster, you have these advantages:

- **Scalability.** Each RemoteWare Server has its own communication resources used to connect the Server and Clients. When more than one RemoteWare Server is available, you increase the number of available communication resources.

- **Fault tolerance.** You can use another RemoteWare Server in the Cluster should your primary Server become unavailable.

If you have any questions regarding clusters or are interested in getting pricing information for an additional server for your cluster, please contact your Customer Relationship Manager or your support representative.

**Cluster requirements**

- A RemoteWare Cluster should not be installed on a computer that serves as a Windows 2000 or Windows 2003 Domain Controller (DC) due to the potentially heavy load which may be placed on the computer.

- All clustered RemoteWare Servers must have access to the location where the RemoteWare data resides, whether it is on a LAN, share point, or a separate file server. For data security, a separate file server is recommended.

- Shut down and upgrade all RemoteWare Servers to the same version at the same time. Do not operate a Cluster with different RemoteWare versions.

- Apply Hot Fixes and Service Packs to all RemoteWare Servers and Workstations in a cluster at the same time.
• Use only one SQL Server or Windows Authentication login name for the RemoteWare services running in a cluster.

**Other rights:**
• The service account must have access to the data path.
• The installing user must have access to the data path.
• The workstation user must have access to the data path.

The service login account and the installing user must both have access to all RemoteWare data directories.

If two or more clustered RemoteWare Servers are running on separate domains, the RemoteWare Administrator will not list all of the users that may log in to any of the Servers. In addition, if one computer in the cluster is not on a domain, the Administrator on that computer will not list other domains regardless of what other computers are attached to computers in the cluster. If the Administrator doesn't list a user or group, then a user cannot assign or remove rights from that user or group.

A simple solution is for all computers in a RemoteWare cluster to be attached to the same domain, and physically located in the same network segment. Although this is the recommended configuration, individual situations may require other solutions.
Cluster configuration

This diagram shows a simplified configuration for a clustered Server environment:

For additional information, see “Tuning RemoteWare Cluster” on page 75.

Creating a Cluster

Note: Before installing RemoteWare Server, be sure that all antivirus software on the server and data drive is disabled or turned off. Not doing so can cause errors during the installation process.

These are the general steps to set up a Cluster:

1. If you are using work groups, create the RemoteWare Service Account on each computer in the Cluster. Use the same user name/password for all Servers in a Cluster.

   If you have Clustered Servers as part of a Domain, you should use the existing service account created for the installation of the first RemoteWare Server.

2. Install the first RemoteWare Server. (Be sure to make the data drive share.)
3  Stop the Service on the first RemoteWare Server.

4  Install the RemoteWare Server software on each additional Server you want in the Cluster. Respond to the installation prompts as usual, being sure to select these options:
   - On the Directory Selection window, remove the check mark for Execution and Data locations are the same
   - In Install Path, enter the location on the local computer where you want the RemoteWare executable files to reside
   - In Data Path, enter the location of the data files

5  Start the service on all computers.

Adding a new Server to a Cluster

To add a new Server to an existing Cluster:

1  Stop the Service on the other RemoteWare Servers.

2  Install the RemoteWare Server software on each additional Server you want in the Cluster. Respond to the installation prompts as usual, being sure to select these options:
   - On the Directory Selection window, clear Execution and Data locations differ
   - In Install Path, enter the location on this computer where you want the RemoteWare executable files to reside
   - In Data Path, enter the location of the data files

3  Start the service on all machines.

Removing a Server from a Cluster

Refer to the RemoteWare Server Administrator's Guide for these instructions, and other maintenance topics.
Upgrading from a Previous Release

When upgrading from a previous version of RemoteWare, the setup program checks the configuration settings, determines the existing installation version, and overwrites the current installation.

When upgrading from a previous version, the following are different from a new installation. These issues only pertain to single-Server systems and Workstations.

- The Program Group Selection and Directory Selection windows that display during the upgrade process show the locations where your data for the existing Server resides. You cannot change the directory when upgrading the Server.

**Note:** Additional information is located on the iAnywhere web site Customer Area in the Knowledge Base about upgrading from a previous release.

**Supported upgrade paths**

RemoteWare 4.3 supports upgrades from the following RemoteWare releases:

- RemoteWare 4.2 --> RemoteWare 4.3
- RemoteWare 4.1 --> RemoteWare Hot Fix 153 --> RemoteWare 4.1 SP1A --> RemoteWare 4.1 SP2 --> RemoteWare Hot Fix 24 --> RemoteWare 4.3

Additionally, you must upgrade your SQL Server to SQL Server 2000 Service Pack 4 or SQL Server 2005, and you must configure a database for logging. For additional information, see “Configuring a database in SQL Server 2000 & SQL Server 2005” on page 50.

**Before upgrading your SQL Server**

Prior to upgrading your SQL Server, stop the RemoteWare Services on all Servers and Workstations and complete the following tasks.

- Perform a complete backup of all RemoteWare Servers, including the RemoteWare data drive.
- Perform a complete backup of all databases on your SQL Server 7.0 or SQL Server 2000, including all RemoteWare databases.

**Important:** If you change the naming conventions for the SQL Server or databases during the upgrade may require a complete reinstallation of RemoteWare.

**Note:** Online database upgrades from SQL Server 7.0 are not supported. SQL Server 7.0 must be upgraded to SQL Server 2000 or SQL Server 2005.
During the upgrade, the Installation Selection dialog box appears. RemoteWare requires this option be selected:

- Upgrade, remove or add components to an existing instance of SQL Server
- In the Existing Installation dialog box, this option must be selected:
  - Upgrade your existing installation

**Post Upgrade Considerations**

After upgrading SQL Server:

- It is recommended you update statistics on all production databases.
- Start the RemoteWare related services on all RemoteWare Servers and Workstations. Check Server logs to ensure there are no errors resulting from the SQL Server upgrade.
- After proper functionality is verified, perform a complete backup of all system and RemoteWare databases.

**Workstation Requirements**

- Shut down and upgrade all RemoteWare Workstations to the same version at the same time as the servers. Do not operate Workstations with different RemoteWare versions.
Installing RemoteWare

After all the required databases have been created, you may begin installing RemoteWare.

**Note:** Before installing RemoteWare Server, be sure that all antivirus software on the server and data drive is disabled or turned off. Not doing so can cause errors during the installation process.

**To install the RemoteWare components:**

1. Insert the RemoteWare CD into your CD drive or if you have copied the installation CD to the network, locate the network drive.

2. Click **Start** on the task bar.

3. Select **Run**, and type in the location or use the Browse button to locate the installation program and click **OK**.

4. Select the component to install.

5. The License Agreement dialog appears. Click **Yes** or **No** to indicate your acceptance or rejection. The installation continues only when you accept the agreement.
6 The Directory Selection window indicates the location of the current files. Verify the install path is correct, and click **Next**.

7 The Licensing window indicates the components for which you are licensed. Click **Next**.

8 The Select Components to Install window indicates the previously installed components shown in gray. Select additional components, if necessary and click **Next**.
To configure all the databases, click **Configure All** or select a database and click **Configure**.

10 After you have configured all databases, click **Next**.

11 The **Configure Logs** window indicates the maximum size of the log databases. Configure these databases. Click **Next**.

12 The RemoteWare installation continues for several minutes. When installation is complete, click **Finish**.

13 Reboot once the installation is complete.
**Windows 2000 and Windows 2003 Services**

The Services feature of Windows 2000 and Windows 2003 is important for understanding, and troubleshooting RemoteWare. There are occasions when you need to stop, and start the RemoteWare Service to perform maintenance. For example, if you upgrade your RemoteWare software, or add additional components, you need to stop the Service prior to running the RemoteWare setup program.

**Controlling the RemoteWare Service**

The RemoteWare Service is monitored, modified, started, and stopped from the Windows 2000 and Windows 2003 Services control panel. To access the RemoteWare service from the Services control panel:

1. In Windows 2000 or Windows 2003, open the Control Panel, select Administrative Tools, and double-click component **Services**. A list of available services and their current status displays.

2. Scroll through the list and locate the RemoteWare Server.
   - If Started is in the Status column, then the service is active.
   - If no status is displayed, then the service is not running. Click **Start**. If an error occurs, then continue with the next step to diagnose the problem.

3. If your service did not start, then highlight the service and click **Startup**. This dialog displays the startup configuration for this service.

4. When you are finished, click **OK** to return to the Services listing.

5. Click **Startup**. If the service does not start, note the error message and consult your Windows 2000 or Windows 2003 documentation. If you cannot diagnose the problem, contact your RemoteWare representative.
Directory structure after basic installation

After installation, the basic RemoteWare files are organized into six directories. If you have added the Inventory Manager additional directories are added.

After installation, the RemoteWare files are organized into these directories:

Table 1. Directory Structure after Installation

<table>
<thead>
<tr>
<th>Directory Contents</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>\system</td>
<td>Server executable directory</td>
</tr>
<tr>
<td>\data</td>
<td>Used for logging views and Software Manager.</td>
</tr>
<tr>
<td>\ECF</td>
<td>External Configuration Files used to configure the RemoteWare system outside the user interface</td>
</tr>
<tr>
<td>\node</td>
<td>Client definition files</td>
</tr>
<tr>
<td></td>
<td>For each client you have defined, RemoteWare creates a subdirectory with the Client name you assign.</td>
</tr>
<tr>
<td>\nodesys</td>
<td>Client executable</td>
</tr>
<tr>
<td>\sysfiles</td>
<td>RemoteWare Server definition files and Remote Control Installation Files.</td>
</tr>
<tr>
<td>\worklist</td>
<td>Files containing event lists that occur during a communication session</td>
</tr>
</tbody>
</table>
Upgrading Remote Control

You can upgrade your current version of Remote Control to the latest version as a separate installation process from the main RemoteWare installation procedure. The Remote Control installation procedure allows you to copy the setup files and work objects required to deploy Remote Control on the Server and Clients.
Using the RWDBVal Utility

This appendix describes the RemoteWare Logging Database Schema Validation Utility and its components.

The 4.2 install process installs the files for the Logging Database Schema Validation utility. The utility checks the installed database to determine if it is successfully migrated to the RemoteWare 4.2 database format. If it is determined that the database has not been migrated correctly, then the utility can be used to perform the appropriate update.

**Note:** The Logging Database Schema Validation for Hot Fix RWHF153 is no longer supported with Release 4.2. If you need to validate a RWHF153 database schema, please contact your Product Support representative.

RWDBVal.exe file is used to execute the utility using the following syntax:

SYNTAX: RWDBVal <option> <version>

where <option> =

1 - CheckSchema
2 - FixSchema
3 - DumpSchema

and <version> =

4 - RemoteWare 4.2 Schema
3 - RemoteWare 4.1 Service Pack 1A or Service Pack 2 schema

**Steps to Execute RWDBVal**

To implement the RWDBVal Utility, run RWDBVal.exe file using the following statements in sequential order:
1. RWDBVal 1 4 - The utility invokes the CheckSchema Function for a RemoteWare 4.2 schema. When the function completes execution, the screen will indicate the specific path (this is the RemoteWare system execution path) where the RWDBSchema.log is located.

2. RWDBVal 2 4 - The utility invokes the FixSchema Function for a RemoteWare 4.2 schema. When the function completes execution, the screen will indicate the specific path (this is the RemoteWare system execution path) where the RWDBSchema.log is located.

**Note:** This information is appended to the previous existing RWDBSchema.log created by running RWDBVal 1 4. By default, the RWDBVal statement executing the FixSchema Function stops all RemoteWare services in the cluster environment. However, it does not restart any of the RemoteWare services.

3. RWDBVal 1 4 - Run this statement to verify that the schema has been fixed.

4. RWDBVal 4 4 - The utility invokes the DumpSchema Function for a RemoteWare 4.2 schema. This provides a very detailed RWDBSchema.log. When the function completes execution, the screen will indicate the specific path (this is the RemoteWare system execution path) where the RWDBSchema.log is located.

**Note:** This information is appended to the previous existing RWDBSchema.log created by running RWDBVal 1 4.

5. Manually restart the RemoteWare Server service on all RemoteWare servers.

**Note:** Restarting the RemoteWare Server service will also restart the RemoteWare Server, the Inventory Manager DB Server, the RemoteWare Inventory Manager Server, and the RemoteWare Subscriber services respectively.

---

**Explanations of the CHECKSCHEMA, FIXSCHEMA, and DUMPSCHEMA Functions**

The following explanations detail the procedural calls for the Logging Database Schema Validation Utility. You do not need this information to run the RWDBVal.exe file.

- **CheckSchema()** - This is the Exported Function that checks all the logging database changes made in all Service Packs and Hot Fixes since the base RemoteWare 4.1 Logging database installation.

  RWDBVal.exe calls the CheckSchema Function. Input can be 2, 3, or n. Output can be a return code of 0, or an error code with an error message.

  API entry point, [int CheckSchema (int nVersion, char* pszError, char* pszLogFilePath)]

  **Input:**

  **Output:**
Using the RWDBVal Utility

4 - RemoteWare 4.2 schema
n - undefined version (future RemoteWare release)
pszError = pointer to 1,000 character buffer
pszLogFilePath = pointer to 1,000 character buffer

Output:
rc = 0, pszError = <blank>, pszLogFilePath = <full path to log file>
rc = <error code>, pszError = <error message>, pszLogFilePath = <full path to log file>

• **FixSchema()** - This is the Exported Function that verifies and fixes all tables and all schema changes made in all Service Packs and Hot Fixes since the base RemoteWare 4.1 Logging database installation.
RWDBVal.exe calls FixSchema function. Input can be 2, 3, or n. Output can be a path to the log file along with a return code of 0 or an error code with an error message.

API entry point, \[int FixSchema(int nVersion, char* pszError, char* pszLogFilePath)\]

**Input:**
4 - RemoteWare 4.2
n - undefined version (future RemoteWare release)
pszError = pointer to 1,000 character buffer
pszLogFilePath = pointer to 1,000 character buffer

Output:
rc = 0, pszError = <blank>, pszLogFilePath = <full path to log file>
rc = <error code>, pszError = <error message>, pszLogFilePath = <full path to log file>

**Note:** This entry point stops all RemoteWare services cluster-wide before modifying the schema. It does not restart any RemoteWare services.

• **DumpSchema()** - This is the Exported Function that prints the existing schema to the RWDBSchema.log file.

RWDBVal.exe calls CheckSchema function. Input can be 3 or n. Output can be a path to the log file along with a return code of 0 or an error code.

API entry point, \[int DumpSchema(int nVersion, char* pszLogFilePath)\]
**Input:**

4 - RemoteWare 4.2 schema

n - undefined version (future RemoteWare release)

pszLogFilePath = pointer to 1,000 character buffer

**Output:**

rc = 0, pszLogFilePath = <full path to log file>

rc = <error code>, pszLogFilePath = <full path to log file>

- **StartStopRWServices()** - This procedure calls the API entry point, [int StartStopRWServices(int nFunction, char* pszError)]. Input can be a 1 or 2. Output can be a return code of 0 or an error code with an error message.

  **Input parameters:**

  nFunction = 1 - Start RemoteWare Services on local RemoteWare server only

  2 - Stop RemoteWare Services cluster-wide

  pszError = pointer to 1,000 character buffer

  **Output parameters:**

  pszError - error message if rc is not = 0

**Return Value:**

rc = 0, indicates everything is ok

rc = <error code>, indicates a Windows or a SQL error code

**Note:** RemoteWare Services include RemoteWare Server, Inventory Manager DB Server, RemoteWare Inventory Manager Server, and the RemoteWare Subscriber Service.
Tuning RemoteWare Cluster

Network-based RemoteWare Servers require an extremely high performance networking environment to rapidly exchange information and to robustly handle network disturbances.

This appendix presents advanced information for the experienced Server Administrator. It describes the configuration for a file server connection used when implementing a RemoteWare Cluster, or a single Server with a remote data drive.

The procedures and information are intended to tune the Windows networking environment, to ride out network disturbances, and to configure the network to be as clean a network environment as possible. The final goal is to optimize the RemoteWare Server’s network file I/O connection to the remote data drive that contains the shared Cluster data files.
Network topology considerations

- Check the physical configuration of the network connecting the RemoteWare Servers, Workstations and remote data drive. The Servers, Workstations and the data drive should be located on a separate segment of the network. They should be connected to each other with an Ethernet switch to insure maximum bandwidth. Additional or excessive links between the Server and its data drive are a potential source of network errors. It is recommended for optimal performance for a RemoteWare Cluster to have a dedicated SQL Server and Data Drive.

- Check drivers and network interface card (NIC) configurations. Make sure you have the latest driver and any patches or service packs. Sources for NIC drivers are the computer manufacturer’s web site, network card manufacturer’s web site, and the web site for the manufacturer of the driver circuit used on the NIC.

- Network performance can be increased by enabling Network task offload features for NIC that use drivers that are NDIS 5 or later. These parameters are Offload Receive IP Checksum, Offload Receive TCP Checksum, Offload Transmit IP Checksum, & Offload Transmit TCP Checksum. More information about this can be found at http://www.microsoft.com/whdc/device/network/taskoffload.mspx.

- Configure the network transport used for the RemoteWare Server. The RemoteWare Server and the data drive file server network protocols and bindings determine the type and path of network connection(s) used to support network file I/O for the RemoteWare Servers. RemoteWare has been tested using the tuning parameters described in this appendix for the TCP/IP transport.

- A time out value for the network connection should be set to 20 to 40 seconds for initial values. Network errors which cannot be corrected within this time interval are very serious.

Transports and binding orders

For Windows 2000

1. On the file server that contains the RemoteWare ‘data drive’, open Network and Dial-up Connections, click Start, point to Settings, and then click Network and dial-up Connections.

2. Click the connection you want to modify, and on the Advanced menu, click Advanced Settings. Verify that the TCP/IP transport is installed.
3 On all RemoteWare Servers and RemoteWare Workstations, open Network and Dial-up Connections, click Start, point to Settings, and then click Network and dial-up Connections.

4 Click the adapter you want to modify (primary NIC), and on the Advanced menu, click Advanced Settings. Verify that the TCP/IP transport is installed.

5 On the Adapters and Bindings tab, in Bindings for the NIC, click the protocol (TCP/IP) and move it to the top of the list, if it is not already set, with the Up or Down button.

   For more information on optimizing network performance for Windows 2000, visit the Microsoft support site.

For Windows 2003

For RemoteWare Servers, Workstations and Data Drive file server, verify that TCP/IP is at the top of the protocol binding order.

To view or modify the protocol bindings order:

1 Open Network connections, click Start, click Control Panel, click Network and Internet Connections, and then click Network Connections.

2 Open Network Connections.

3 On the Advanced menu, click Advanced Settings.

4 In Connections, click the connection that you want to modify (primary NIC).

5 Click the protocol that you want to move up or down in the list, and then click the up or down arrow button. Put TCP/IP at the top of the list if it is not already there.

   For more information on optimizing network performance on Windows 2003 Server, visit the Microsoft support site.
Registry settings

Use the Registry Editor to set the following network tuning parameters. If the parameters are not present, the default value is in effect.

- On all RemoteWare Servers, all RemoteWare Workstations and the file server that contains the RemoteWare data drive, add or modify the following value:
  
  **HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Tcpip\Parameters\**

  **TcpMaxDataRetransmissions**

  **REG_DWORD**

  **Default = 5 (attempts)**

  The TcpMaxDataRetransmissions key determines how many times TCP retransmits an unacknowledged data segment on an existing connection. TCP retransmits data segments until they are acknowledged or until this value expires. TCP/IP adjusts the frequency of retransmissions over time. TCP establishes an initial retransmission interval by measuring the round trip time on the connection. The interval doubles with each successive retransmission on a connection, and it is reset to the initial value when responses resume.

- On all RemoteWare Servers and all RemoteWare Workstations, (only valid for Windows 2002 or Windows 2003) add or modify the following value:
  
  **HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\LanmanWorkstation\**

  **Parameters\SessTimeout**

  **REG_DWORD**

  **Default: 45 (seconds)**

  The SessTimeout key determines the duration of the secondary delay used in calculating a time-out value for outstanding operations. If the redirector does not receive a response to an outstanding operation before the resulting time-out expires, it considers the operation to have failed. The value of the SessTimeout entry can be thought of as a margin for error. If there is an unexpected delay, the redirector permits the operation this extra time to complete.

  The following registry value settings have been empirically determined for different time out settings.

  **Note:** A LAN session time out will occur when the minimum of the SessTimeout and transport time out values as specified below expires.
Table 1. TCP Values

<table>
<thead>
<tr>
<th>Tolerance Goal</th>
<th>TcpMaxData Retransmissions</th>
<th>SessTimeout</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 seconds</td>
<td>default</td>
<td>default</td>
</tr>
<tr>
<td>25 seconds</td>
<td>6</td>
<td>51</td>
</tr>
<tr>
<td>50 seconds</td>
<td>7</td>
<td>103</td>
</tr>
<tr>
<td>102 seconds (1 min, 42 sec)</td>
<td>8</td>
<td>205</td>
</tr>
<tr>
<td>204 seconds (3 min, 24 sec)</td>
<td>9</td>
<td>410</td>
</tr>
<tr>
<td>409 seconds (6 min, 49 sec)</td>
<td>10</td>
<td>819</td>
</tr>
</tbody>
</table>
Uninstalling RemoteWare

This appendix describes how to uninstall RemoteWare and its components.

⚠️ **Important:** If you plan to restore and rebuild a server this is an involved process. It is strongly recommended you contact iAnywhere support before you attempt this on your own.

Uninstalling RemoteWare

You can uninstall RemoteWare components using the Add/Remove Programs option from the Windows Control Panel.

**To remove RemoteWare programs:**

1. Open **Add/Remove Programs** from the Control Panel.
2 From the **Install/Uninstall** page, locate and select RemoteWare.

3 Click **Add/Remove**. A window appears allowing you to select the RemoteWare components to remove. Make your selection(s) then click **Next**.

4 A window appears asking you to verify your selection. Click **Next** to continue or **Back** to re-select the components.

5 Uninstall removes the software from the computer.

6 Click **OK** at the end of this process to return to the control panel.

**Note:** When uninstalling Software Manager Capture, no dialogs appear to show the uninstall process.
**Note:** When you uninstall the Client, you must reboot before you reinstall the Client.

**Note:** If Remote Control has been installed on the Client via a work object during a RemoteWare Session, it will not be uninstalled automatically. You need to uninstall these applications manually.
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