

Sage CRM MME Technical Specification

This document outlines the recommended minimum software and hardware requirements for running Sage CRM MME.

Client Software

No installation is required on the PC or laptop of networked users for core CRM functions, as the Web browser is usually pre-installed. Some features of CRM, such as Mail Merge, Reporting, and Outlook Integration may require the installation of plugins and external applications. These are outlined in the next section.

The following Web browser is supported:

- Microsoft Internet Explorer 5.5/6.0.

Files and Applications you may need on the Client

Mail Merge Plugin	To use the mail merge functionality the first time a user encounters one of the features requiring the plugin (for example, the My CRM Calendar/Tasks page displaying the Document Drop icon), they are prompted to download a plugin. Instructions are provided on-screen. You must be an administrator or power user of your machine to install the Mail Merge Plugin. Contact your System Administrator if you do not have these rights.
Adobe Reader	To view CRM reports in Adobe PDF format, Adobe Reader must be installed on the client machine. The Adobe Reader can be downloaded from www.adobe.com .
Outlook Plugin	To install CRM Outlook Integration, users download the Outlook Plugin from within CRM in the My CRM My Preferences tab. You must be an administrator or power user of your machine to install the Outlook Plugin. Contact your System Administrator if you do not have these rights.

Note: Users are required to have either Outlook 2000 (with SR-1 or above), Outlook 2002 (XP) or Outlook 2003 to use the CRM

Outlook Integration.

Users who wish to create Crystal Web Reports will need access to a local copy of Crystal Report Designer Version 10. All users can run Crystal Web Reports that have been set up on the server.

Recommendations for Client Hardware

As the application uses a Web browser, the client hardware specification is determined by the minimum Web browser requirements for the client operating system.

Recommendations for Solo Clients

A Pentium III 600 (or comparable) processor with at least 256 MB of RAM is required. 40 MB of disk space is required for the Client installation, and 28 MB of disk space required after the Client has been installed.

Server Software

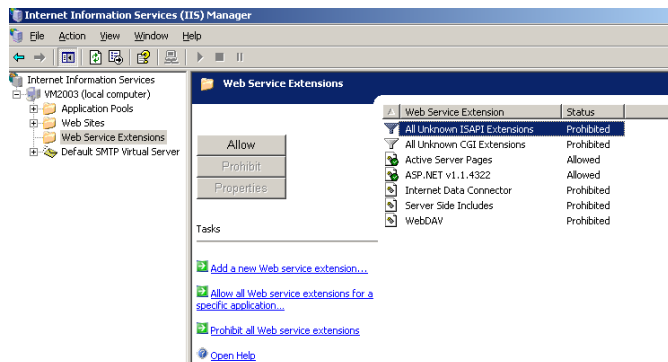
For a standard implementation, the following software is supported. These products must be installed prior to installing the application. Note that in addition to CRM license costs, customers need to independently purchase licenses for this software. This should be organized by your IT department using their established suppliers. It may be possible to reuse licenses purchased for other applications if they are not currently being used.

Product	Version	License Requirement
Application Server		
Microsoft Windows 2000 Server <i>Or</i> Microsoft Windows Advanced Server 2000 <i>Or</i> Microsoft Windows 2003 Server	Service Pack 4 Service Pack 2	Your IT department should verify the latest licensing requirements with the manufacturer. Note: IIS 6.0 under Windows 2003 requires some additional setup. Please refer to the section on Windows 2003 at the end of this table.
Database Server		
Microsoft SQL Server <i>Or</i> Oracle 8i, Release 3 Oracle 9i, Release 2 Note: Oracle databases can run on a Unix or a Windows operating system. IBM DB2 Universal Database Sybase	SQL 7.0 with service pack 4 or SQL 2000 with latest service pack. For CRM Solo Installs, SQL 2000 with latest service pack. Oracle 8.1.7 OLEDB patch 81720 (filename OraOLEDB_81720.exe) Version 8.1	Your IT department should verify the latest licensing requirements with the manufacturer.
Web Server		
Microsoft Internet Information Server	5.0 or 6.0 with Windows 2000 with latest patches	Included with Windows 2000 or 2003 Server license.

Note on IIS 6.0 and Windows 2003

To run CRM with IIS 6.0 under Windows 2003:

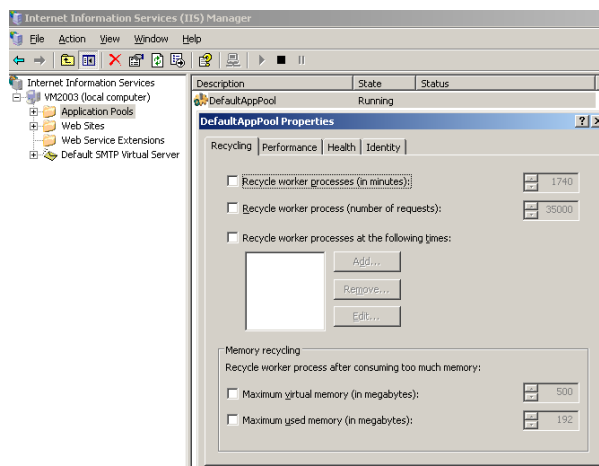
1. Select Start | Settings | Control Panel | Administrative Tools | Internet Information Services (IIS) Manager.
2. Click on the Web Services Extensions folder on the left-hand pane, select All Unknown ISAPI Extensions from the Web Services Column on the right-hand pane, and select the Allow button.



Internet Information Services (IIS) Manager

3. Select the Application Pools folder from the left-hand pane, and from the right-hand pane, right-click on DefaultAppPool, and select Properties.

The DefaultAppPools Properties dialog box is displayed.



DefaultAppPools Properties dialog box

4. From the Recycling tab, unselect the Recycle Worker Processes (In Minutes) checkbox.
5. Select the Performances tab, and type **5760** in the Shutdown Worker Processes After Being Idle For (Time In Minutes) field. Note that 5760 minutes is equivalent to four days.
6. From the Identity tab, select the Predefined button and select Local System from the list.

If you are using ASP pages, you switch Parent Paths on. To do this:

1. Right-click on the CRM folder from the Websites directory and select Properties.
2. Ensure that the Virtual Directory tab is selected and click on the Configuration button.
3. Select the Options tab on the Application Configuration dialog box and select the Enable Parent Paths checkbox.
4. Select OK.

Networking

- As an Internet Technology product, TCP/IP networking is required.
- A high-speed internal network is necessary in order to provide the best performance. We recommend a minimum office network bandwidth of 10 Mbit bandwidth (standard Ethernet).
- A 100 Mbs network connection between the Database server and the CRM server is required.
- Dial-up Internet users should have 56.6 Kbps modems, while local offices connected via the Internet should install a minimum 128 Kbps connection to the Internet.

Access for Mobile Users

Mobile users have a choice of how to access the system.

- Using a dial-up connection via RAS or the Internet, they can connect to CRM as if they were at their desk. The full functionality available to them at their desk is available to them via dial-up, and the interface is exactly the same. Because CRM only delivers HTML and JavaScript to the user's Web browser, it is ideally suited to this type of usage.
- CRM Solo users can download the CRM database, work offline, and synchronize with the central database via a dial-up connection. Typical data synchronization times for Solo users is two or three minutes, but this depends on the number of updates made to both client and server databases.

Either option has security implications, which can be overcome via firewall software, ensuring the integrity of data at all times, and by encrypting all data transferred.

Test Environment

We recommend a test environment that mirrors the production environment is set up and made available to test the system before it goes live.

Recommendations for Server Hardware

The following sections provide general recommendations for CRM installations, as well as specifications for large CRM installations.

General Recommendations

- We strongly recommend using a level 5 RAID disk array system. The level 5 RAID allows you to swap out a failed drive with minimal disruption to your production environment. The RAID disk array system also provides significantly better performance.
- Each supported server should have access to a high-speed modem (56 KB or more) for remote support and RAS.
- Each site must have adequate backup and recovery capabilities, for example DAT / DLT tape drives.
- We recommend that you use an Uninterruptible Power Supply.
- We strongly suggest that you have a "hot stand-by" system that has a backup database. This standby system should have a very similar configuration to the primary production system. The standby system can also be used for development and testing.
- The amount of disk space required varies widely based on the number of customer records, archiving plans, and backup policies. The disk space can also vary widely based on the amount of information held for each customer. Therefore, it is important to try to estimate this prior to installation and purchase sufficient disk storage to allow for significant growth in the volume of data.
- It is important to keep in mind what type of user will be working with the system. For example, 200 call center users use the system more intensively than 200 sales and marketing users.

Solo Installations

Regardless of number of users, every Solo CRM system should have a dedicated database server. The database is regularly used for heavier synchronization processes coming from Solo Clients.

Installations with over 50 Users

- **Servers.** Split the Database server and Web server across two machines.
- **Memory.** The amount of memory in the Database server should be no less than 50 percent of the anticipated database size after one year. Planning for a ratio of 75 percent provides additional performance and room for errors in the size estimate.
- **Processors.** The processors in each of the machines should be high specification, for example 2.8 Ghz P4 Xeon.

Installations with over 100 Users

- **Servers.** At a minimum, the Database server should be dual processor. Ideally both machines should be dual processor.
- **Memory.** The amount of memory in the Database server should be no less than 50 percent of the anticipated database size after one year. Planning for a ratio of 75 percent provides additional performance and room for errors in the size estimate.
- **Processors.** The processors in each of the machines should be high specification, for example 2.8 Ghz P4 Xeon.

Installations with Several Hundred Users

- The specifications below assume that users are fairly interactive, for example, users working in a Call Center. You may get more users on a lower specification if the users are lower-usage users.
- **Servers.** At a minimum, the Database server should be quad processor. Ideally both machines should be quad processor.
- **Memory.** The amount of memory in the Database server should be no less than 50 percent of the anticipated database

size after one year. Planning for a ratio of 75 percent provides additional performance and room for errors in the size estimate.

- **Processors.** The processors in each of the machines should be high specification, for example 2.8 Ghz P4 Xeon.

Test Servers

It is recommended to have one or more Test Servers to replicate the above. One server is sufficient for this unless bench marking is being run, in which case, you should replicate the server specification and configuration as closely as possible.

Future phases of projects and change requests also need a test environment after the initial "Go Live" is achieved.

For every third-party server involved in the deployment of CRM, there should also be an equivalent testing server. For example Exchange server, Accounting server.

