INTOGRATE Axapta – CRM

Lotus Notes Integration Kit

Version 1.95

0. Introduction

0.1 Axapta CRM for Lotus Notes Integration Kit

With the CRM module for Axapta, close integration between a company's business management functions and the sales process can be achieved.

In connection with the management of activities in the CRM system, it is essential that appointments and tasks can be synchronised with the user's calendar. Likewise, the possibility of using your e-mail system for sending mails from the CRM system is important.

The standard version of Axapta CRM only supports Microsoft Outlook as mail and calendar client. Intoint's Lotus Notes Integration Kit for Axapta CRM enables the use of the e-mail, calendar and contact person facilities in Lotus Notes.

To avoid any unnecessary changes to the Axapta application, the term Outlook is used in stead of Lotus Notes in some places. For example, during the setup of users the Outlook synchronisation option must be selected.

For further help with the CRM part of Axapta see the 'User guide to the Customer Relationship Management module' (the user manual is typically found on the Axapta installation CD-ROM).

0.2 Target group

This manual can be used by system administrators, developers as well as users of Axapta.

Axapta developers can find additional information in the manual for the Lotus Notes Integration Kit and in Appendix A where adjustments in relation to the standard Axapta CRM module are described.

0.3 Explanatory chart

In the following sections, elements of Axapta, menu selections etc. are listed in different ways. The following is a brief explanation of the de various styles and expressions used:

<KEY>	Indicates a key on the keyboard. E.g. <ENTER> means that you must press the Enter key.
Windows Start menu 	In Windows, the Start menu is typically located in the lower left corner of the screen.
'Menu\sub-menu\menu-item'	Indicates a menu selection. E.g. 'File\Open' means that you must click 'Open' in the 'File' menu.
"c:\Lotus\Notes"	Indicates the path to a file or a directory. Notice that the style resembles that of menu selections.
NavisionAxaptaElement	Axapta elements are listed in *italics*, e.g. the class *SysInetMail*.
[button]	Refers to a button on the screen. E.g. [OK] refers to a button with the text OK.

0.4 Components

The Integration Kit consists of four overall components:

- The Integration Kit. This component handles the underlying communication between Lotus Notes and Axapta.
- Axapta component which handles the overall communication between Axapta and the Integration Kit.
- Mail component used for sending e-mails and reports.
- CRM component which handles the business logic in connection with the CRM part of Axapta.

0.4.1 The Integration Kit

The Integration Kit mainly consists of the file erp2ln.dll. This file handles all communication between Axapta and Lotus Notes.

The Integration Kit is also used for other integration types. For example, it is also used for the integration between Lotus Notes and CONCORDE XAL.

0.4.2 Axapta – Lotus Notes API

In Axapta, a single class called *AX2LN* works as the connection between the Integration Kit and the rest of Axapta. It is mainly used by the mail part and the CRM part of Axapta.

0.4.3 Mail-component

This component is used by Axapta when an e-mail is to be sent. It replaces the part normally used for Microsoft Outlook. This way, no major operation is needed when switching from Outlook to Lotus Notes.

The component is present as a class called *SysInetMail*. It can be used individually without installing the CRM component.

0.4.4 CRM adjustments for Lotus Notes

The CRM part of Axapta consists of several elements. It handles e.g. the synchronisation of tasks, appointments and contact persons between Lotus Notes and Axapta. It also includes an extended e-mail function which enables the user to send documents from the Document Management to both individuals and groups.

It includes both new elements and adjustments to existing ones. Appendix A contains detailed descriptions of all the affected elements in Axapta.

As an option a module for handling e-mail journalisation can be purchased. This module handles semi-automatic journalisation of incoming and outgoing mails from Lotus Notes.

1. Program installation

Installation of the Integration Kit is normally carried out from a workstation where Lotus Notes and Axapta clients are installed. All descriptions and tasks are based on the assumption that they are carried out on a local workstation (in the examples, an English version of both Lotus Notes and Axapta are used).

1.1 Before you begin

1.1.1 System requirements

The following software is required:

- Microsoft Windows Workstation/Server 98, NT, 2000 or XP.
- Lotus Notes client version 5.02c or later.[1]
- Axapta version 2.5 Market Pack 2.5 with service pack 3 (also called Axapta 2.5+) or Axapta version 3.0 SP1-3.
- Axapta kernel (ax32.exe) – must be version 2.5.1270.3703 or later.

1.1.2 Differences between Axapta 2.5 and 3.0

Overall Axapta 2.5 and 3.0 does not differ much in the CRM module. The following table describes some of the menus that differ:

Axapta 2.5	Axapta 3.0
CRM\Sales force automation\Business relations	CRM\Business relations
CRM\Sales force automation\Activities	CRM\Activities
CRM\Sales force automation\Setup\Employee option	CRM\Setup\CRM Parameters\Employee option
CRM\Sales force automation\Setup\CRM Parameters	CRM\Setup\CRM Parameters\ CRM Parameters
CRM\Sales force automation\Periodic\Outlook-synchronization	CRM\ Periodic\MS Outlook-synchronization

1.2 Check list

Before you begin the actual installation of the Integration Kit it is recommended that you carry out the following points. They may prevent potential problems not related to the Integration Kit itself.

- Start your local Lotus Notes client. Use the shortcut key <CTRL>+<M> to create a new e-mail. If an error occurs at this point this must be fixed before the installation of the Integration Kit can continue. It is a prerequisite that the Lotus Notes mail client has been set up correctly and that it is possible to send e-mails from the client.
- Since Axapta uses the local Lotus Notes client for e.g. sending e-mails, the user will be asked for a password for Lotus Notes when starting Axapta regardless of whether the Lotus Notes client has been started or not. This can be changed so that no password must be entered if the Lotus Notes client has already been started. Start your Lotus Notes client and select the menu

[1] Most functions will work with older versions of Lotus Notes. However, the mail function in the CRM module will be limited.

'File\Tools\User ID' (Notes 6.5: 'File\Security\User security'). Mark 'Don't prompt for a password from other Notes-based programs..'. Close the dialog box by clicking [OK]. After this the user will not be asked for a Lotus Notes password when starting Axapta (however, this requires Lotus Notes to be running in the background and the user to be logged in).

- Deactivating the 'visible notification' (Notes 6.5: 'Show a popup') in Lotus Notes is recommended. This can be done from the menu 'File\Preferences\User preferences..'. Select the 'Mail and News' icon in the left side of the dialog box. In the section 'Receiving', remove the mark at 'Visible Notification'. This change is advantageous because Lotus Notes is locked when a message about a new e-mail appears. Therefore, the Integration Kit cannot access Lotus Notes as long as the message is being shown.
- Start Axapta and make sure that you have a valid user name and password for Axapta. Remember to exit Axapta before you continue with the installation.
- If you are using an Axapta client located on a common network drive, you must make sure that you have sufficient rights to modify the bin directory ("Navision\Axapta Client\bin"). Several files will be copied to this directory during the installation.
- If you install labels for Axapta yourself you must also be allowed to modify the application directory.

1.3 Installation of Integration Kit

Insert the CD-ROM with the title 'INTOGRATE Axapta - CRM'. If the installation program does not start automatically, double-click "install.exe" in the root directory of the CD-ROM (Select 'Run' in the Windows Start menu and type "D:\install.exe", if your CD-ROM drive is the D-drive).

Follow the installation guidelines on the screen.

To install INTOGRATE manually see the detailed instructions in Appendix D.

1.4 Serial number/license

The latest version of INTOGRATE no longer requires a serial number instead you will need a license file (filename: erp2ln.lic).

This file can be obtained either by purchasing a license for INTOGRATE or by downloading a demo version from our website (http://www.intograte.com).

The license file must be copied to the same directory where the product was installed (the directory where "erp2ln.dll" is located[2]).

[2] Placed in the Axapta client bin directory

1.5 Installation of Axapta elements

Start Windows Explorer and find the directory where the Axapta client is installed (this directory contains bin, share, std, etc.). Open the sub-directory "bin\Intoint\Axapta\x.x" (x.x is the version into which you are installing the Kit). Here are the files to be used for the installation of the Axapta part (Label and xpo files).

Open a new Windows Explorer window and find the Axapta application (e.g. "C:\Navision\Axapta Application\Appl\Standard"). Copy all the files that begin with "axITI" to this directory (labels).

Start the Axapta client. In the menu 'File', select 'Open' and then 'Project'. Then select the 'Import' icon from the project list.

The files to be imported are (remember the order):

1. I2I_LN.xpo
2. I2I_Mail.xpo
3. I2I_CRM.xpo
4. I2I_CRM_Journal.xpo (optional)

To ensure cross-references in Axapta, all projects must be recompiled (again in the above order). Open the projects one by one and highlight the project name, e.g. '*I2I_LN*'. Press the <F7> key to compile.

Axapta version 2.5 has an error which can cause all calendar information in both Axapta and Lotus Notes to be deleted. For details on how to correct this see Appendix F.

If you are upgrading from a previous version of INTOGRATE see Appendix I.

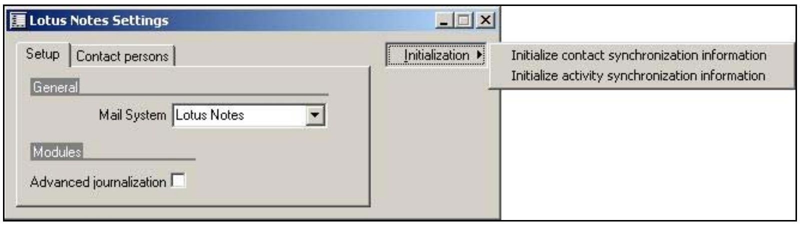
2. Setup of Axapta

This section describes how Axapta must be set up in order to enable the integration with Lotus Notes.

2.1 General setup

Start Axapta and log on. Select the tab CRM in the main menu. Under this tab, select the menu item 'Sales Force Automation\Setup\Lotus Notes settings'.

Choose the 'Setup' tab and change 'Mail System' to 'Lotus Notes' (see the below screen-dump).



Save the settings and close the dialog box 'CRM parameters'. Make sure that the changes were saved by reopening the dialog box and checking if "Mail system" is set to the correct system.

If you plan to store copies of e-mails in Axapta the Document Management system must be configured accordingly. The minimum setup of this can be found in Appendix G , page 28.

If you have "Advanced Journalisations" module license mark the field 'Advanced journalisation'. This enables semi-automatic journalisation of incoming and outgoing e-mails in Lotus Notes.

2.1.1 Initializing synchronisation information

In Axapta information is kept about the relation between the CRM system and the e-mail system used. This information must be reset before the system is used for the first time.

From the Lotus Notes settings (above dialog) select the button [Initialize].

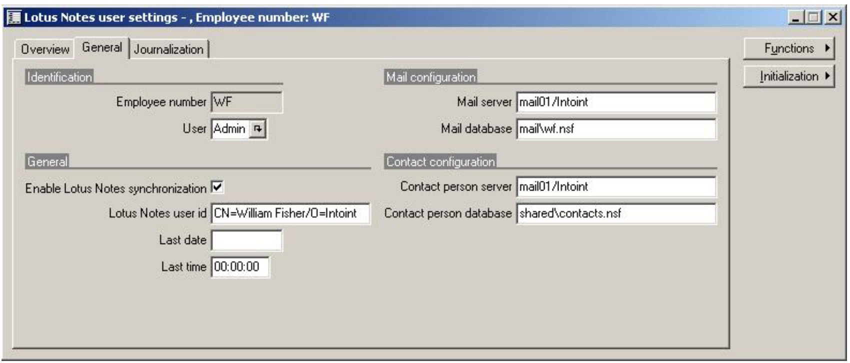
To initialize activities select 'Initialise activity synchronisation information' and if you plan to synchronise contact persons select 'Initialise contact synchronisation information'.

This initialisation must only be carried out when INTOGRATE Axapta - CRM is being installed for the first time since all relations between Lotus Notes and Axapta will be cleared.

2.2 Setup of users

In order for a user to use the Lotus Notes integration, some information about the user's Lotus Notes setup must be supplied.

To perform this setup go to the main menu, select the CRM tab and then the menu item 'CRM\Sales Force Automation\Setup\Lotus Notes user settings'.



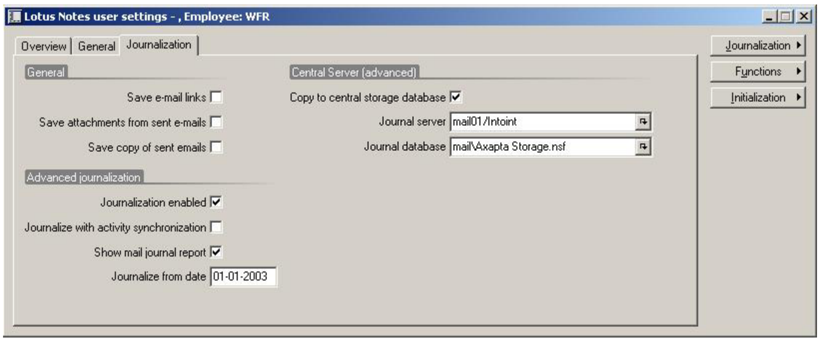
For each user who is to use the Lotus Notes integration, the following procedure must be carried out:

- From the 'Overview' tab select the user to configure. Once the user has been selected click the 'General' tab.
- Make sure the employee is associated with a user login (in the above dialog the user WF is associated with the "Admin" login username).
- Mark 'Enable Lotus Notes synchronisation'. This activates the Lotus Notes integration for the selected user.
- Insert the fully qualified Lotus Notes user name in the field 'Lotus Notes user id'. See Appendix B for help on this issue.
- Enter the name of the server where the user's mail file is located in the 'Mail server' field.
- The 'Mail database' must be the path to the mail file, e.g. "mail\wf.nsf". The path must be relative to the "Lotus\Domino\Data" (root-) directory on the specified server.
- Enter the name of the server where the user's local address book is located in the 'Contacts server' field (the address book can both be the local address book in the Notes client or a common address book on a server).
- In 'Contacts database', fill in the relative path to the address book. The path must point to the "Lotus\Notes\Data" directory in the specified server.

Help with finding 'Lotus Notes user id', 'Mail server' and 'Mail database' can be found in Appendix B.

2.3 Setting up Journalisation

To enable journalisation select the CRM tab from the main menu. Expand and select the menu 'Sales Force Automation\Setup\Lotus Notes user settings'
Select a user from the 'Overview' tab and switch to the 'Journalisation' tab.



The options beneath the 'General' group: 'Save attachments from sent e-mails', 'Save copy of sent emails' and 'Save e-mail links' are described in sections 4.1.4 and 4.1.4.1.

2.3.1 Advanced journalisation (optional)

If you enabled advanced journalisation in section 2.1 the groups 'Advanced journalisation' and 'Central Server (advanced)' will be visible.

Advanced journalisation enables the possibility for a user to journalise incoming and outgoing e-mails directly from the mail database in Lotus Notes. To enable this feature mark 'Journalisation enabled'.

If journalisation should be done at the same time of activity synchronisation, mark the field 'Journalise with activity synchronisation'.

After each journalisation it is possible to show a report detailing what and what not has been journalised. Enable this by selecting 'Show mail journal report'.

When users journalises for the first time they are asked to select a date to journalise from. This can be changed by entering a new date in 'Journalise from'.

For a walkthrough of the journalisation process see section 3.4.

2.3.2 Central Server (advanced)

To make it easier for other users to see the original content of a mail, you can enable the central server storage. This in combination with 'Save e-mail links' and a shared mail database will give other users access to the original mail through Axapta (the users must have access to the central storage database).

Mark 'Copy to central storage server' to enable this feature. Fill in 'Journal server' and 'Journal database' accordingly (you can use the lookup button to fill in these fields automatically).

3. Getting started

This section describes how to quickly start using the integration between Lotus Notes and Axapta.

It is based on the assumption that you have some knowledge of Axapta and a user set up to synchronise with Lotus Notes. If you want to use more than the e-mail function, you must also have the rights to use the CRM part of Axapta.

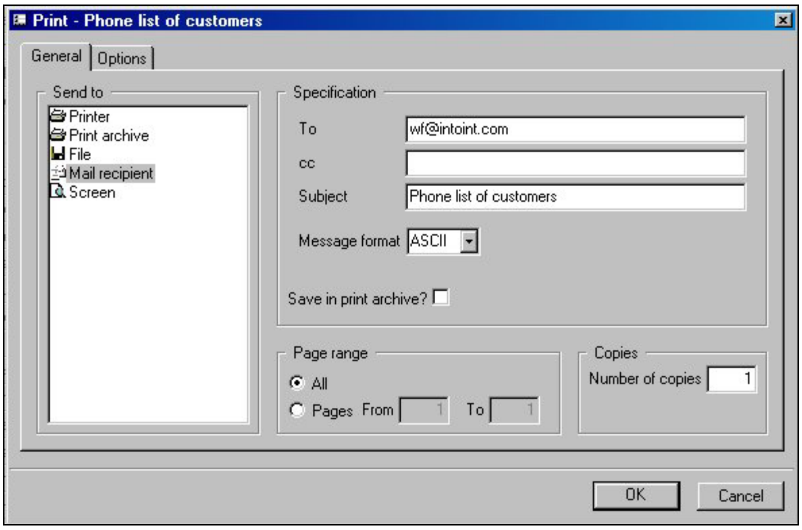
During the next few sections it is recommended that you keep Lotus Notes running in the background.

3.1 Sending e-mails

This example is about sending a report from Axapta. Before you send reports as an e-mail try printing it to the screen. This will ensure that Axapta has been correctly set up for normal use.

Select 'Accounts receivable'. Under 'Reports', select 'Phone list of customers'. This will open the selection window. If desired, limit the number of debtors and click [OK]. The below window will be shown.

First you must select the 'Send to'. This may be to e.g. a printer, a file, the screen or an e-mail recipient. In this case, choose E-mail recipient. Then, in the specification area, fill in the fields 'To' and 'Subject' as a minimum.



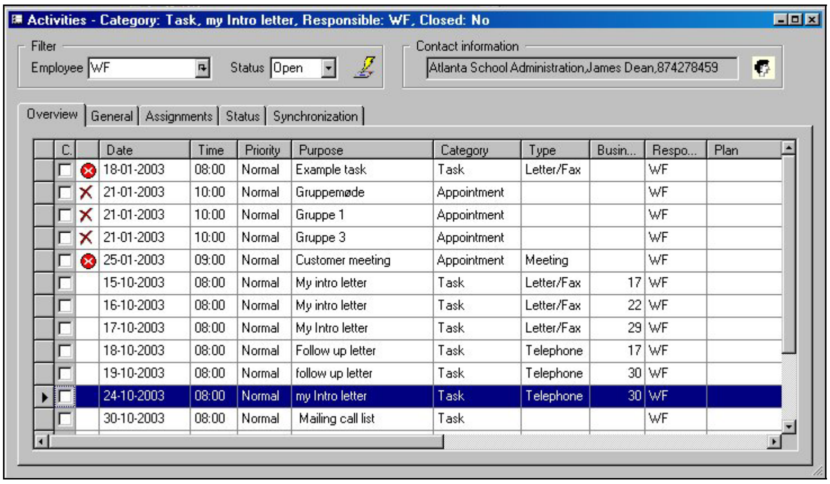
Click [OK] to send the report to the e-mail recipient.

Check that the recipient received the e-mail and that the customer list is attached.

3.2 Synchronisation of appointments and tasks

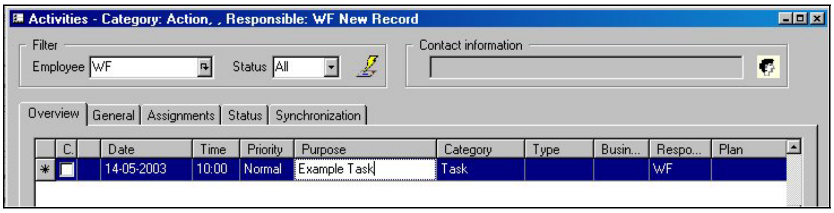
The Integration Kit enables you to automatically synchronise your appointments and tasks in Lotus Notes and Axapta. When you create new activities you must be aware that from Axapta CRM, only tasks and appointments will be transferred to Lotus Notes.

Start your Axapta client and select 'CRM\Sales Force Automation\Activities' in the main menu. By default this will show you the activities of the user who is logged in., en the below case 'WF'.

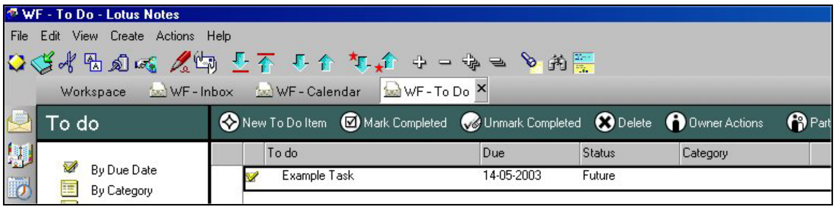


Start by creating a new activity by pressing <CTRL>+<N>. As a minimum, enter the date, time, Priority, Purpose and Type (the Type must be either Task or Appointment). By leaving the new activity or pressing <CTRL>+<S>, you will save it and at the same time transfer it to Lotus Notes.

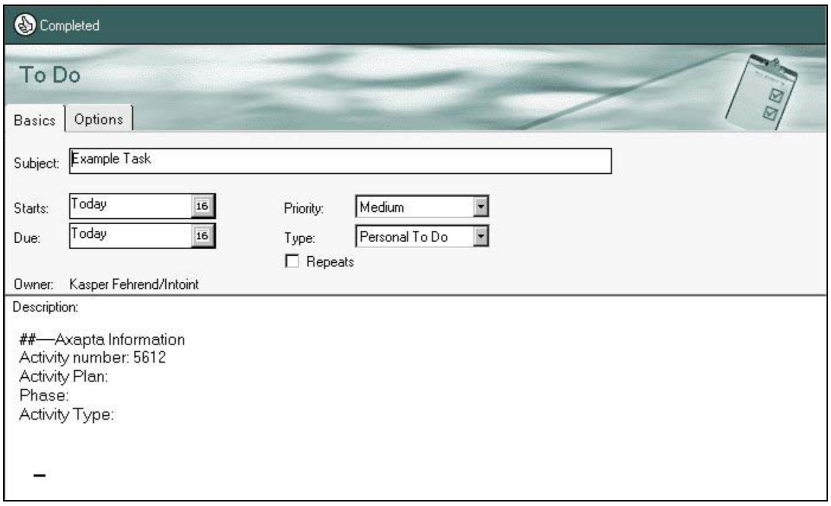
If you created an appointment you can view it in the Lotus Notes calendar specified for the Axapta user in question. The tasks you can view in the Lotus Notes To do list. In this example a task called 'Example task' has been created for the user 'WF'.



In Lotus Notes it will look like this:



And the details of the task:

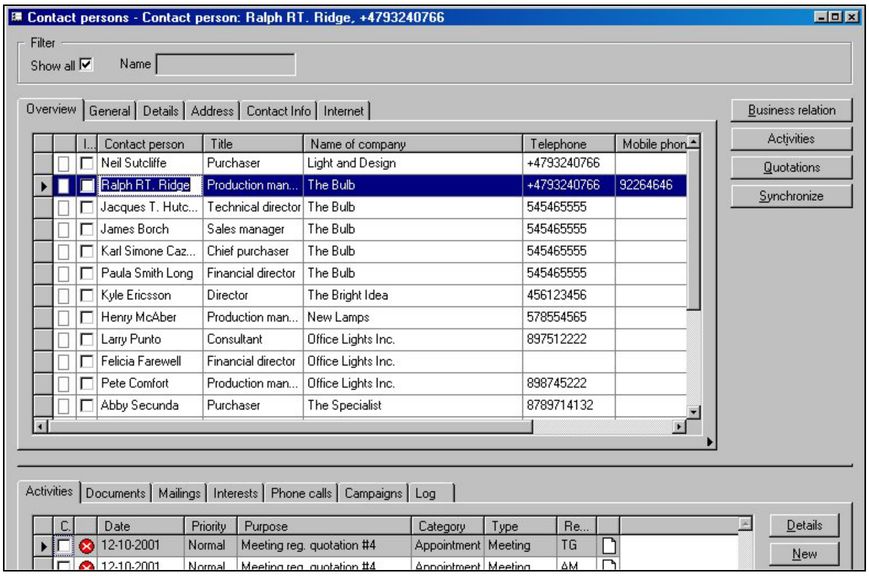


If any changes are made in Axapta, the changes will be updated in Lotus Notes.
If a change is made in Lotus Notes this change can also be updated. An example of this can be found later in the manual in section 4.2 on page 16.

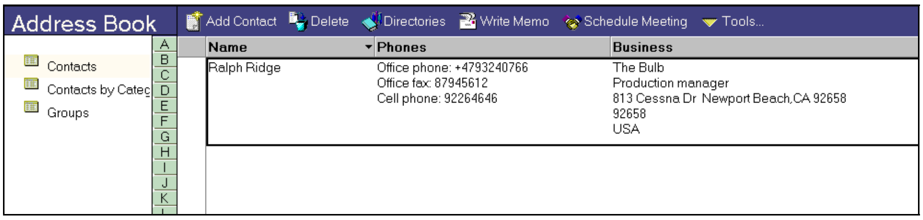
3.3 Synchronise contact persons

In order to be able to exchange contact persons an address bock must be specified in the settings of the user in question. See section 2.2 for help with this setup.

Start Axapta and select 'CRM\Contact persons' in the main menu. This opens the list of all contact persons. Select one or more persons to be transferred to Lotus Notes and click the button 'Synchronize' (press <SHIFT> or <CTRL> and hold it to select multiple persons).



After clicking the button the contact persons can be viewed in the address book in Lotus Notes:



If you want to synchronise all contact persons in Axapta or just selected ones relating to a business connection this is also possible. See section 4.2.3.

3.4 Journalising e-mails

This section describes the functionality of the optional journalisation module for INTOGRATE Axapta.

To journalise e-mails from your mail database in Lotus Notes select the menu 'Sales Force Automation\Periodic\Lotus Notes synchronisation\Journalise e-mails'.

If it's the first time you journalise the following dialog will be displayed:

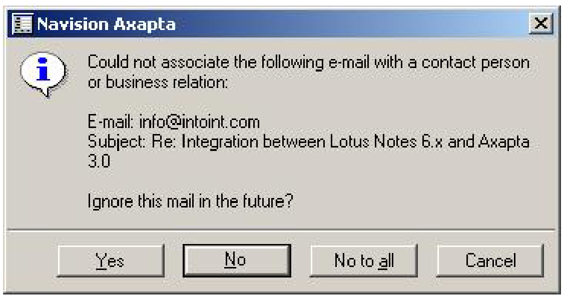
The selected date will be used as a future filter for all mail journalisation. The date can be changed afterwards on the user setting form (see section 2.3.1).

When you click the [OK] button the actual journalisation will begin. Depending on the number of mails in Lotus Notes this can be a lengthy process (all mails in Lotus Notes will be searched not just mails in the inbox).

Each mail in Lotus Notes not journalised before and after the previously selected date will be processed.

If a mail is incoming (ex. a mail from a customer) the 'From' field will be used to decide where in Axapta the mail should be journalised and if the mail is outgoing the 'To', 'CC' and 'BCC' fields will be used.

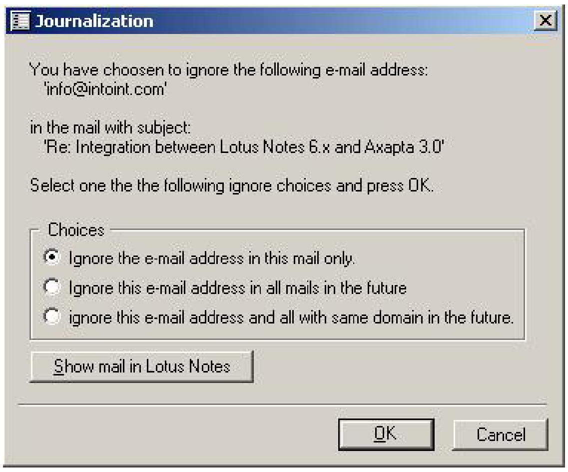
If Axapta encounters an e-mail address that could not be associated with a contact or business relation the following dialog will be displayed:



This gives a choice on how to handle the unknown e-mail address.

Press [No] to continue the journalisation without deciding what to do with the unknown e-mail address and [Yes] to ignore the e-mail address (shows a new dialog with more options). If you select [No to all] this dialog will not show up again during the journalisation and all mails with unknown e-mail addresses will not be journalised (they will however show up next time you try to journalise).

If you select [Yes] (to permanently ignore the e-mail address) a dialog with more options will be presented:



This gives three options for ignoring the address:

- **Ignore this e-mail address in this mail only**: This will ignore the e-mail address in the select mail only. To see the e-mail click [Show mail in Lotus Notes]
- **Ignore this e-mail address in all mails in the future**: This will ignore the address in all future mails. If a future mail contains other addresses the mail will still be journalised for those.
- **Ignore this e-mail address and all with the same domain in the future**: The will work the same way as the previous choice but also include other addresses with the same domain (in above example all addresses from 'intoint.com' will be ignored).

If an outgoing e-mail has more than one recipient they must all be handled (ignored or match a contact or business relation in Axapta). If this is not the case the mail will not be journalised and it will show up again next time journalisation is started.

When all mails have been processed a report will be displayed detailing all the e-mails and their status (journalised, not associated, ignored etc.). The report is only displayed if it has been enabled on the specific user (see section 2.3 for further information on how to disable or enable this).

4. Use of the integration

In this section the various ways to apply the integration are more closely described.

4.1 E-mail

In Axapta there are several ways to use the e-mail facilities. For example the following:

- In a print dialog box it can be specified that the printout is to be sent to an e-mail recipient. This is described in section 3.1.
- In Axapta you can use the mail icon ( ). This will start Lotus Notes, open a new e-mail and fill in the ’To’-field.
- From the Document Management it is possible to send e-mails and attach the documents. The e-mails can be sent to an individual or a group. Axapta is locked until the e-mail has been sent, saved or cancelled. The reason for this is that Axapta keeps a history/log of the e-mails that are sent to the customer.

4.1.1 Sending a report as an e-mail

Axapta enables the user to send reports by e-mail.

This functionality is supported by the integration module. By default, reports are sent without starting the Lotus Notes client and thus without any further user intervention.

The integration module supports all report formats (ASCII, RTF, HTML and PDF (3.0))

For a more elaborate description of how to send reports as e-mail, see the Axapta documentation.

4.1.2 Creating e-mails from contact information

Anywhere in Axapta where an email window can be opened by clicking the e-mail icon ( ), the Lotus Notes e-mail client can be activated. The field ’To’ will be filled in by the contents of the e-mail field in Axapta. The other fields must be filled in manually.

4.1.3 E-mails for business connection

In the Axapta CRM module, the sending of e-mails is linked to the filing of sent e-mails.

The principles applying to the sending of e-mails are the same as the ones described in 4.1.2. Since the new e-mail must be filed in Axapta after being worked on in Lotus Notes, it is necessary to ”lock” the Axapta window until the e-mail has been either sent, saved or cancelled. Only when the work on the e-mail has been finished in Lotus Notes will Axapta be ”released”. If the e-mail gets sent it will be filed in Axapta – if the e-mail is cancelled nothing further happens in Axapta.

For further information on filing see section 4.1.4.

4.1.4 E-mail from Document Management

In the Axapta CRM module, it is possible to send documents by e-mail from the Document Management. This feature is also supported by the integration module.

Lotus Notes e-mails sent to CRM contact persons and from the Document Management system can be archived in the Document Management system. The user may choose to archive a copy of the text in the e-mail and/or a link to the original e-mail and/or a copy of files attached to the e-mail. This can be set up for the individual user as desired (see section 2.2).

The various types of documents will be shown in the list of documents (in the ‘Documents’ tab). As mentioned, the types depend on how the system is set up for the individual user.

4.1.4.1 Copy of mail

If the user has chosen to save a copy of the e-mails sent, the e-mail with the mail description will be shown in the list of documents. By clicking the ″open″ () button, you can view a copy of the e-mail in an RTF document.

Variations as a result of formatting differences may appear, and attached documents are shown as images.

The advantage of saving the contents of an e-mail in a file is that all users with access to the file system will be able to access this e-mail. The use of a link to the e-mail (see section 4.1.4.3) requires that other users have been granted access in Lotus Notes Access Control (ACL).

4.1.4.2 Separate attachments

In addition to being able to save a file with the contents of the e-mail sent, you can also choose that each attachment is to be saved separately in the file system. If this feature is active, all attachments can be viewed in the list of documents and opened by clicking the ″open″ () button.

4.1.4.3 Link to e-mail

If you do not want to save e-mails and attachments or you also want fast access to the original e-mail, you can activate this by opting to save a link to the e-mails.

When such a link is being selected via the ″open″ () button the Lotus Notes client will be opened and the e-mail in question will be shown (if it still exists).

The advantage of this solution is among other things that you can see the e-mail in its original form and that data are not necessarily stored in two places (in Lotus Notes and in the filing system). The disadvantage of the method is that normally, it will only be the person who sent the mail who can activate the link.

Of course, the different methods can be combined so that other users use the e-mail copy in the filing system while the author can access the e-mail through Lotus Notes as well.

4.1.4.4 Copying e-mails from Lotus Notes to Axapta

If you have received an e-mail from a business connection or a contact person, this e-mail can be copied to Axapta (incl. attached files).

Start Lotus Notes and open the e-mail (only e-mails from the database, specified in the Axapta CRM settings under ′Employee option′ under the ′Outlook′ tab).

Open the business connection or contact person to which the e-mail is to be copied. Select the ′Documents′ tab. Drag the e-mail to be copied from Lotus Notes to the icon: . When you let go the e-mail will be copied to Axapta and at the same time linked to the active contact person or business connection. Whenever the icon appears it is possible to drag and drop an e-mail from Lotus Notes to Axapta.

4.2 Appointments and tasks

In Axapta all activities have a field called 'Type'. If this is set to ′Appointment′ or ′Task′ it will be synchronised with Lotus Notes[3]. An ′Appointment′ corresponds to an ′Appointment′ in Lotus Notes and a ′Task′ to a ′To-Do′. These two types are the only ones that can be transferred between Axapta and Lotus Notes.

Synchronisation takes place in two ways: Online synchronisation and batch synchronisation.

[3] If the user has activated synchronisation in the CRM settings.

4.2.1 Online-synchronisation

Online-synchronisation takes place automatically when you crate, modify and delete activities of the type 'task' or 'appointment' in Axapta. When you create an activity, this creation, modification or deletion will immediately be copied to Lotus Notes. Online synchronisation only applies when you update activities in Axapta and not in Lotus Notes. Changes made in Lotus Notes will not be updated in Axapta until you run a batch synchronisation job.

4.2.2 Batch-synchronisation

Batch-synchronisation transfers several changes at the same time. Two types exist: update of all activities or update of changed activities:

- Update of all: this method brings all tasks and appointments in Lotus Notes and Axapta up to date. This includes activities which have been synchronised before. It can take quite a while since all appointments and tasks will be gone through.
- Update of changed: this method will only synchronise tasks and appointments which have been changed since the last synchronisation.

A batch synchronisation job can be started in the following ways:

- By double-clicking the icon () in the top of the list of activities or the workbook. This will start a synchronisation job covering the changed activities.
- In the menu 'CRM\Sales force automation\Periodic\Outlook-synchronization' there are two menu items: 'Modified activities' and 'All activities'. They will each start a synchronisation job covering changed activities or all activities.
- When a user logs in to Axapta the changed activities will automatically be synchronised.

4.2.3 Synchronised changes

If the system is configured to run the synchronisation, the following changes will be synchronised:

- When you create a new activity and set the field 'Type' to 'Task' or 'Appointment', the new activity will be copied to Lotus Notes as soon at it is saved.
- When you change an existing activity in which the field 'Type' is set to 'Task' or 'Appointment' the change will be copied to Lotus Notes the minute the changes are saved provided that the corresponding task or appointment in Lotus Notes has not been marked private.
- When, from Axapta, you delete an existing activity which has already been synchronised with Lotus Notes it will immediately be deleted in Lotus Notes provided that the task or appointment has not been marked as private in Lotus Notes.
- When you create a new task or appointment in Lotus Notes and leave the field 'private' unmarked, the task or appointment will be copied to a Axapta activity with the field 'Type' set to either 'Task' or 'Appointment' next time you run a synchronisation job.
- When you modify a task or appointment which has not been marked as private in Lotus Notes and which has already been synchronised with Axapta, the changes will be copied to Axapta the next time you run a synchronisation job from Axapta.
- When you delete a task or appointment which has already been synchronised from Lotus Notes and then run a synchronisation job from Axapta, the corresponding activity may be deleted in Axapta or maintained in the history depending on certain criteria. These criteria will be described in the following section.
- If you specify one or more 'Attendees' on an 'Appointment' these are synchronized into Lotus Notes if the selected Axapta users are enabled for Lotus Notes. If one or more users selected are not enabled for Lotus Notes these are just ignored in the synchronization. The synchronization does **not** send invitations to the persons invited and it is necessary to open the 'Appointment' in Lotus Notes and send the invitations.
- If you add one ore more attendees on an 'Appointment' in Lotus Notes this information will be synchronized into the 'Attendees' filed in the Axapta activities. The synchronization is per-

formed by comparing the names entered in Lotus Notes with the Lotus Notes names entered in the 'Employee' table in Axapta. These must match exactly.

4.2.4 Deleting activities

If a task in Lotus Notes with a corresponding activity in Axapta is deleted from Lotus Notes, Axapta will be updated in the following way the next time you run the synchronisation:

- If the corresponding task in Axapta is not marked as closed and the start date is either in the future or not yet set and the due date is in the future, then the activity will be deleted from Axapta.
- If the corresponding task in Axapta has not been closed and if neither the start date nor the due date have been set, the activity will be deleted from Axapta.

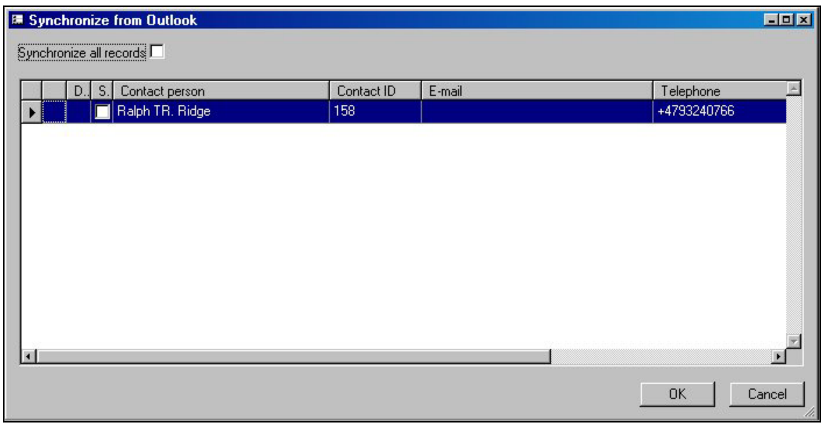
If the two above conditions are not met, the corresponding activity will not be deleted from Axapta. In stead it will be saved in the history.
If a task is modified in Axapta and it has previously been deleted from Lotus Notes and saved in the history in Axapta, it will be re-copied to Lotus Notes.

4.3 Contact persons

In addition to e-mail and calendar integration, the Integration Kit enables synchronisation of contact persons in Lotus Notes and Axapta. The synchronisation will be based on the address book specified in the user's CRM settings (see section 2.2).
Synchronisation does not take place automatically and will only start when the user wants it.

4.3.1 Synchronisation of changes made in Lotus Notes with Axapta

If a contact person is modified in Lotus Notes the changes can be transferred to Axapta in the following way.
Modify the name of the contact person in Lotus Notes and select 'CRM\Sales force automation\Periodic\Outlook synchronization\Synchronize contact persons from Outlook' from the main menu of Axapta. After this, a list of users which have been modified in Lotus Notes will appear.



You can either mark 'Synchronize all records' or select the contact persons to be transferred by ticking off each line. Click [OK] to synchronise and update the contact persons in Axapta with the information from Lotus Notes.

4.3.2 Transfer of multiple contact persons to Lotus Notes

If changes have been made in Axapta, these can be transferred to Lotus Notes by

- Opening the list of contact persons and selecting the modified contact person and then clicking the button [Synchronize].
- Selecting the menu item ’CRM\Sales force automation\Periodic\Outlook synchronization \Synchronize contact persons to Outlook’ from the main menu. In the selection window, you can choose to transfer personal contacts or all contact persons. Click [OK] to run the synchronisation job.

4.4 Journalisation

4.4.1 Blocked e-mail addresses and domains

All blocked e-mail addresses and domains can be managed on the Lotus Notes user setting form.

Select the menu ‘CRM’ and expand ‘Sales Force Automation\Setup’. Open ‘Lotus Notes user settings’ and locate and select the user to manage.

Click the button [Journalisation] and select ‘Blocked e-mails and domains’. The following form shows up:

In the above case all mails with domain acme.com will be blocked and all mails received from newsletter@news.net will also be blocked.

The list of blocked e-mails can be modified and added as needed.

Appendix A. Adjustments in Axapta

The below table describes all the elements in Axapta which are changed by the Integration Kit (the description of changes is based on the standard CRM module).

Changes to existing elements - I2I_Mail

Type	Object – method	Code from Intoint
Class	SysInetMail	Adjusted methods: - ClassDeclarations - closeProfile - getSysInet - logoff - logon` - mailAddress - mapiStatus - new - numberProfiles - ok - openProfile - profile - readMail - sendmailAttach - status

Changes to existing elements - I2I_CRM

Type	Object – method	Code from Intoint
Class	CcSysInetMail	classDeclaration sendMail
Class	smmContactPerson- Synchronize	In the prototype, the following methods have been changed from private to protected: - copyFieldsFromOutlook - reSynchronizeContact - findDeletedContactPersons - synchronizeAxToOl Other adjustments: - currentOutlookUser - syncAllContactsFromAxToOl - SyncContactPerson - syncContactsForBusinessRelations - syncContactsForEmployee (2.5, 3.0 SP0-1) - syncResponsibilitiesForEmployee (2.5, 3.0 SP0-1)
Class	smmInit	Adjusted methods: - InitEmailEventhandler
Class	smmOutlookEMail	Adjusted methods: - constructEMail
Class	smmSynchronize	In the prototype, the following methods have been changed from private to protected: - addActivityToDeletedTable - syncActivityWithPIMObject - initPIMToAxapta - batchSynchronizeObject Adjusted methods: - batchSynchronize - CurrentOutlookUser - syncActivityWithPIMClientPart
Form	smmBusRelTable	ActiveX button 'I2IDrop' added to the following location Design\Lines\LineTabPage\Documents- \Buttons Remember the method:

		- onEvent_OnDocumentDrop In Axapta 3.0 SP3 this is no longer modified. See the form smmDocuments.
Form	smmContactPerson	ActiveX button 'I2IDrop' added to the following location Design\Lines\LineTabPage\Documents-\Buttons Remember the method: - onEvent_OnDocumentDrop In Axapta 3.0 SP3 this is no longer modified. See the form smmDocuments.
Form	SmmContactPerson-SelectForSynchronize	Adjusted methods: - init Changed Window title of form.
Form	smmDocuments	ActiveX button 'I2IDrop' added to the following location Design\Lines\LineTabPage\Documents-\Buttons Remember the method: - onEvent_OnDocumentDrop Adjusted methods: - init
Table	SmmActivities	Adjusted fields: - OutlookEntryId (Set to: Visible: Yes) Correction of error in standard Axapta 2.5 - method update() - see Appendix F on page 27
Menu	smmCRMSeries	Added 'Lotus Notes setttings' and 'Lotus Notes user settings' to setup.

Changes to existing elements - I2I_CRM_Journal

Type	Object – method	Code from Intoint
Table	ContactPerson	New index: idxEMail
Table	DocuValue	New index: idxFilename
Table	smmBusRelTable	New index: idxEMail
Menu	smmCRMSeries	Added 'Lotus Notes journalisation' to periodic.

Appendix B. Lotus Notes user identification help

Lotus Notes user id

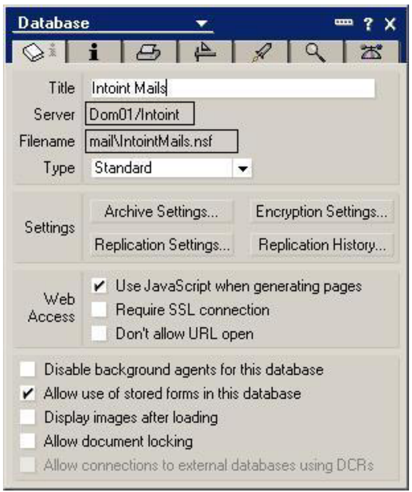
You can use the following procedure to get information about a user's Lotus Notes id:

- Start din Lotus Notes client.
- Press <CTRL>+<M> to create a new memo.
- Enter the following form in the 'Subject' field: @Username
- Press <SHIFT>+<F9> to update the subject field.
- Now the user's id can be copy-pasted to Axapta.

Lotus Notes Server and mail database

The following procedure can be used for getting information about the user's mail server and database:

- Start din Lotus Notes client.
- Press <CTRL>+<M> to open a mail window
- Select 'Database' in the menu 'File' and then 'Properties'. The following dialog box will appear:
- The text in the field 'Server" (in this case "Dom01/Intoint") must be entered into the field 'Lotus Notes Server' in Axapta.
- The text in the field 'Filename' (in this case "mail\kin.nsf") must be entered into the field 'Lotus Notes mail file' in Axapta.



This procedure can also be used for finding the server name and the file name of the contact person database. In stead of opening your mailbox you must open the address book. Here, the database must be found in Lotus Notes Workspace, though (i.e. <CTRL>+<M> cannot be used).

Appendix C. INTOGRATE in a Terminal/Citrix environment

To install INTOGRATE in a Terminal/Citrix environment the following software must be installed on the server:

- Lotus Notes client (R5 or later)
- Axapta client

A common setup for Axapta would be to install a local Axapta client on the Terminal/Citrix-server (to optimize for speed).

The usual way of deploying Lotus Notes client on Terminal/Citrix is described in the following Redpaper from IBM (see chapter 5.4.3 or 5.4.4 depending on your version of Lotus Notes):

http://www.redbooks.ibm.com/abstracts/redp3629.html

More specific details about installing Lotus Notes on a Terminal/Citrix server should be obtained from your Lotus Notes vendor.

In this scenario the Lotus Notes client is installed in "C:\Program Files\Lotus\Notes" and each user's data-directory is "H:\Notes\Data" (containing both the data files and the notes.ini file).

When Axapta and Lotus Notes are ready for use, INTOGRATE can be installed.

The procedure is as follows:

1. Install INTOGRATE either by running the installation program or by using the manual procedure described in section 2.
2. Configure the system environment PATH to include "H:\Notes\Data".
3. Install INTOGRATE in Axapta by importing the XPO-files.

When running INTOGRATE on Terminal/Citrix, make sure the following settings are enabled in erp2ln.ini (the same directory that contains the ERP2LN.DLL file):

DisableNotesSetupDialog=1
DisableRegistryCheck=1
DisableRegistryAutoFix=1

These settings will prohibit INTOGRATE from modifying the Windows registry on the server.

A few hints:

- Make sure there is only one notes.ini for each user (sometimes there is a notes.ini elsewhere in the system/user environment path)
- Make sure you have the latest version of INTOGRATE (at the time of writing the current version is 1.5.0.342).
- Try to add the Lotus Notes binary directory to the system PATH (e.g. "C:\Program Files\Lotus\Notes"). This might solve some issues with the Lotus Notes setup.

Appendix D. Manuel installation of the Integration Kit

It is possible to install the Integration Kit without using the installation program. This may be advantageous if the installation is to be carried out in a large environment and the files are to be distributed to multiple workstations or an advanced installation is involved e.g. a Citrix-based network.

Unpacking filer

If the installation is packed into one file, it must first be unpacked. This is done by starting "INTOGRATE Axapta - CRM x.x.x.x.exe" and selecting the drive in which the files are to be unpacked. The destination of the files must be a local drive or a network drive.

Copying files

When the files have been unpacked they must be distributed to the relevant directories.
The following files must be copied to "Axapta\bin" (they can be found in "data\files" in the installation directory).

- ERP2LN.DLL
- ERP2LN_ADDON.DLL
- ERP2LN.INI (optional)
- I2ICOMP.OCX

Setup of PATH

For the integration to work properly Notes' binary files and notes.ini must be located in the system variable "PATH". In our example, both the binary files and notes.ini located in "C:\LOTUS\NOTES". If this is different in your installation, use your settings instead.

Setting up the path in newer version of the integration kit is most likely not necessary. The locations of the Lotus Notes binary-directory and notes.ini usually can be found in the Windows registry. Based on the registry the integration kit will automatically retrieve the correct locations.

If you plan to start Lotus Notes with a direct path to a notes.ini (ex. "notes.exe =m:\notes\notes.ini") the registry must also be set up accordingly.

When the integration kit starts up the locations of the binary and notes.ini are read from the following key in the registry:

HKEY_CLASSES_ROOT\CLSID\{29131502-2EED-1069-BF5D-00DD011186B7}\LocalServer32

An example value could be:

(Default)="C:\Program Files\lotus\notes\notes.exe =m:\notes\notes.ini" /Automation

The reason that the notes.ini must be set in this registry is that Notes can be started from several locations that does not use the shortcut with a direct path to notes.ini. An example of this is when a user clicks on a mailto-link on an internet page. The browser will use the registry to start Lotus Notes, and not a shortcut on the desktop or in the programs menu.

Check PATH configuration

To check if PATH has been correctly set up, you must start an MS-DOS prompt. In MS-DOS, type "Path" and press return. The operating system will now present a list of the directories in the current setup separated by semi-colons. Check that both the directory for the binary files and the one for notes.ini are included in the list separated by semi-colons.

Setup of PATH in Windows 9x

If the path to the binary files or notes.ini is missing, Autoexec.bat must be modified in the following way:

1. Start the text editor by typing ”EDIT C:\AUTOEXEC.BAT” in an MS-DOS prompt.
2. Find the line that begins with ”PATH=”
3. If the line exists, add the following: ”;C:\LOTUS\NOTES”. Example of correct PATH:

   PATH=C:\WINDOWS;C:\WINDOWS\COMMAND; C:\LOTUS\NOTES;

4. If the PATH line does not exist, then add the following at the end of AUTOEXEC.BAT:

   PATH=%PATH%;C:\LOTUS\NOTES;

5. Save the changes by selecting ’Save’ in the ’File’ menu.
6. Close the text editor by selecting the menu ’File’ and the item ’Exit’.
7. Exit the MS-DOS command prompt by typing ”EXIT” and pressing return.
8. Restart you computer and check the ”PATH” settings by means of the procedure described in the section ’Check Path configuration’.

Setup of PATH in Windows NT/2000

1. Right-click on ’My computer’ on your desktop and select ’Properties’.
2. Select the ’Advanced’ tab and click the button ’Environment Variables…’.
3. Under ’System Variables’, select the line that includes the word ”Path”.
4. Click ’Edit’ and check if the path to ”C:\LOTUS\NOTES” is there. If not then add it at the end of the line (remember to insert a semi-colon before you add the directory name to the path).
5. Save the settings by clicking the [OK] button in the three following dialog boxes.

Setup of the Windows registration database

The component 2ICOMP.OCX must be registered in the Windows registration database. This is done as follows:

1. Click the Windows start button and select the menu item ’Run…’.
2. Enter the following in the textbox and click the [OK] button:

   regsvr32 “c:\Navision\Axapta Client\bin\I2ICOMP.OCX”

3. A box with the text "DLLRegisterServer in x:\...... succeeded" will appear. This indicates that the component is correctly installed.

It is possible to run this part of the user installation without user interaction. Use the parameter ”/s” on regsvr32.exe. E.g.

regsvr32 “c:\Navision\Axapta Client\bin\I2ICOMP.OCX” /s

Appendix E. Troubleshooting

Checklist

1. Check if you can send an email from your Lotus Notes client. Try starting your Lotus Notes client and pressing <CTRL>+<M> to create a new memo. If this does not work, check the settings in your location document (check that a mail server and a mail file have been specified).
2. Check if the path to the binary files in Lotus Notes and notes.ini are located in the system variable PATH. See Appendix D for help with this.
3. Check that there is an individual notes.ini file for all users. The Integration Kit reads information about the user's mail settings. This requires a notes.ini for each user in e.g. a Citrix-environment.
4. If you have a Lotus Notes client version 6 or you recently upgraded your Lotus Notes client 5 to a 6 the dll 'nlsxbe.dll' might have to be reregistered. Do this by opening the Windows start-menu, select Run and enter the following (without the single quotes): 'regsvr32 c:\lotus\notes\nlsxbe.dll'. Remember to replace the path 'c:\lotus\notes' with the path to you installation of the Lotus Notes client.
5. If both Lotus Notes 5 and 6 installed, this can cause problems. The Integration Kit uses a COM-object which is registered by Lotus Notes on installation. If Notes 6 is installed afterwards it will overwrite part of Notes 5's registration. Try to reinstall Lotus Notes 5 to see if the problem disappears. As a rule of thumb, the Notes client installed last must be the one to be used for the Integration Kit.
6. If Axapta freezes during startup (after the user name and password have been entered), the kernel version of Axapta must be checked. The kernel (ax32.exe) must be version 2.5.1270.3703 or later. Earlier versions cause problems if the Windows operating system is updated with the latest security updates. This is a general error in Axapta.
7. Check that the correct Axapta client is being used on start up. The Integrations Kit depends on it being the correct client since Integration Kit-files are located in the bin-directory of the client.
8. Check if there is more than one notes.ini. The notes.ini which is active and is being used by the Integration Kit can be found by selecting the Windows Start menu and clicking run. Enter notes.ini and click [OK] (if this does not find a notes.ini-file, then see the section on the setup of PATH on page 24). You can also search the local workstation for notes.ini-files. The Ini-file may be located in a network drive. If the active notes.ini is the wrong one, errors may occur in Axapta when a synchronisation job is being run. The error is that it will constantly say that the user in Axapta is not identical with the user in Lotus Notes (the username is found in notes.ini).
9. If Axapta says that "ERP2LN.DLL" cannot be found make sure that the 'alt. bin directory' in the Axapta configuration is set up to point to the Axapta client's bin-directory.
10. E-mail address does not appear in Lotus Notes when you click the mail icon in Axapta. This is a known issue in Axapta 3.0 SP1 and a possible solution is described in Appendix J.
11. If you use the distribution program 'Snow', you must be aware that the internal function 'RegisterDLL' does not work properly in all Window versions. Use Windows' own version 'regsvr32.exe' in stead (use the parameter /s for run 'silently').
12. Windows will cause an error when you register smmDrop2.ocx and smmWrap.ocx in Windows 9x. It has been reported that the ocx-files mentioned must be registered from the Axapta client's bin-directory. Therefore, you must copy the file regsvr32.exe to the bin-directory before executing it. This is not an error in the Integration Kit.

Appendix F. SmmActivities error

In the standard version of Axapta 2.5 there is an error which may cause all activities to be deleted in both Lotus Notes and Axapta.

This section tells you where the error is and how to correct it. The error has been corrected in the enclosed installation, but if the installation is made in an operating environment this may not be used.

The error is in the table '*smmAcitivities*' in the method '*update*'. At the bottom of the method '*update*' is the following code:

```
if (deleteThisActivity)
{
  delete_from this; // Deletion in this Update method...
}
else
{
  if (this.Category == smmActivityCategory::Appointment ||
     this.Category == smmActivityCategory::Task)
  {
    this.updateOutlookText();
  }

  super();
  SmmTransLog::initTrans(this, SmmLogAction::update);
}
```

The part of the code marked in bold is the error. The correct code looks as follows:

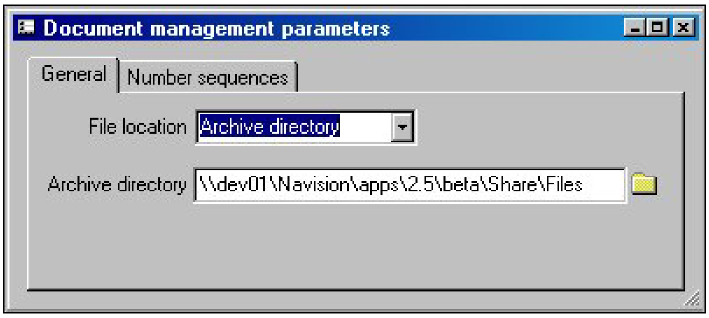
```
SmmActivities activityToDelete;
...
if (deleteThisActivity)
{
  delete_from activityToDelete
      where activityToDelete.ActivityNumber == this.ActivityNumber;
}
else
{
  if (this.Category == smmActivityCategory::Appointment ||
     this.Category == smmActivityCategory::Task)
  {
    this.updateOutlookText();
  }

  super();
  SmmTransLog::initTrans(this, SmmLogAction::update);
}
```

Appendix G. Axapta CRM setup

To be able to use the Integration Kit the Axapta CRM module must be correctly set up. This section describes the areas that are typically required in order for the Integration Kit to be fully used.

Setup of archive directory

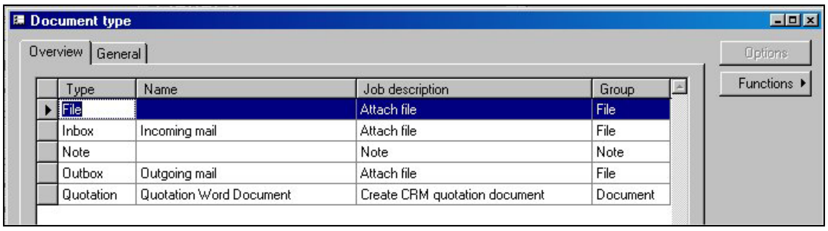
In order for Axapta to be able to save files such as sent e- mails and attachment, an archive directory must be set up.
This directory must be available to all users who use the Document Mangement in Axapta. They must have rights to both reading and whiting in the director.
In Axapta, select the menu item 'General\Document Management\-Parameters'. The following dialog box will appear:



Select 'Archive directory' from the list 'File location'. In the field 'Archive directory', enter the full path to the directory to be used for saving documents. Use <CTRL>+ <S> to save changes.

Setup of document types

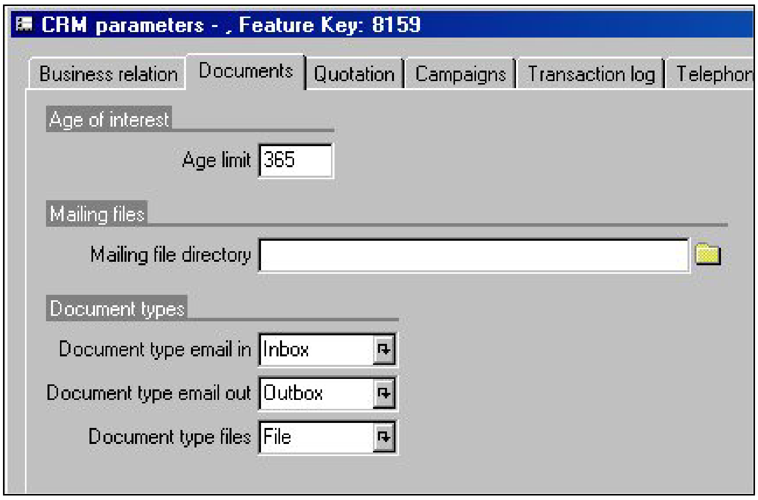
In order for Axapta to place e-mails and attached files in the right groups, one or more document types must be created. Document types are created via the menu 'General\Document handling\Document types'. Use <CTRL>+<N> to create a new document type.
The following document types must be created: Inbox and Outbox.



Both types must be awarded the job description 'Attach file' and the group 'File'.

CRM settings

The document types must be attached to the active CRM settings for the Document Management to work. This can be set up in CRM parameters. Open the menu item 'CRM\Sales force automation\Setup\CRM Parameters'. Select the 'Documents' tab in the setup window. Under 'Document types', select Inbox in 'Document type e-mail in' and Outbox in 'Document type e-mail out'. If 'Document type files' has not already been set, then set it to 'File'.



Use the key combination <CTRL>+<S> to save the changes.

Appendix H. Tips for programming

This appendix provides a few tips for making adjustments to a Axapta application. Doing so will be your own responsibility and falls outside the liability of Intoint. The descriptions in this appendix require you to have experience in Axapta programming.

Development in AOS/Cluster environment

When an AOS environment is used for developing the cache may cause a lot of unwanted errors. This typically applies when there is more than one AOS-server (clustered environment).

The following guidelines can minimise the errors that occur during development in AOS environments:

- Only make installations and developments on a thick client. This means that you do not work on the AOS server, but directly on the Axapta application.
- Create shortcuts for starting Axapta on a specific AOS-server. This makes it easier to call a flush function on all the AOS servers in the environment.
- Each time adjustments are made on the thick each AOS server must be accessed through a client and a flush function must be called. It may be that normal users (clients) must start and stop their client in order for the changes to work. The flush function is described in the next section.

Flush cache on AOS

This section describes how you create a flush function in Axapta. It is based on a technical document from Navision. The document can be found at http://technet.navision.com by searching for ′deploying application′.

Follow the below procedure to flush the cache on the server:

1. Create a new action menu item called *SysFlushAODServer*.
2. Set the property ′Class′ to ′Class′.
3. Set the property ′Object′ to ′ SysFlushAOD′.
4. Set the property ′RunOn′ to ′Server′.
5. Add the menu item to a main menu so that you can activate the menu item.

This menu item must then be called from a thin client. Make sure to have shortcuts to Axapta with forced choice of AOS-server, so that the menu item can run on all the AOS servers.

Appendix I. Upgrade settings from previous version

This appendix describes the upgrade procedure for moving Lotus Notes settings and user settings from CRM-Parameters and Employee options to new integration kit tables.

This is only necessary if you already have an older version of the integration kit.

Warning: The procedure will override information in the new integration kit tables so perform this before using the new setup forms (Lotus Notes setting and user settings).

The files needed to be imported can be found in the Axapta-bin directory in the subdirectory Into-int\Axapta\upgrade. Import the following jobs:

- UpdateFromEmplTable.xpo
- UpdateFromSmmParametersTable.xpo

This will create to new jobs in Axapta. Execute both to upgrade.

Appendix J. E-mail address missing

E-mail address does not appear in Lotus Notes when you click the mail icon in Axapta. This is a known issue in Axapta 3.0 SP1. A possible solution to this problem is described in 'Service Request - Navision Axapta CH-366-788-9R5P'. A copy of this resolution is appended below. To locate the service request perform an advanced search on www.partnerguide.com for the text 'CH-366-788-9R5P'.

Axapta form 'SysSendMail' in the method 'run' (the highlighted text is the actual change):

```
void run()
{
  SysINetMail m = new SysINetMail();
  FormStringControl c = this.selectTarget();
  //>>-- MBSCH ----------------------------------
  //  only if a control is modified a value will
  //  be passed through
  if (c){
      c.modified();
  }
  //<<-- MBSCH ----------------------------------
  m.sendMail(c.text(),'','',true);

  if ((c.text() != m.mailAddress()) && (m.getSysInet().transferName))
    if (Box::yesNo("@SYS50945", DialogButton::Yes) == DialogButton::Yes)
       this.closeSelect(m.mailAddress());

  this.close();
}
```

Appendix K. Configuration - ERP2LN.INI

Logging system

INTOGRATE has the option to write detailed error messages, warnings and information to a log file, helping to identify most issues.

This is configured using INTOGRATE's configuration file "ERP2LN.INI".

"ERP2LN.INI" is located in the same directory as "ERP2LN.DLL". The exact location depends on the installed INTOGRATE product (typically "C:\Program Files\INTOGRATE Navision").

It is possible to select the level of detail to write to the log file. This is controlled by the "FileLogLevel" setting. Possible values are as follows:

0	Nothing is logged
1	Errors
2	Information
4	Debug
8	Trace/Debug (will cause a severe reduction of performance)

To enable several levels simply add the numbers together. For instance to enable "Errors" and "Information", FileLogLevel must be set to 3 (1 + 2). To enable full logging use the value 15.

Procedure to change "ERP2LN.INI" (lines beginning with semicolon are considered comments and will not be processed by INTOGRATE):

Open "ERP2LN.INI" in Windows Notepad (or similar text editor).

Search for the word FileLogLevel (this will locate the section where the file log level is set, showing examples of use etc.).

Add a new line

FileLogLevel=XX

where XX is the level of details to log (use 15 to enable full logging).

Save and close the file.

Restart Navision to activate the changes.

The log file has a default location of "C:\Documents and Settings\<username>\Local Settings\Temp\ERP2LN" where "<username>" is the currently logged on Windows user.

This can be changed in "ERP2LN.INI" by setting the LogDirectory to an alternative location (using the same procedure as with FileLogLevel).