

POWER TO RUN YOUR BUSINESS

sage

CRM Mid-Market Edition

Sage CRM MME 5.7

Exchange Synchronization Guide

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Chapter 1

Introduction

This guide is for Sage CRM MME Implementers. The final chapter, Synchronizing Appointments, is for users.

We assume that implementers have:

- Experience in implementing and troubleshooting CRM installations.
- Experience in administering Microsoft Exchange servers.

We assume that users are:

- Familiar with the use of a Web browser.

What is CRM/Exchange Synchronization

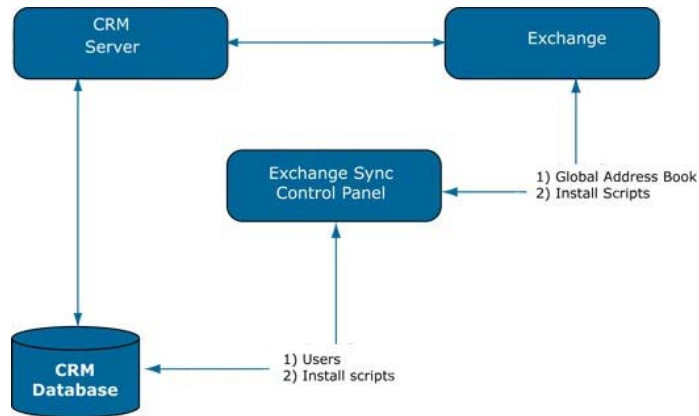
CRM/Exchange synchronization applies to CRM and Exchange appointments and results in the following functionality:

The synchronization functionality is available for appointments only.

- When an appointment is created, edited, or deleted by a user in CRM, a corresponding appointment is automatically created, edited, or deleted in Exchange.
- When an appointment is created, edited, or deleted by a user in Exchange (Outlook user), a corresponding appointment is automatically created, edited, or deleted in CRM.

Exchange synchronization works by synchronizing CRM users with Exchange users, then installing scripts on the Exchange server and activating a table script on the communications table each time an appointment is scheduled. A connection must exist between the CRM server and the Exchange server for this to happen, so both servers must exist on the same domain or have a trust relationship.

The following diagram illustrates CRM / Exchange synchronization component interaction.



CRM / Exchange Synchronization

Chapter Summary

The table below gives a summary of each chapter.

Chapter	Summary
Getting Started	The steps that need to be taken prior to synchronizing CRM and Exchange servers.
The CRM Exchange Sync Control Panel	Using the CRM Exchange Sync Control Panel to synchronize users and install synchronization scripts.
Synchronization Scripts	How to access synchronization scripts.
Synchronizing Multiple Exchange Servers with CRM	How to synchronize multiple Exchange servers with CRM.
Troubleshooting Tips	Advice on troubleshooting CRM/Exchange integrations.
Error Handling	How errors are handled.
Scheduling Appointments	How to create, update, and delete synchronized appointments.

Chapter 2

Getting Started

In this chapter you will learn about:

- The prerequisites for synchronizing CRM and Exchange.
- Copying CDO onto the CRM server.
- Creating a new registry key to improve communication between CRM and Exchange.
- Setting up CRM access to the Exchange server.
- Setting up Exchange permissions.
- Preparing to run the CRM Exchange Sync Control Panel.

Synchronization Prerequisites

Server Preparation

To synchronize CRM with Microsoft Exchange server, you need to:

On the CRM Server	On the Exchange Server
Ensure that CRM 5.5 or above is installed. If you intend on making changes to the CRM Table Level Scripts, the Extensibility Module is also required. Refer to Chapter 4 "Synchronization Scripts" for more information.	Ensure that Microsoft Exchange Server 5.5 SP4 (Service Pack 4), or Exchange 2000 SP1 (Server Pack 1 or above), or Exchange 2003 is installed.
Make sure that the latest version of the CDO.dll exists on the CRM server. This involves a number of steps. For more details, please refer to Copying CDO onto the CRM Server in this chapter.	If it is not already installed, install the Microsoft Exchange Event service. Note that if the Event Service is installed with Exchange 2003, it is disabled by default. You need to enable it before integration. Please refer to your Exchange 2003 documentation for details on doing this.

On the CRM Server	On the Exchange Server
<p>Ensure that IE 5.5 or above is installed, and ensure that Microsoft Outlook is the default e-mail application. You do this from Tools Internet Options Programs, by checking that Microsoft Outlook is selected in the E-mail field.</p> <p>In addition, you require Outlook 2000. If Outlook is already installed and it is an older version than 2000, upgrade to 2000. Having done this, it is important to check that 2000 has taken effect. Note that the following Outlook versions are not supported: Outlook 2000 Version 9.0.0.4201 and later or Outlook 2002 – all versions (10.0.x.x).</p>	<p>Ensure that IE 5.5 or above is installed. (IE 5.5 is required only because it includes JavaScript. The Scripts on the Exchange server call for JavaScript to be installed).</p> <hr/> <p>Ensure that MS XML Parser v3 (or above) is installed. This can be downloaded from www.microsoft.com. To ensure that the program is installed properly, select Start Settings Control Panel, and click on the Add/Remove Programs icon. The inclusion of MS XML Parser on the list that displays indicates that it has been installed correctly.</p>

You also need to:

- Make sure that you have access to the following Exchange Synchronization files for use in the implementation: CDO.DLL and EWAREEXS.CPL. The CDO.DLL can be found on the Exchange server and the CPL file is a CRM file that is supplied with the CRM / Exchange Synchronization installation files.
- Copy the EWAREEXS.CPL file to the C:\WINNT\system32 directory on the Exchange server and on the CRM server.

- Ensure that both servers are either installed on the same domain or have a trust relationship.

Next Steps

To complete the prerequisites for CRM/Exchange synchronization, you need to complete the following tasks, which are described in detail in the next sections:

- Copy the CDO.DLL onto the CRM server.
- Create a new registry key. Note that this is optional.
- Set up CRM access to the Exchange server.
- Set up client permissions on CRM and on Exchange.
- Make preparations to run the CRM Exchange Sync Control Panel.

Copying CDO onto the CRM Server

CDO (Collaborative Data Object) needs to be present on the CRM server so that CRM can communicate with Exchange. It is important that you make sure the latest version of the CDO DLL exists on the CRM server.

If Exchange 5.5 Management Tools is already installed on the CRM server, you do not need to install the CDO DLL – it is installed automatically. The incorrect version of the CDO.DLL may have been installed on the CRM server if:

- Outlook 2000 was installed on the CRM server.
If this is the case, the CDO that exists on the server is a client DLL. This is not suitable for use with multiple people and therefore is not designed for use with Exchange. If this is the case you need to uninstall the Outlook CDO. Then copy the up-to-date DLL onto the server.
- The CDO option within Office 2000 was installed.
If it was, delete the components and reboot the server. Then copy the up-to-date DLL onto the server.

To install the latest version of the CDO:

1. Copy the CDO DLL from the Exchange server to the following location on the CRM server:

C:\ProgramFiles\Common Files\MAPI\1033\NT

2. If there is no MAPI folder, locate the GAPI32.DLL, and copy the CDO DLL into the same folder.

Registering the CDO DLL

Once you have copied the correct version of the CDO DLL onto the CRM server, you need to register it.

To register the DLL:

- From the command prompt, register the DLL in the directory in which it was installed – that is, run `regsvr32 cdo.dll` from the directory that contains the CDO DLL.

New Registry Key

Creating a new key in the registry can speed up communication from Exchange to CRM. An appointment created in Exchange typically takes one minute to be reflected in CRM, and you may require this to happen more quickly. It is

important to note that this key is not a required key, and the creation and modification of it may cause problems on heavily loaded Exchange servers.

To create the key and set the polling interval:

1. On the Exchange server, Open Start | Run and type **regedit**.
2. Open HKEY_LOCAL_MACHINE | SYSTEM | CurrentControlSet | Services | MSExchangeIS | Parameters System.
3. Create a new DWORD Value parameter and name it **ICS Notification Interval**.
4. Set the parameter value to poll the server (in seconds). The time you specify depends on your requirements, but 15 seconds is a good value for a non-loaded Exchange server.

CRM Access to the Exchange Server

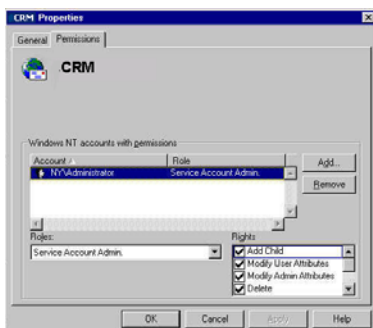
In order to synchronize CRM appointments with Exchange appointments, CRM needs to access the Exchange server. It must access the Exchange server through an NT domain account. The account can be any NT domain user or group account once the permissions described below have been assigned to it.

Setting up Access—Exchange 5.5

You can set up access via an NT domain account that has access to all Exchange mailboxes that have a corresponding CRM user.

To set up access:

1. Decide what NT domain account to use for access or set up a new account to use for access.
2. Open the System Manager, select the icon for the domain in the left-hand pane, and click on Properties.
3. Assign Service Account Admin rights so that all Exchange mailboxes can be accessed by it.



Exchange 5.5

There is no need to use NTLM authentication. All appointments in Exchange are created by the individual user's Exchange account.

Setting up Access—Exchange 2000 or 2003

Individual users can be set for Send As and Receive As access as an alternative to setting up rights to the entire server.

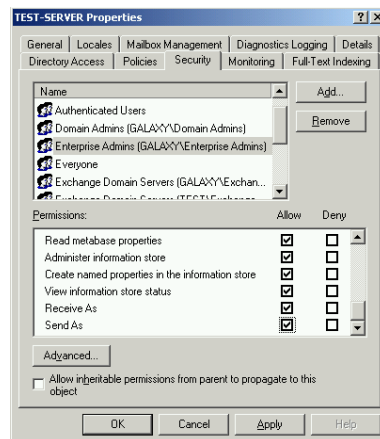
You can set up access via an NT domain account that has access to all Exchange mailboxes that have a corresponding CRM user.

To set up access:

1. Decide what NT domain account to use for access or set up a new account to use for access.
2. Open the System Manager, right-click on Servers and select Properties | Security.
3. Assign Send As and Receive As permissions to the NT user so that all Exchange mailboxes can be accessed by it.
4. Select the Advanced button and make sure that the above permissions (Send As and Receive As) are not set to Deny for any group the NT user belongs to.

If any of the above groups have Deny permissions:

1. Select the group and deselect the Allow Inheritable Permissions From Parent To Propagate The Option checkbox.
2. Select Copy on the dialog box.
3. Change the Send As and Receive As permissions for that group to Allow.



Exchange 2000 / 2003

Repeat the steps listed above for any domain that the user belongs to.

Setting up Client Permissions

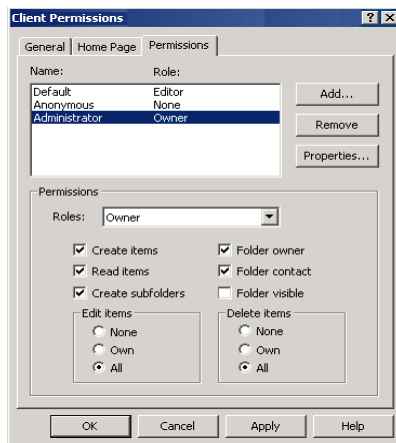
Exchange Permissions

You need to set up permissions on the Exchange server so that the CRM Exchange Sync Control Panel is allowed to add scripts to Exchange mailboxes that have corresponding CRM users. The procedure may vary depending on the version of Exchange Server you are working with.

To set up permissions on Exchange 5.5

1. Open the System Manager, and select Folders | System Folder.
2. Expand the Events Root directory and select EventConfig_<exchangeserver> folder.
3. Select the Properties tab on the toolbar and then select the Client Permissions button.
4. Assign Editor permissions to the Default user profile. Alternatively, you can also assign editor permissions to individual users.
5. Deselect the Folder Visible checkbox. This is advisable for security reasons, as it prevents Outlook users from viewing the CRM scripts.
6. Ensure that the Anonymous user profile is assigned None permissions.
7. Assign Owner permissions to the Exchange user you want to use to access the Exchange server. In this example, the user is the administrator.

Note that this is an actual mailbox that resides on the Exchange server as opposed to an NT domain user. The mailbox must be visible in the Global Address List for the scripts to work.



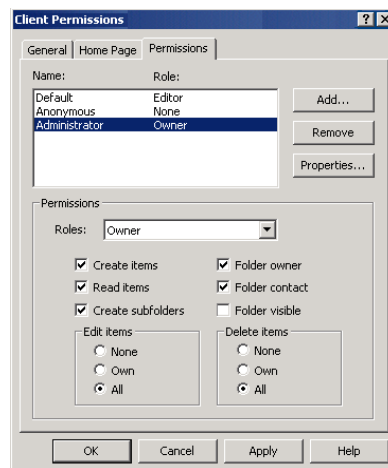
Client Permissions dialog box

To set up permissions on Exchange 2000 / 2003:

1. Open the System Manager, and select Folders | Public Folders.
2. Right-click on the Public Folders directory and select View System Folders.
3. Expand the Events Root directory and right-click on the EventConfig_<exchangeserver> folder.
4. Select the Permissions tab and click on the Client Permissions button.
5. Assign Editor permissions to the Default user profile. Alternatively, you can also assign editor permissions to individual users.
6. Deselect the Folder Visible checkbox. This is advisable for security reasons, as it prevents Outlook users from viewing the CRM scripts.
7. Ensure that the Anonymous user profile is assigned None permissions.
8. Assign Owner permissions to the Exchange user you want to use to access the Exchange server. In this example, the user is the administrator.

Editor permissions can be assigned to individual users as an alternative to assigning them to the default user profile.

Note that this is an actual mailbox that resides on the Exchange server as opposed to an NT domain user. The mailbox must be visible in the Global Address List for the scripts to work.



Client Permissions dialog box

CRM Permissions

You need to set up CRM permissions so that Exchange can access CRM.

To set up CRM permissions:

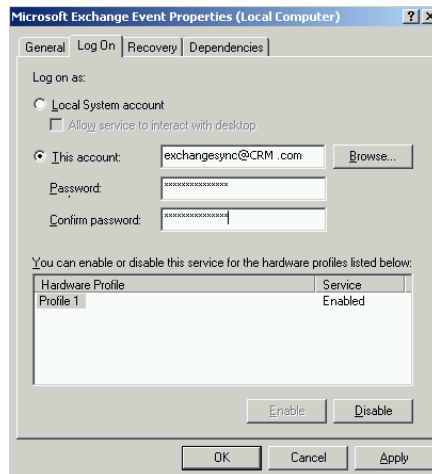
1. Select the hypertext link of the CRM user that Exchange will use to access the CRM system.
2. Make sure that the CRM user has been enabled to log onto CRM externally To do this open Administration | Users | Users and set the External Logon Allowed field on the Security Panel to True.

Event Service Permissions

The Microsoft Exchange Event Service needs to be set up to run under the NT user account you set up to access the Exchange mailboxes that have corresponding CRM users.

To set up Event Service permissions:

1. From the Control Panel | Administrative Tools | Services, open the Microsoft Exchange Event Properties dialog box.
2. Select the Log On tab.
3. Select the This Account radio button.
4. Enter the username and password of the NT user you set up to access the Exchange mailboxes and click Apply.



Microsoft Exchange Event Properties dialog box

5. Restart the Microsoft Exchange Event Service.

Preparing to Run the CRM Exchange Sync Control Panel

The CRM Exchange Sync Control Panel needs to be run on the CRM server and on the Exchange server. Before you run the panel, you need to:

- Log onto each server as a user who is a member of the Administrators group and who has access to all of the Exchange mailboxes that have a corresponding CRM user.

This is explained in more detail in the next chapter.

Now you can...

- Explain the prerequisites for synchronizing CRM and Exchange.
- Copy CDO onto the CRM server.
- Create a new registry key to improve communication between CRM and Exchange.
- Set up CRM access to the Exchange server.
- Set up Exchange permissions.
- Prepare to run the CRM Exchange Sync Control Panel.

Chapter 3

CRM Exchange Sync Control Panel

In this chapter you will learn about:

- How the CRM Exchange Sync Control Panel works.
- Configuring the CRM Exchange Sync Control Panel on the CRM server and on the Exchange server.
- Synchronizing users and installing scripts.
- Disabling synchronized users.

How the CRM Exchange Sync Control Panel Works

All the steps involved in working with the CRM Exchange Sync Control Panel are described in this chapter. It is recommended that you read the chapter fully before you begin to work with the Control Panel. In addition, note that you should first:

1. Configure the CRM Exchange Sync Control Panel on the CRM server.
2. Complete server actions on the CRM server.

Then:

1. Configure the CRM Exchange Sync Control Panel on the Exchange server.
2. Complete server actions on the Exchange server.

What the Control Panel Does

The CRM Exchange Sync Control Panel is responsible for the following:

Synchronizing Exchange users with CRM—new users are created in CRM for all Exchange users who are not already included as users in CRM. Note that this is optional.

Installing synchronization scripts in CRM and in Exchange—once synchronization scripts have been installed for synchronized users, all appointments created, edited, or deleted are synchronized between CRM and Exchange.

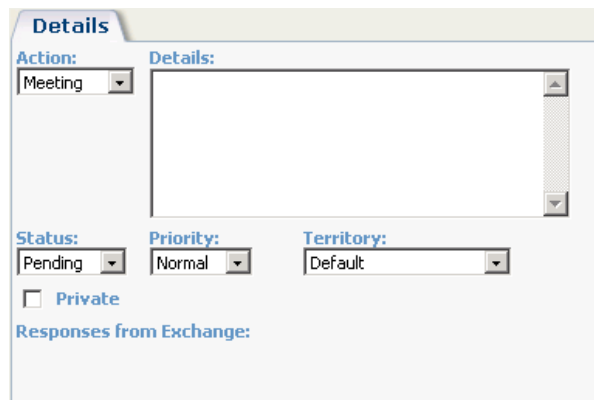
When the Control Panel is Configured and Run

The following operations occur when the CRM Exchange Sync Control Panel is configured and run on the CRM server and the Exchange server (assuming you opt to synchronize users *and* install scripts):

- All information (except passwords) typed in the Control Panel is written to the Registry.
- Two new columns are added to the USERS table for each synchronized user in CRM – one for their Exchange server name and one for their Exchange user ID.
- A USERS record is created in CRM for each Exchange user who is not registered as a CRM user – these users are set up as resources by default so as not to interfere with the number of licensed users on the system. Users are added to CRM one by one. Note that this happens only if you choose to synchronize CRM users with Exchange users.
- If you are running Exchange integration in an Oracle database, Oracle is unable to modify its schema to cope with these two columns being added. In this case, you need to recreate the views manually. To do this, open SQL* Plus and view vsentinel.
- Synchronization scripts are installed for the synchronized users.
- Two new fields are displayed on the User Details page of each synchronized user – Exchange User Id and Exchange Server. The information contained in the fields is automatically completed for each user when the CRM Exchange Sync Control Panel is run.

Details page–Other Details panel

A new field, Responses From Exchange, is displayed on the Enter New Communication page. This field displays Exchange users' responses to e-mail alerts. For more information on the Response From Exchange field, please refer to Chapter 6 "Scheduling Appointments" in this document.



The screenshot shows a web interface titled "Details". It contains several form elements:

- Action:** A dropdown menu with "Meeting" selected.
- Details:** A large, empty text area with a vertical scrollbar.
- Status:** A dropdown menu with "Pending" selected.
- Priority:** A dropdown menu with "Normal" selected.
- Territory:** A dropdown menu with "Default" selected.
- Private:** A checkbox that is currently unchecked.
- Responses from Exchange:** A label for a field that is not yet visible.

New Communication page—Details panel

Configuring the CRM Exchange Sync Control Panel

Before you begin installing scripts or synchronizing Exchange users and CRM users, you need to enter information in the CRM Exchange Sync Control Panel. The Control Panel needs to be configured on the CRM server and on the Exchange server.

The following sections describe what information needs to be entered on the Control Panel, section by section.

The Control Panel needs to be configured first on the CRM server and then on the Exchange server.

You need to configure the Control Panel first on the CRM server and then on the Exchange server, as follows:

1. Select Start | Settings | Control Panel | CRM Exchange Sync.

The CRM Exchange Sync Control Panel is displayed.

The screenshot shows the CRM Exchange Sync Control Panel configuration window. It is divided into several sections:

- Required information:** Fields for CRM Server, CRM Path, CRM User for Synchronization, User Password, Primary Exchange Server, Exchange Account, Exchange Server Time Zone Offset from UTC in hrs, Email address to notify when an error occurs, and Failed Messages File Path.
- NT account information:** Fields for NT Domain\Account for exchange access, NT Account Password, and Re-enter password.
- Options:** Checkboxes for Copy Reminders, Diagnostic Mode, CRM Exchange (checked), Exchange->CRM (checked), and Create CRM users (checked).
- Actions:** A section with the text "When you add or modify exchange users you must do one of the following:" and two buttons: "Sync users with CRM and install scripts" and "Install scripts".
- Which server are you on?:** Radio buttons for "On CRM Server" and "Exchange Server".
- Buttons:** "Close" and "Save" buttons.
- Status:** A large empty text area at the bottom.

CRM Exchange Sync Control Panel

Which Server are you on?

Select the server you are running the CRM Exchange Sync Control Panel on from the What Server Are You On panel. For example, if you are running the CRM Exchange sync Control Panel on the CRM server select the On CRM Server checkbox.

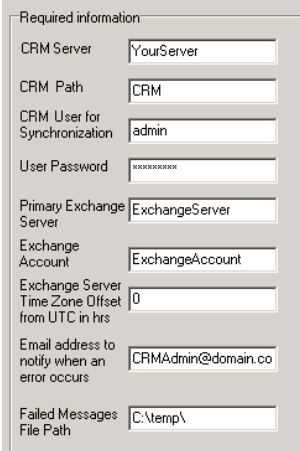
This is a close-up of the "Which server are you on?" section of the control panel. It contains the text "Which server are you on?" followed by two radio buttons: "On CRM Server" and "Exchange Server".

Which Server Are You On panel

Required Information

Complete the fields in the Required Information panel, as follows:

1. In the CRM Server field, type the name of the CRM server.
2. In the CRM Path field, enter the IIS path that CRM was installed on, for example, if CRM is installed on ...inetpub\wwwroot\CRM, type **CRM**.
3. In the CRM User For Synchronization field, type the logon ID of the CRM user whose account will be used by Exchange to log onto CRM.
4. Ensure that the user you specified has been assigned rights to log onto CRM externally. You can check this from CRM by selecting Administration | Users | Users and ensuring that the External Logon Allowed field for that user has been set to True.
5. In the User Password field, type the user's password.
6. In the Primary Exchange Server, type the name of the Exchange server.
7. In the Exchange Account field, enter the user name of the Exchange account (mailbox) that will be used by CRM to access Exchange.
8. In the Exchange Server Time Zone Offset From UTC In Hrs field, type the time difference (specified in hours) between the Exchange server time zone and the Coordinated Universal Time (UTC).
9. In the Email Address To Notify When An Error Occurs, type the e-mail address of the user you want to be informed if there is a communication error. All error messages are sent to this address.
10. In the Failed Messages File Path field, type the path where you want the Event Data XML file to be installed on the Exchange server. This is the file that stores the communications that have failed.



Required information

CRM Server	YourServer
CRM Path	CRM
CRM User for Synchronization	admin
User Password	*****
Primary Exchange Server	ExchangeServer
Exchange Account	ExchangeAccount
Exchange Server Time Zone Offset from UTC in hrs	0
Email address to notify when an error occurs	CRMAdmin@domain.co
Failed Messages File Path	C:\temp\

Required information panel

The table below explains the Required Information fields on the CRM Exchange Sync Control Panel.

Field	Description
CRM Server	The name of the server on which CRM is installed.
CRM Path	The IIS path that CRM is installed on.
CRM User For Synchronization	The logon id of the CRM user whose account will be used by Exchange to log onto CRM. This user will typically be the administrator and must be enabled for external logon to CRM.
User Password	The above user's CRM password.
Primary Exchange Server	The name of the Exchange server.
Exchange Account	The user name of the Exchange account (mailbox) that will be used by CRM to access Exchange. The Control Panel uses this name to read the global address book when it synchronizes it.
Exchange Server Time Zone Offset From UTC In Hrs	The time difference (specified in hours) between the Exchange server and the CRM server. This is typically set to zero.
Email Address To Notify When An Error Occurs	The e-mail address of the user you want to be informed if there is a communication error. When an error occurs, this user receives an e-mail indicating an error.
Failed Messages File Path	The path on the Exchange server where you want the Event Data XML file to be installed. This is the file that stores the communications that have failed. You only need to complete the field when you run the Control Panel on the Exchange server.

NT Account Information

Complete the fields in the NT account information panel, as follows:

1. In the NT Domain\Account for exchange access field, enter the domain name and the name of the NT user who has access to the global address book. For example, ExchangeServer\exchange1.

Note: The global address book is the address book that maintains all Microsoft Exchange users.

2. In the NT Account Password field, type the NT user's password.
3. In the Re-enter Password field, retype the password.

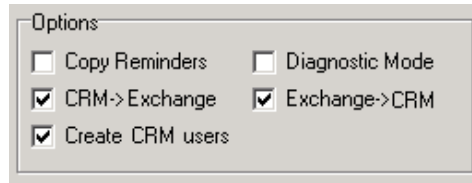
NT account information panel

The table below explains the NT account information fields on the CRM Exchange Sync Control Panel.

Field	Description
NT Domain/Account For Access	The domain name and user name of the NT user who has been assigned permission to access the Exchange global address book that contains all of the Exchange users who will be synchronized with CRM.
NT Account Password	The NT user's password.
Re-enter Password	The NT user's password.

Options

The Options you select depend on whether you are running the Control Panel on the CRM server or the Exchange server.



Options panel

The table below explains the Options checkboxes on the CRM Exchange Sync Control Panel.

Checkbox	Description
Copy Reminders	The copy reminders feature is enabled when this checkbox is selected.
Diagnostic Mode	Debugging information is displayed in the Control Panel's Status field when this checkbox is selected. Selecting the checkbox also makes confirmation and error messages visible to CRM clients.
CRM→Exchange	Synchronizes CRM with Exchange when this checkbox is selected. For two-way synchronization between CRM and Exchange you need to select this checkbox as well as the Exchange→CRM checkbox.
Exchange→CRM	Synchronizes Exchange with CRM when this checkbox is selected. For two-way synchronization between CRM and Exchange you need to select this checkbox as well as the e CRM→Exchange checkbox.
Create CRM Users	Creates a new user in CRM for each existing Exchange user when this checkbox is selected. This option should only be selected when you are running the Control Panel on the CRM server.

Saving Settings

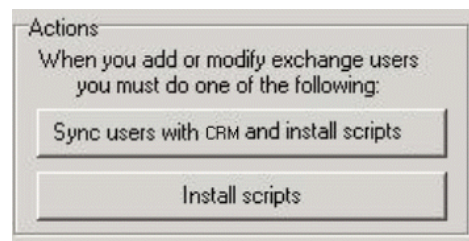
Once you have completed all of the relevant fields on the CRM Sync Control Panel:

- Select the Save button.



Synchronizing Users and Installing Scripts

When you save the settings you entered in the Control Panel, two buttons on the Actions panel become active—Sync Users With CRM And Install Scripts and Install Scripts. You may need to install scripts on both servers, but you synchronize users on the CRM server only. You typically perform the actions immediately after you have configured the Control Panel for each server.



Actions panel

You can synchronize users on the CRM server only. You cannot synchronize users on the Exchange server.

Synchronizing users creates a CRM user for every Exchange user who does not already have a corresponding CRM user. If the Create CRM Users checkbox on the Control Panel is selected, the Control Panel will always attempt to find the Exchange ID for existing CRM users based on firstname, lastname. Users are created as resources initially so as not to impact the number of licensed CRM users for the system. For information on user administration, please refer to the *System Administrator Guide*. Note that you can synchronize users on the CRM server only. You cannot synchronize users on the Exchange server.

Installing scripts associates synchronization scripts with every CRM and Exchange user that has been synchronized. Scripts are installed on individual Exchange mailboxes if the corresponding users have been configured in CRM. When installed, the scripts synchronize communication records between CRM and Exchange.

Server Actions

Once the Control Panel has been configured on both servers, there are certain actions you may need to perform on the CRM and Exchange servers.

Actions on the CRM Server

From the CRM server you need to:

1. Select the Sync Users With CRM And Install Scripts button to install synchronization scripts and synchronize users.
2. Click Save.
3. Re-set IIS.
4. Select the Sync Users With CRM And Install Scripts button again.

If you don't want the Control Panel to find Exchange IDs for existing CRM users but want to enter selected user details manually instead, select the Install Scripts button.

When you install scripts on the CRM server, a file named EXCHANGESCRIPT.ASP is copied onto the C: directory on the CRM server. This file is responsible for synchronization from Exchange to CRM and is sometimes referred to as the ASP Event Listener.

1. Copy the file into C:\inetpub\wwwroot\CRM (that is, into the same directory as the eWare DLL).
2. Restart CRM.

Actions on the Exchange Server

From the Exchange server you need to:

1. Select the Install Scripts button to install the synchronization scripts.

Once scripts have been installed:

2. Restart the Event Service on the Exchange server.

Oracle Databases

If you are running synchronization scripts on an Oracle database, you may encounter some problems when you install and run synchronization scripts. This is because Oracle cannot modify its schema to cope with the addition of the two columns to the USERS table. Consequently you need to manually recreate the views.

To manually recreate views:

- Go to SQL* Plus and run `Recreate_User_Views.Oracle.sql`.

This action is only required the first time you install and run the scripts. If you need to run the scripts again, the views are not affected, as the two new columns are already created.

Disabling Synchronized Users

To disable a synchronized user:

1. Select Administration | Users | Users.
2. Find the user you wish to disable and open their User Details page.
3. Select the Change button.
4. Delete the Exchange User Id that is currently specified in the Exchange User Id field, and select the Save button.

The user can no longer work with synchronized appointments.

Note that if, after a synchronized user has been disabled, the Sync Users With CRM And Install Scripts option is run on the CRM Exchange Sync Control Panel, the user is re-enabled.

Now you can...

- Explain how the CRM Exchange Sync Control Panel works.
- Configure the CRM Exchange Sync Control Panel on the CRM server and on the Exchange server.
- Synchronize users and install scripts.
- Disable synchronized users.

Chapter 4

Synchronization Scripts

In this chapter you will learn about:

- Accessing CRM synchronization scripts.
- Accessing scripts in Exchange.

Accessing CRM Synchronization Scripts

If you have the Extensibility Module, you can access the synchronization scripts, which were installed by the CRM Exchange Sync Control Panel. Please refer to Chapter 3 for more information. You can access the synchronization scripts to, for example, customize error messages displayed in CRM when synchronization of records fails.

To access synchronization scripts:

1. Select Administration | Customization | Communication | TableScripts.
2. Open the CRM Exchange Sync script.

The Table Script page is displayed.

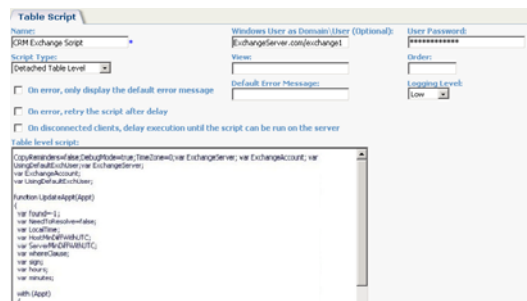


Table Script page – CRM Synchronization Script

3. Edit the script and select the Save button.

The next time an appointment is created in CRM this script is run and your changes are reflected in its execution results. Please refer to the *Developer Guide* for more information on Table Level Scripts.

Accessing Scripts in Exchange

It is recommended to access the synchronization scripts via CRM. However, if you need to access the scripts from the Exchange server, you can do so as follows:

1. From the Exchange server, open Outlook | Tools | Options | Other | Advanced Options | Add in Manager.
2. Select the Server Scripting checkbox and click OK.
3. Right click the Calendar option on the Outlook Folder List.
4. Select Properties.
5. Click the Agents tab.

The synchronization scripts are displayed.

Now you can...

- Access CRM synchronization scripts.
- Access scripts in Exchange.

Chapter 5

Synchronizing Multiple Exchange Servers with CRM

In this chapter you will learn about:

- Synchronizing CRM with multiple Exchange servers with CRM.

Before you Synchronize Additional Exchange Servers

This chapter assumes that you have already set up CRM/ Exchange synchronization for a single Exchange server (the Primary Exchange server). Please refer to Chapter 2: "Getting Started" and Chapter 3: "CRM / Exchange Sync Control Panel" for more information.

Before you attempt to install CRM synchronization across additional Exchange servers, you need to:

- Ensure that the additional Exchange servers are on the same domain as the Primary Exchange server and the CRM server, or have a trust relationship.
- Ensure that Exchange Event service is installed on the primary Exchange server only – do not install it on any of the additional servers.

Synchronizing Additional Exchange Servers

To synchronize additional Exchange servers:

1. On the CRM server, repeat the steps specified in the "Actions on the CRM Server" section in Chapter 3: "CRM Exchange Sync Control Panel".

This brings new users from Exchange (from the two newer Exchange servers) into CRM.

2. On the Primary Exchange server, repeat the steps specified in the "Actions on the Exchange Server" section in Chapter 3: "CRM Exchange Sync Control Panel".

This adds scripts to the newer Exchange users' mailboxes, even if they reside on one of the additional Exchange servers.

Note: As long as the primary Exchange server can communicate with the other two Exchange servers, users on those servers are synchronized successfully with CRM.

Now you can...

- Synchronize CRM with multiple Exchange servers with CRM.

Chapter 6

Troubleshooting Tips

In this chapter you will learn about:

- Preparing for the testing phase.
- Handling problems that may arise during testing.
- Troubleshooting integration from Exchange to CRM.

Testing Phase

Before the CRM / Exchange integration goes "live", it is important to carry out a testing phase to ensure that the integration has been successful.

Before you begin testing, ensure that you:

- Select the Diagnostic Mode checkbox on the CRM Exchange Sync Control panel before you install any scripts. This allows you to view error information if any problems occur when scripts are installed.

Handling Problems During Testing

The following sections list common problems that may arise with CRM /Exchange integration.

Collaboration Data Objects Error Creating an Appointment in CRM

The following error message may be displayed:

Collaboration Data Objects error '000004f9' The information store could not be opened. [MAPI 1.0 - [MAPI_E_LOGON_FAILED(80040111)]]

The probable causes of this error are as follows:

- You may be trying to access a user's mailbox that does not exist or has a problem with it. For example it may be full, hidden, or disabled.
- You do not have the appropriate rights on the Exchange server to access the mailbox.
- An incorrect version of CDO.DLL is installed on CRM server.

The error can be handled as follows:

1. From the Exchange Admin program, ensure that the specified user's mailbox is enabled, not hidden, and not full.
2. Log onto the CRM server as the NT domain user you specified in the CRM Exchange Sync Control Panel.
3. Try to access the problem mailbox through Outlook. If you cannot, then that NT domain user does not have the appropriate rights on the Exchange server to access mailboxes.
4. Make sure the latest Exchange Server service pack is installed, and then copy the CDO.DLL from the Exchange server to the CRM server. Also, make sure that if Outlook is installed on the CRM server, it is Outlook 2000 or above.

LogonUser error creating an appointment in CRM

The error message "LogonUser failed 1314" is displayed on a red banner at top of the screen after saving a communication.

The probable cause of this error is that CRM is unable to log onto the Exchange server.

The error can be handled as follows:

1. Ensure that it is possible to log onto the CRM server as the NT domain user specified in the CRM Exchange Sync Control Panel.
2. Open IIS Manager on the CRM server.
3. Find the CRM virtual directory under the Default Web Site and click on its Properties.
4. Ensure that the Application Protection is set to Low (IIS Process).

Logon User Failed 1330

The error message "LogonUser failed 1330" is displayed in the table script log for Exchange.

The probable cause of this error is that the account being used for the Exchange synchronization script has an expired password.

The error can be handled as follows:

- From Active Sync, set the account password to Never Expire.

Non-trusted Domains

Problems may arise with regard to nontrusted domains. It is vital that both servers are either installed on the same domain or have a trust relationship. This is fundamental for synchronization.

Scripting

In case you need to alter synchronization scripts on the CRM or the Exchange server, it is important to note that they are written in JavaScript on the CRM server and on the Exchange server.

Transaction Log

If you need to, you can access transaction logs from the same path on both servers:

C:\WINNT\system32\ewarexs.log.

Troubleshooting Integration

To troubleshoot integration from Exchange to CRM:

1. Add Exchange Event Viewer logging to the registry, that is, in the following location:

HKEY_LOCAL_MACHINE/SYSTEM/CurrentControlSet/Services/MsexchangeES/Parameters
2. Add a new DWORD Value parameter key called **Logging Level**.
3. Set the parameter value to the level of logging required, for example, 0, 1, 2, 3, 4, or 5. Levels are as follows: 0=None, 1=Minimum, 2=Medium, 5=Maximum.
4. To see the log, restart the Event Service and check the Application log on the Event Viewer.

Error logging is supported via e-mail, that is, when an error occurs, an e-mail is sent to a specified e-mail address. You configure this on the CRM Exchange Sync Control Panel when you enter an e-mail address in the Email Address To Notify When An Error Occurs field.

Now you can...

- Prepare for the testing phase.
- Handle problems that may arise during testing.
- Troubleshoot integration from Exchange to CRM.

Chapter 7

Error Handling

In this chapter you will learn about:

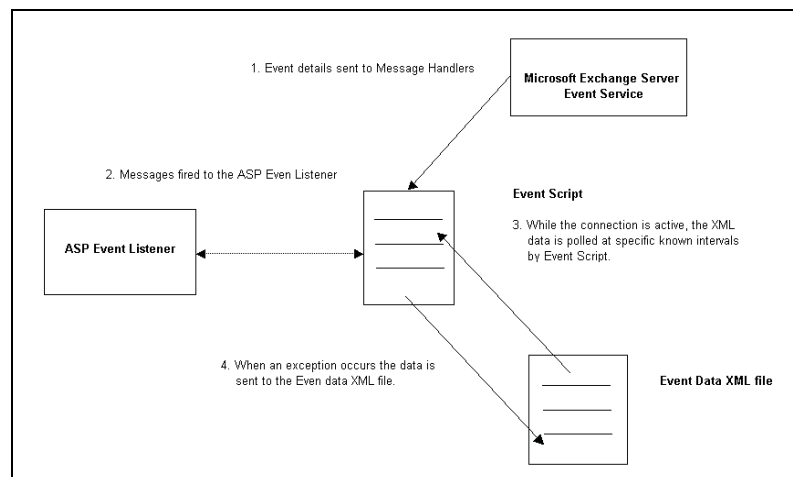
- Error handling if there is a problem with the CRM server.
- Error handling if there is a problem with the Exchange server.

Error Handling if the CRM Server Fails

Events between Exchange and CRM are handled in a way that ensures robust communication between the two servers. The Microsoft Exchange Event Service typically passes information, including event details, to the Event Script. The Event Script then transmits the information to the ASP Event Listener (EXCHANGESCRIPT.ASP) in CRM. The ASP Event Listener is responsible for synchronization from Exchange to CRM.

However, if there is a communication problem between the ASP Event Listener and the Event Script, the failed communications can be recovered from the Event Data XML file. This file stores any event messages that have not been transmitted successfully by the Exchange server's Event Script to CRM's ASP Event Listener. The file is polled regularly, and any failed appointments are then re-sent to the ASP Event Listener in CRM.

The diagram below illustrates how event information is transferred, and a detailed description of each step is also provided on the next page.



Transfer of event information

Error Handling Steps

1. Event messages are sent from the Event Service to the Event Script.
2. In most cases, where there is an active connection between the Event Script and the ASP Event Listener, messages are transferred from the Event Script to the ASP Event Listener. These messages contain details about the appointments that have been set in the Microsoft Exchange Server as a result of the Event Service being triggered.
3. While the connection is active between the Event Script and the ASP Event Listener, and during the time when an event handler is called to deliver messages to the ASP Event Listener, the Event Script polls the Event Data XML file for any existing failed appointments data. If failed messages are found in the Event Data XML file, they are sent to the ASP Event Listener.
4. If there is a communication failure between the Event Script and the ASP Event Listener, an exception is generated in the Event Script that indicates an error and sends a notification e-mail to the address you specified when running the Control Panel.
5. The resulting error handler adds the appointments message to the list of other failed appointments messages in the Event Data XML file in XML format. The XML parser is capable of handling Unicode characters.

Error Handling if the Exchange Server Fails

If Exchange server fails and the CRM server is functioning, error handling is achieved by queuing the failed messages in the SQL server database. Error handling works because the synchronization script, which was installed when the Control Panel was run, is a Detached Table Level Script. A detached table level script is a table level script that is not run immediately but within a predefined amount of time. This enables the system to store a queue of scripts that need to run, and it negates the need for the user to wait for a script to complete. Refer to Chapter 4 "Synchronization Scripts" for more information.

Once the Exchange server is up and running again, the failed messages stored in the SQL Server are retried at different retrieval intervals, and each message's retrieval interval increases with each subsequent failure.

Now you can...

- Discuss error handling if there is a problem with the CRM server.
- Discuss error handling if there is a problem with the Exchange server.

Chapter 8

Scheduling Appointments

In this chapter you will learn about:

- Working with the CRM /Exchange Synchronization feature.
- Creating synchronized appointments.
- Updating and deleting synchronized appointments.

Working with the CRM/Exchange Synchronization Feature

The CRM /Exchange Synchronization feature allows CRM users to schedule appointments with Exchange users who use Outlook to access their appointment listings. Similarly, it allows Exchange users to schedule meetings with colleagues who exclusively use CRM to manage their diaries. For more information on scheduling appointments in CRM, please refer to the "Doing Your Work" chapter in the *User Guide*.

The CRM /Exchange Synchronization feature offers the following capabilities:

- When you create an appointment in CRM, a corresponding appointment is created in Outlook. Similarly, if you create a new appointment in Outlook, a corresponding appointment is created in CRM.
- Reminders you set are displayed in CRM in the normal way, that is, as notifications, if the Notification feature has been enabled by your System Administrator. Reminders are sent to Exchange users as e-mail alerts.
- If you associate People or Companies with an appointment in CRM, the association is not reflected in Outlook.
- When you update appointment details in CRM (for example, when you change the date or time, add or remove users, or change text in the Details field), e-mail alerts are automatically sent to the Exchange users to inform them that a change has been made. The appointment details are then updated in the Exchange user's Outlook calendar. Similarly, when you update appointment details in Outlook the changes are replicated in the My CRM Calendar.
- When you delete an appointment in CRM, the appointment is deleted from the user's Outlook calendar, and vice versa.

- Appointments created, edited, or deleted in CRM are immediately created, edited or deleted in Outlook. However, when appointments are created, edited or deleted in Outlook, there is a time delay of up to two minutes before the change is reflected in CRM. The length of the time delay is largely dependent on the number of users.

Creating Synchronized Appointments

Example: Creating an Appointment in CRM

You are a CRM user, and you need to organize a sales meeting for yourself and two colleagues who use Outlook to access their appointments.

To schedule a meeting for a mixed group of CRM and Outlook users:

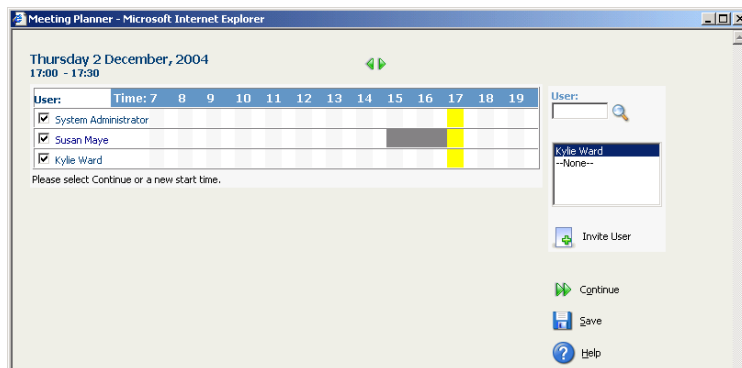
1. From the My CRM work area, choose the Calendar/Tasks tab and select the New Appointment button (you can use the Quick Appointment button if you are in Calendar mode and then click on the communication icon to open the appointment details).

The Enter New Appointment page is displayed.

2. Select the date and start and finish times of the meeting from the calendar, and select the Meeting Planner button.

The meeting planner is displayed in a new window with your name already selected as an attendee.

3. Select the users you wish to invite using the Search Select button and clicking on the Invite User button.



Meeting planner

3. Check if there are any conflicts with the current meeting, and make adjustments to the meeting times if you need to.

- Select the Continue button, and fill in the rest of the details in the Enter New Appointment page.

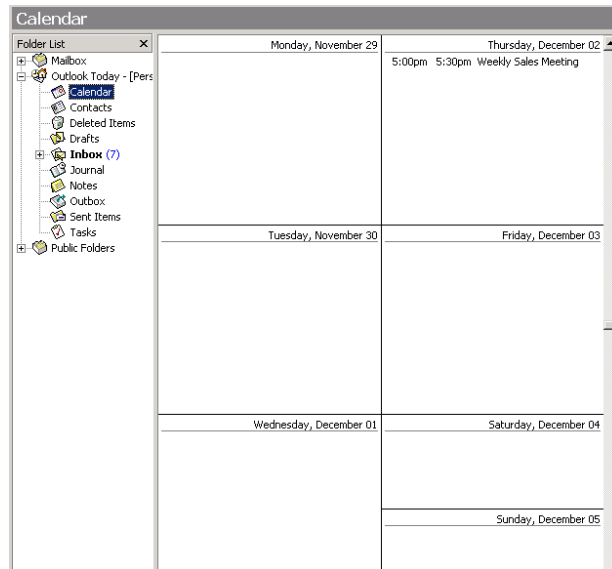
- Select the Save button.

The appointment is displayed in the My CRM Calendar.

Day	Appointments
Monday Nov 29	
Tuesday Nov 30	
Wednesday Dec 1	
Thursday Dec 2	17:00 - 17:30
Friday Dec 3	
Saturday Dec 4	
Sunday Dec 5	

My CRM Calendar

An e-mail alert is automatically generated and sent to the Exchange user, who needs to open the e-mail and respond to it for it to be added to their Outlook calendar.



Outlook Calendar

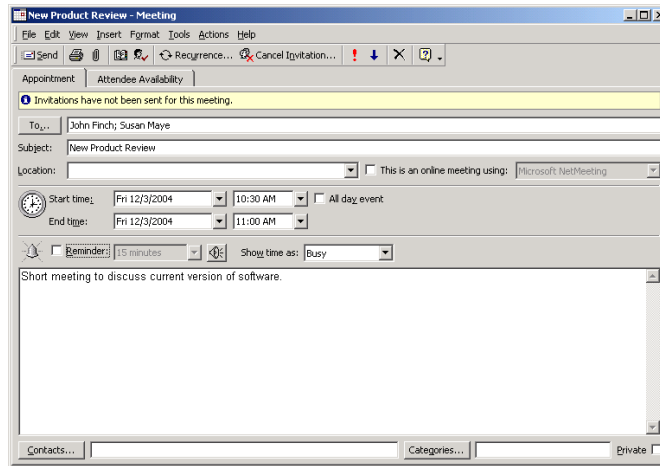
Example: Creating an Appointment in Outlook

You use Outlook to access your appointments, but most of your colleagues manage their diaries in CRM. You want to schedule a meeting with two CRM users.

To create an appointment in Outlook:

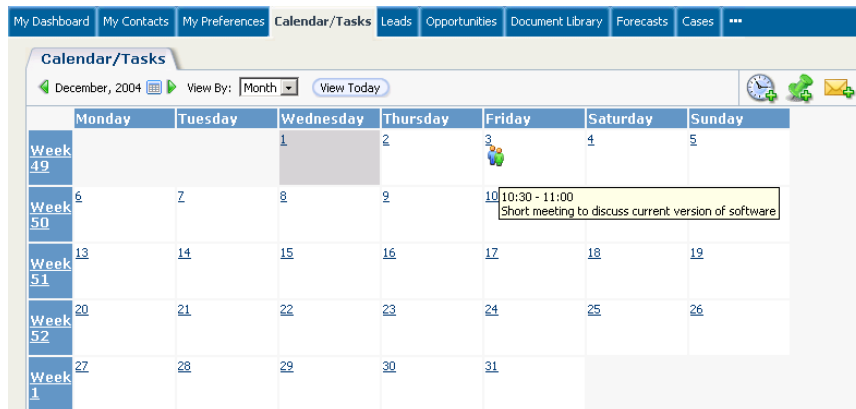
1. Open your Outlook Calendar view, and select the New button.

Fill in the details of the meeting and add the colleagues you want to invite, ensuring that they are free on the date and time you specify.



2. Send the appointment.

The appointment is displayed in your Outlook calendar and in your colleagues' My CRM Calendars.



Terry Smith's My CRM Calendar

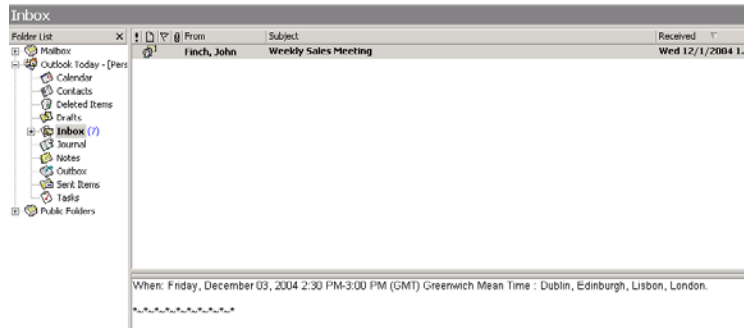
Updating and Deleting Synchronized Appointments

Example: Updating an Appointment in CRM

To edit an appointment in CRM:

1. Open the appointment from My CRM and select the Change button.
2. Change the time of the meeting, and select the Save button.

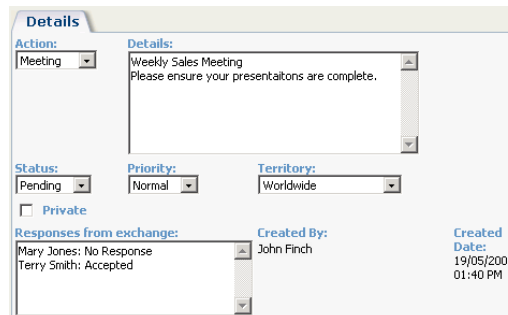
An e-mail alert is automatically generated and sent to your "Outlook" colleagues. They must open the e-mail and respond to it for it to be updated on their Outlook calendar.



Outlook Inbox

Terry Smith sees that a change has been made to the meeting. He opens the e-mail alert he received and selects the Accept button to inform you that the change you made suits him. However, because Mary Jones is on holiday, she doesn't respond to the e-mail alert.

1. Open the appointment from the My CRM work area to view responses.
2. The responses are displayed in the Response From Exchange field.



Communication Details page showing responses

Example: Deleting an Appointment

You have scheduled an appointment with both CRM and Outlook users but you now want to cancel it.

To delete the appointment from CRM:

1. Open the appointment from the My CRM work area.
2. Select Cancelled from the Status drop-down list and select the Save button.

The communication is removed from all Outlook calendars that it was included in, and it is removed from the CRM users' Calendars too.

Similarly, if you delete the communication from your Outlook Calendar, it is also removed from all Outlook calendars and My CRM work areas.

Look out for...

Recurring Communications. CRM /Exchange Integration does not support recurring communications.

Amending Appointments. If certain changes are made to the meeting, such as adding new users, changing the time or canceling the meeting, an e-mail alert is sent to the Exchange user. This e-mail must be opened and responded to before the appointment is updated in their Outlook calendar. However, when you have completed your appointment and you set it to Complete in CRM, an e-mail alert is not generated and sent to the Exchange user.

Attachments. E-mail attachments are not saved in the Outlook calendar.

E-mail Alerts. When you create an appointment in CRM, the first line of the description you enter is copied into the subject field of the e-mail sent to the Exchange user, the remainder of the description is copied to the e-mail body.

Distribution Lists. When you create an appointment in Outlook, you cannot specify distribution lists in the To field. You need to specify individual users.

Now you can...

- Work with the CRM /Exchange Synchronization feature.
- Create synchronized appointments.
- Update and delete synchronized appointments.

