INTEGRATE

Microsoft Dynamics NAV

Outlook Integration Installation & Setup Technical White Paper

Date: April, 2007

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Introduction

Microsoft Dynamics™ NAV Integration with Microsoft® Office Outlook® provides users with up-to-date synchronization between Outlook and Microsoft Dynamics™ NAV. If you want Outlook to reflect the latest changes you've made in Microsoft Dynamics NAV, or vice versa, you need to set up the specific objects in Microsoft Dynamics NAV that need to be synchronized and then define which Outlook items should be updated. Once you have set this up, you can update data either automatically or manually.

For automatic synchronization, the user specifies the time that elapses between two consecutive synchronization sessions. Manual updating allows the user to synchronize information whenever the need for updating data arises.

Outlook Integration provides an efficient means of resolving synchronization conflicts. The user can specify that data in Microsoft Dynamics NAV should always override data in Outlook or that the data in Outlook should take priority over that in Microsoft Dynamics NAV.

In Outlook Integration you can define any objects in Microsoft Dynamics NAV, for example, contacts, to-dos, salespeople/purchasers and so on, to be synchronized with any Outlook items, such as contacts, appointments, tasks and so on.

This white paper explains how to install and set up synchronization options, and how to remove the synchronization related functionality.This document consists of the following chapters:

- What is Outlook Synchronization – contains an overview of synchronization principles and general flow.
- Installing Outlook Synchronization – instructs on how to install the Outlook Integration feature in Microsoft Dynamics NAV and how to install and remove the add-in.
- Setting Up Outlook Synchronization – describes options available for adjusting the synchronization and guides through the setup steps required on NAV and Outlook sides,
- Points to Remember – highlights the known issues that should be taken into account during synchronization

The Appendixes describe the setup required by Microsoft Dynamics NAV Application Server and Database Server, the synchronization parameters specified in the configuration file, the steps to install the Outlook Synchronization update, the recommendations for localized NAV versions, and recommendations on how to work with the Microsoft Dynamics NAV change log using C/AL.

To obtain more details about the synchronization related functionality, please refer to the Outlook Synchronization chapter of the What's New document and to the online Help in Microsoft Dynamics NAV.

Terminology List

Change Log for Microsoft Dynamics NAV	A standard Microsoft Dynamics NAV feature which tracks differences as a result of changes that Microsoft Dynamics NAV users make in predefined tables. In the change log, entries are chronologically ordered and specify how the user has affected a specific field of a certain table. The change log can only register manual changes; changes made through the C/AL code are not logged.
An Entity	An object in Microsoft Dynamics NAV that contains data to be

	synchronized. Tables in Microsoft Dynamics NAV and their fields can constitute entities. Many entities can be associated with an Outlook item for performing synchronization.
Outlook Item	An Outlook object, which contains the data that are to be synchronized. An Outlook item can be an appointment, contact, meeting, task, and so on. In Microsoft Dynamics NAV, the Outlook item can be mapped to a corresponding entity for performing synchronization.
Outlook Synchronization User	A person who has full control over the synchronization setup and performance in Outlook, and whose permissions in NAV are limited by the assigned role. To learn more about the User, Power User, and Administrator roles in NAV, please refer to the Outlook Synchronization chapter of the What's New document.
Outlook Synchronization/ Microsoft Dynamics NAV Synchronization	This is the procedure of updating either entities, in Microsoft Dynamics NAV, or Outlook items. In the User Setup window in Microsoft Dynamics NAV, you can choose the objects of the side that must be updated. Synchronization involves two steps: • synchronization setup • synchronization process
Synchronization Process	A procedure of updating Outlook items or entities in Microsoft Dynamics NAV according to the synchronization setup. The synchronization process can have three flow directions (defined in Microsoft Dynamics NAV): • From Outlook to Microsoft Dynamics NAV. • From Microsoft Dynamics NAV to Outlook. • Bidirectional.
Synchronization Entity	An object in Microsoft Dynamics NAV which contains data to be synchronized. It is a business entity. Several different entities can be created for the same table in Microsoft Dynamics NAV.
Synchronization Link	A correlation between a NAV record and an Outlook item. The correlation is established as a result of synchronization. Synchronization links are used internally in NAV and Outlook Add -in and are stored: • In Microsoft Dynamics NAV: Table 5302 Outlook Synch. Link • In Outlook Add-in: Isolated Storage
LST (Last Synchronization Time)	The time when the most recent synchronization process was successfully completed. The last synchronization time is taken into account for calculation for the next automatic synchronization to be run. The next automatic synchronization is performed each time the predefined period begins starting from the LST.
LMDT (Last Modified	The timestamp of the most recent modification of an entity in Microsoft

Date/Time)	Dynamics NAV or Outlook item. If the Last Modified Date/Time is less than the last synchronization time, then items and entities will not be synchronized. If The Last Modified Date/Time is greater, they will be synchronized.
Outlook Add-in/Microsoft Dynamics NAV Outlook Add-in	The component of synchronization which serves to adjust settings of the synchronization itself as well as ways of solving synchronization conflicts and errors. The Microsoft Dynamics NAV Outlook Add-in is installed at the Outlook side and has its own toolbar.
Synchronization conflict	A situation when the corresponding Outlook items and entities in Microsoft Dynamics NAV have both been modified since the last synchronization. When a synchronization conflict is detected, the program should decide, based on the user settings, which items or entities should be updated by the corresponding ones.
Synchronization error	A failure to execute a synchronization-related action, for example, to connect to the database, to update a record, etc. The list of synchronization errors is displayed in Outlook on the Errors tab of the Troubleshooting window.

What Is Outlook Synchronization

Overview

The main entities in Microsoft Dynamics NAV involved in synchronization are:

- Contacts/salespeople in Microsoft Dynamics NAV synchronized with Outlook Contacts. In Microsoft Dynamics NAV, there can be two types of contacts: companies and people. They can be prospective customers, customers, vendors, consultants, competitors, or any other type of contact. Synchronizing these people and companies with Outlook Contacts allow the user to continue working in Outlook even when they are not connected to Microsoft Dynamics NAV.

- To-dos in Microsoft Dynamics NAV can be synchronized with appointments and tasks in Outlook. To-dos are typically assigned to both salespeople and teams. To make efficient use of to-dos in Sales & Marketing, salespeople should be able to retrieve tasks and meetings from Sales & Marketing, import them into Outlook, and then act on them (possibly off-line) right away in Outlook. Once the salesperson gets online, they will be synchronized back to Sales & Marketing. Thereby managers can follow their delegated to-dos, and there is no need to manually update data in both applications in two places which carries the risk of errors and mismatches.

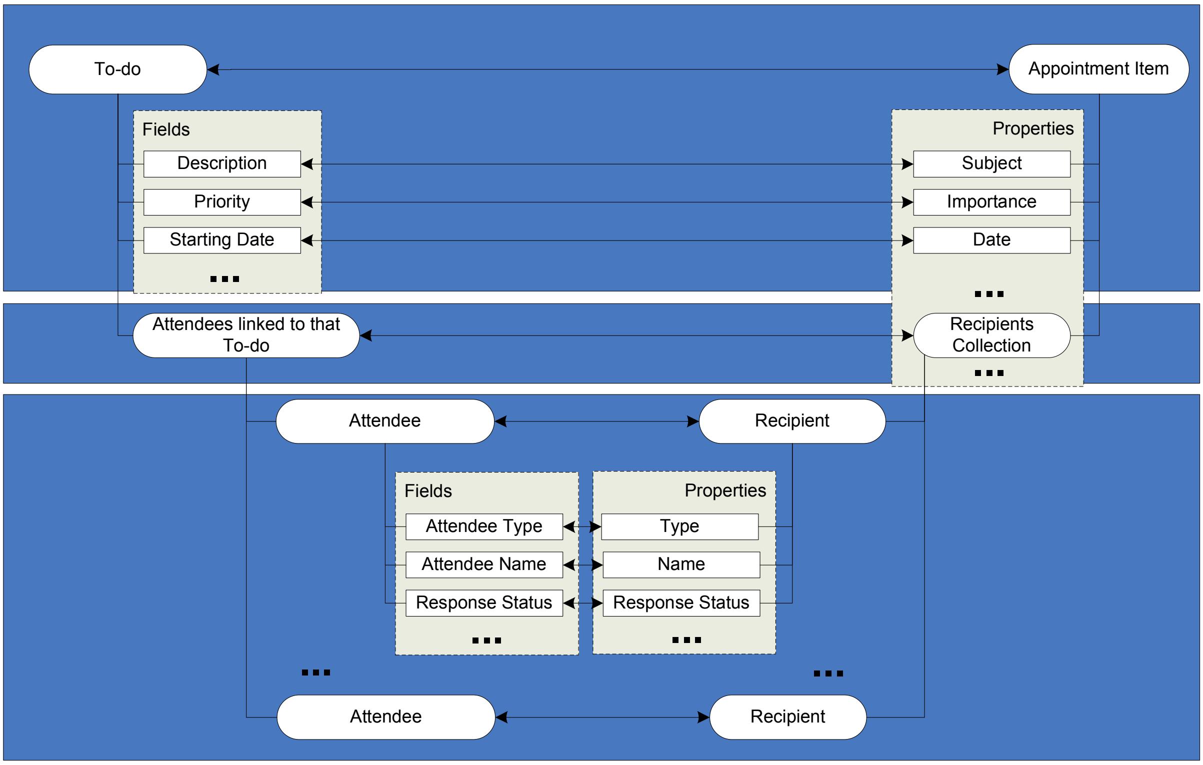


Figure 1. Mapping example

The synchronization can be launched either manually or automatically. After the synchronization functionality has been installed in Outlook, the user can choose either of these options. If the automatic version is chosen, the user can decide how often the data should be updated in both programs by specifying the desired synchronization interval. Even if synchronization is set to automatic, the user can still launch synchronization at any time using the **Microsoft Dynamics NAV Synchronization toolbar**.

General Flow

Before synchronization is started, an administrator needs to create a field-mapping schema using the corresponding forms in Microsoft Dynamics NAV where he defines how entities in Microsoft Dynamics NAV and Outlook items should be mapped. These settings are called a *synchronization schema*. The steps of synchronization are as follows:

1. In the first step of synchronization, Outlook requests the schema from Microsoft Dynamics NAV so that these mapping settings are available in Outlook as well. However, to optimize performance, the schema is not always sent from Microsoft Dynamics NAV.

   First, Outlook sends a checksum of the mapping settings that it had received previously to compare it with checksum in Microsoft Dynamics NAV. If the checksums are identical, the schema is not updated. If they have differences, then the mapping schema generated in Microsoft Dynamics NAV is sent out to replace the one in Outlook. Outlook receives the schema and processes it. Having analyzed the schema, the user then performs the synchronization for each type of synchronization entity, one by one. The field-mapping schema is then placed into an isolated storage on the Outlook side.

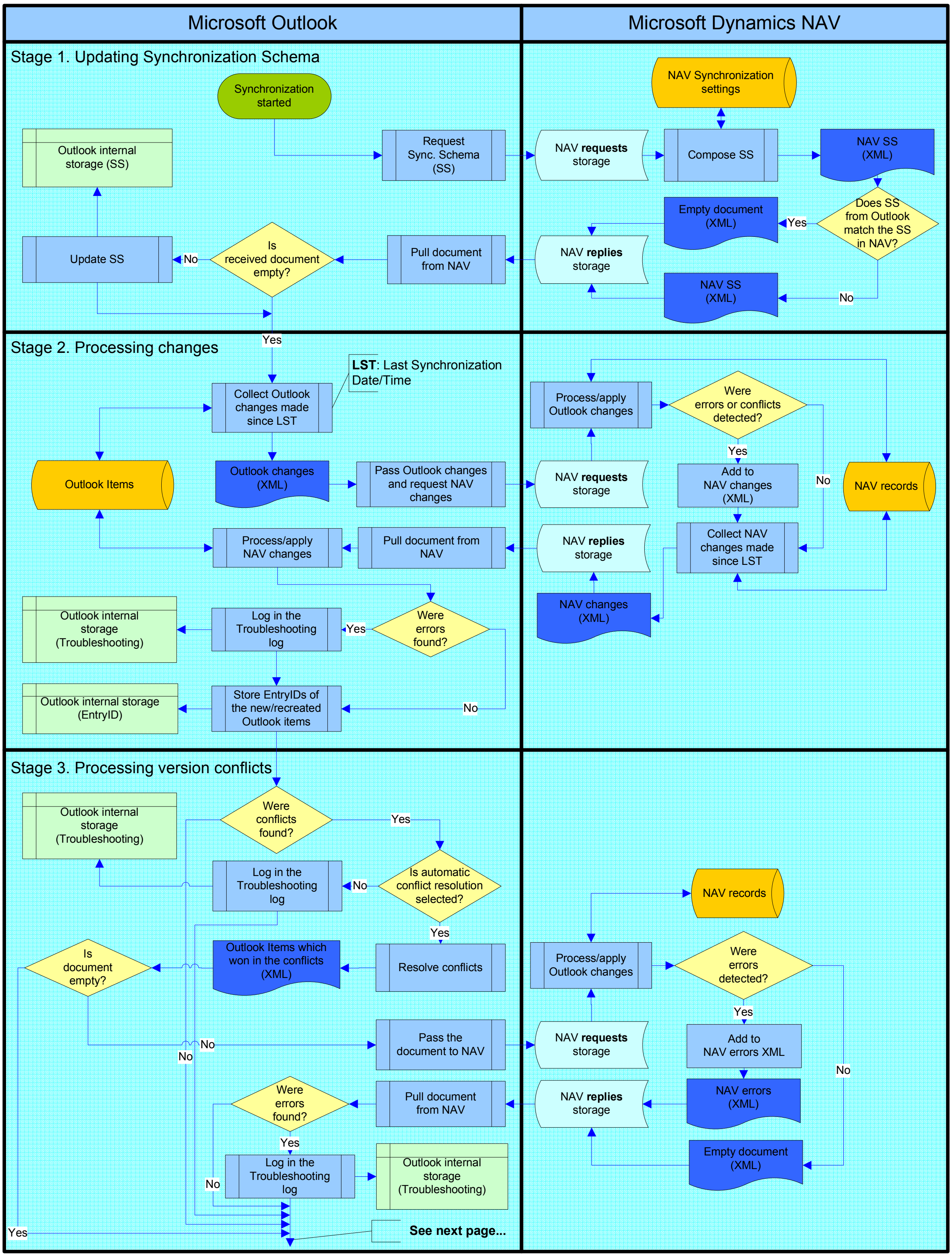
2. Outlook changes are collected into an XML document and sent to Microsoft Dynamics NAV for processing.

3. Changes and errors or conflicts in Microsoft Dynamics NAV that appeared during processing of Outlook changes are collected into an XML document and sent to Outlook for processing.

4. If version conflicts occur during the previous stage, they are processed. All the synchronization errors and conflicts are logged in the Troubleshooting window. If automatic conflict resolution is selected, conflicts are resolved without user intervention. If manual, the user must resolve each conflict.

5. Synchronization links are updated.

6. The Last Synchronization Time is updated on both sides.


Microsoft Outlook
Microsoft Dynamics NAV
Stage 1. Updating Synchronization Schema
Synchronization started
Outlook internal storage (SS)
Request Sync. Schema (SS)
NAV Synchronization settings
NAV requests storage
Compose SS
NAV SS (XML)
Update SS
No
Is received document empty?
Pull document from NAV
NAV replies storage
Empty document (XML)
Yes
Does SS from Outlook match the SS in NAV?
NAV SS (XML)
No
Yes
Stage 2. Processing changes
LST: Last Synchronization Date/Time
Collect Outlook changes made since LST
Process/apply Outlook changes
Were errors or conflicts detected?
Outlook Items
Outlook changes (XML)
Pass Outlook changes and request NAV changes
NAV requests storage
Yes
Add to NAV changes (XML)
No
NAV records
Process/apply NAV changes
Pull document from NAV
NAV replies storage
Collect NAV changes made since LST
NAV changes (XML)
Outlook internal storage (Troubleshooting)
Log in the Troubleshooting log
Yes
Were errors found?
Outlook internal storage (EntryID)
Store EntryIDs of the new/recreated Outlook items
No
Stage 3. Processing version conflicts
Outlook internal storage (Troubleshooting)
Were conflicts found?
Yes
Log in the Troubleshooting log
No
Is automatic conflict resolution selected?
NAV records
Yes
Is document empty?
Outlook Items which won in the conflicts (XML)
Resolve conflicts
Process/apply Outlook changes
Were errors detected?
Yes
No
No
Pass the document to NAV
NAV requests storage
Add to NAV errors XML
No
Were errors found?
Pull document from NAV
NAV replies storage
NAV errors (XML)
Yes
Log in the Troubleshooting log
Outlook internal storage (Troubleshooting)
Empty document (XML)
No
Yes
See next page...

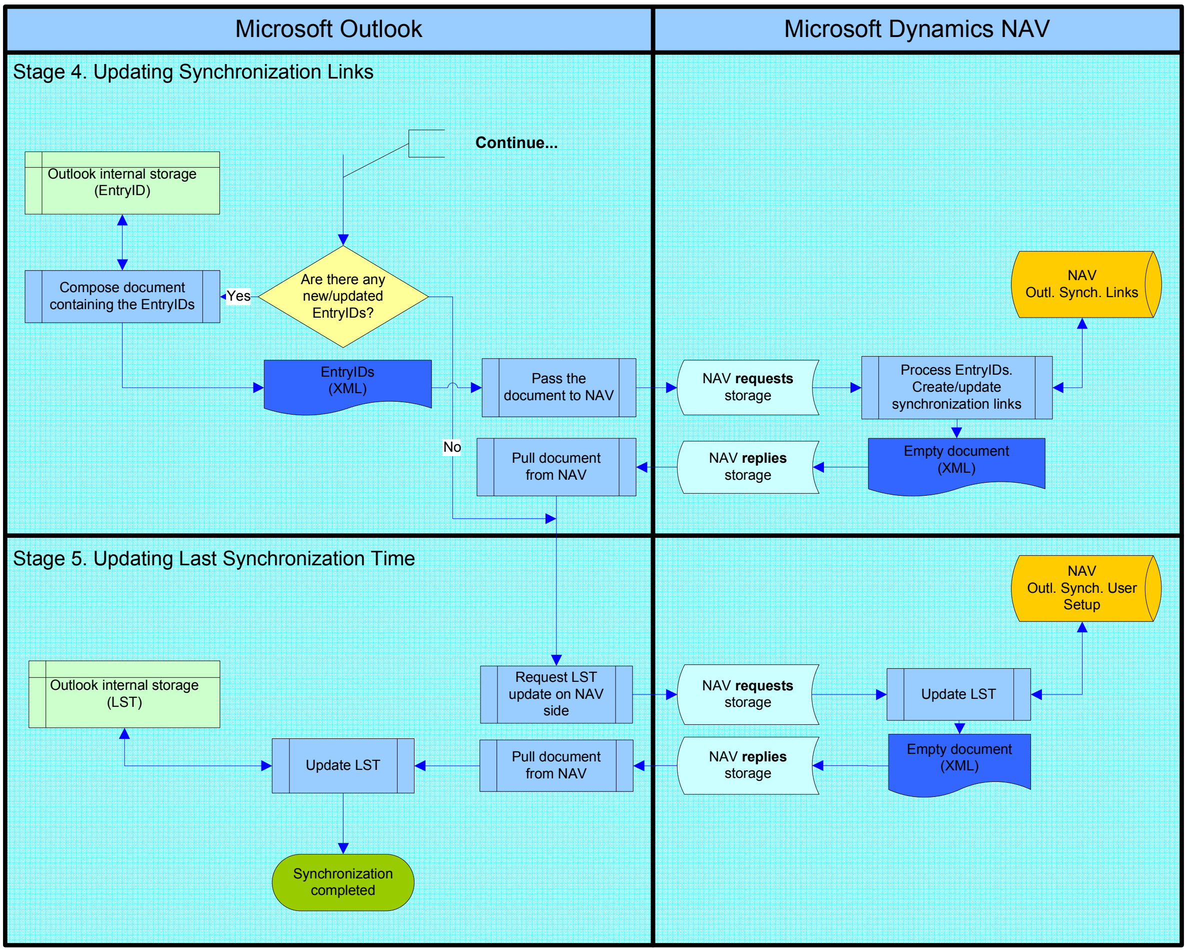


Figure 2. General data flow

Changes in the New Version

The previous version of Outlook Integration was an event-based feature, the new Outlook Synchronization is based on periodic activities or user requests initiated by the Microsoft Dynamics NAV Outlook Add-in from Outlook. That means that while the previous version of synchronization was performed each time any object in Microsoft Dynamics NAV or Outlook had been changed, in the new version, synchronization can be run either periodically, for example every 60 minutes, or on the user's demand.

If a technical-related error occurs during synchronization, it is called a synchronization error and must be resolved with the help of administrators. If two corresponding entities of the same type were changed both in Microsoft Dynamics NAV and Outlook before running synchronization, then during synchronization a synchronization conflict will occur. The user will resolve such a conflict by deciding which entity's changes have priority. He or she can resolve the conflicts either automatically by selecting one of the appropriate options during Microsoft Dynamics NAV Outlook Add-in setup, or manually considering each individual conflict. Synchronization conflicts are stored and resolved from Outlook. Synchronization errors are stored in Outlook but resolved in either Microsoft Dynamics NAV or Outlook depending on where this error originates from.

To learn how to enable logging of technical- related errors, refer to the System Diagnostics section of the Configuration File appendix.

New Functionality

The new version of Outlook synchronization is highly customizable in both Microsoft Dynamics NAV and Outlook. This gives you flexibility to choose which items will be synchronized and which will not.

Contrary to the previous version, now it is possible to choose which Outlook items will take part in synchronization. Filters applied in Outlook reduce the number of items that will be synchronized. By applying filters you specify criteria according to which the selected items will not be synchronized with records in Microsoft Dynamics NAV.

It is now possible to choose which records in Microsoft Dynamics NAV will take part in the synchronization.

Synchronization is now based on the user's ID and the corresponding settings made in the synchronization setup, but not on the salesperson code assigned to the records. This gives additional flexibility to Microsoft Dynamics NAV Partners when customizing our solution. You can now synchronize not only contacts which "belong" to a salesperson in Microsoft Dynamics NAV (have a certain salesperson code assigned), but also contacts who, for example, have a certain criteria such as area code or a correspondence type. This was not possible in the implementation used in Navision 4.0.

It is possible to synchronize entities without any dependences (for example, only contacts or only customers), however, when we synchronize entities which have relations with other entities (for example, a to-do may have a contact assigned) we have to synchronize the dependant synchronization entities as well. So if we synchronize a to-do and we have a contact assigned to it, the contact has to be synchronized as well.

Removed Functionality

In the previous version of synchronization, it was possible to send notifications about changes in Microsoft Dynamics NAV as well as sending e-mails and appointment invitations. The new version of Outlook Integration does not include this functionality. Instead, you will see notifications after performing synchronization in the **Synchronization Progress** window with a summary of how many items were synchronized, created, modified, and deleted.

The previous version of Outlook Integration disables reminders of Outlook appointments if they start in less than 15 minutes. The new feature does not disable reminders at any time.

The previous version had many-to-one and one-to-many field mappings (for example, the **Address** and **Address2** fields of the Contact table in Microsoft Dynamics NAV correspond to the Address property in Outlook). That means that property values in Outlook were distributed among fields in Microsoft Dynamics NAV during synchronization and vice versa the following way:

- According to the example, the value of the **Address** and **Address2** fields of the Contact table in Microsoft Dynamics NAV were merged into one value. The resulted value had a specific format which was understandable for Outlook. This value corresponded to the **Address** property in Outlook.

- The same situation with value formats occurred when the value of the **Address** property in Outlook had to be mapped to two fields in Microsoft Dynamics NAV. Due to the special format used for the Outlook property, the value in the **Address** field was distributed among two fields in Microsoft Dynamics NAV.
- In the new version this is not possible, so in order to synchronize an additional field, it should be mapped to another field in the mapping schema.

The new feature is focused on data synchronization, therefore, the features described below which are not related to data synchronization are not supported.

In the previous version, there was a functionality to review details about related Microsoft Dynamics NAV entries from the Outlook item window and vice versa. This is the way it was:

In Microsoft Dynamics NAV, the **Show Outlook Item** function available from the **Functions** menu was used for synchronized to-dos, salespeople, and contacts. If the user clicked **Functions, Show Outlook Item** in the respective window, Outlook was launched and the corresponding item card was opened.

The **<record>** button in Microsoft Dynamics NAV was located in Outlook in Tasks, Contacts, and Meetings windows. The name of the button was different for tasks, contacts, and meetings: **Tasks**, **Contacts**, and **Meetings** in Microsoft Dynamics NAV. If the user clicked this button, Microsoft Dynamics NAV was launched and a window was opened to display the corresponding entry in Microsoft Dynamics NAV. It gave the user a possibility to review the details about this entry.

The new Outlook Integration feature does not support reviewing details of the synchronized items and entries.

The new Outlook Integration feature does not support the possibility of sending Meeting Invitations to the attendees. However the invitations can still be sent as e-mails, using standard functionality in Microsoft Dynamics NAV.

Installing Components of Outlook Synchronization

Outlook Synchronization is provided by the Outlook Integration Add-in and the Outlook Integration feature of the C/SIDE Client and Application Server.

This section emphasizes the steps of the Outlook Synchronization installation process. The instructions cover installing components that enable Outlook Synchronization on the Outlook side and on the Microsoft Dynamic NAV side. This chapter consists of the following topics:

- System Requirements – lists required software and outlines possible installation types.
- Installing the Outlook Integration Feature –instructs on how to install the Outlook Integration feature.
- Installing the Outlook Add-in – contains steps to install the add-in.
- Removing the Outlook Add-in – instructs on how to remove the installed add-in.

For the details on installing the Outlook Synchronization update, please refer to the Installing Outlook Synchronization Update appendix.

System Requirements

To install Outlook Synchronization, the following system requirements apply:

- Windows XP, Windows Vista, or Windows 2003 Server
- Microsoft Office Outlook 2003 or 2007
- Microsoft .NET Framework 2.0 or higher
- Microsoft Dynamics NAV 5.0 Outlook Add-in
- Microsoft Dynamics NAV 5.0 Application Server
- Microsoft Dynamics NAV 5.0 C/SIDE Client
- Outlook Integration feature for Microsoft Dynamics NAV (included either in Microsoft Dynamics NAV 5.0 Application Server or in Microsoft Dynamics NAV 5.0 C/SIDE Client)
- Microsoft Dynamics NAV 5.0 Database Server for Native database
Windows SQL Server 2000 or 2005 for SQL database

Outlook Synchronization can be used in single or multiple PC installations. In the single PC installation, Microsoft Dynamics NAV C/SIDE Client, Application Server and Synchronization Add-in are installed on one computer. In the multiple PC installation, the C/SIDE Client, Application Server and Synchronization Add-in are installed on different machines.

Note

In a multiple PC installation, ensure that .NET Framework is installed on each machine deployed.

The following descriptions assume that Outlook and .NET Framework are already installed.

Installing the Outlook Integration Feature

The Outlook Integration feature provides the functionality to configure and perform synchronization on the NAV side. The feature is included into the installation packages of the C/SIDE Client and Application Server.

The C/SIDE Client

During the C/SIDE Client installation process, choose to install the Outlook Integration feature in one of the following ways:

- Select the Complete installation option to install all the available features.
- Select the Custom installation option and include the Outlook Integration feature into the set of features to be installed.

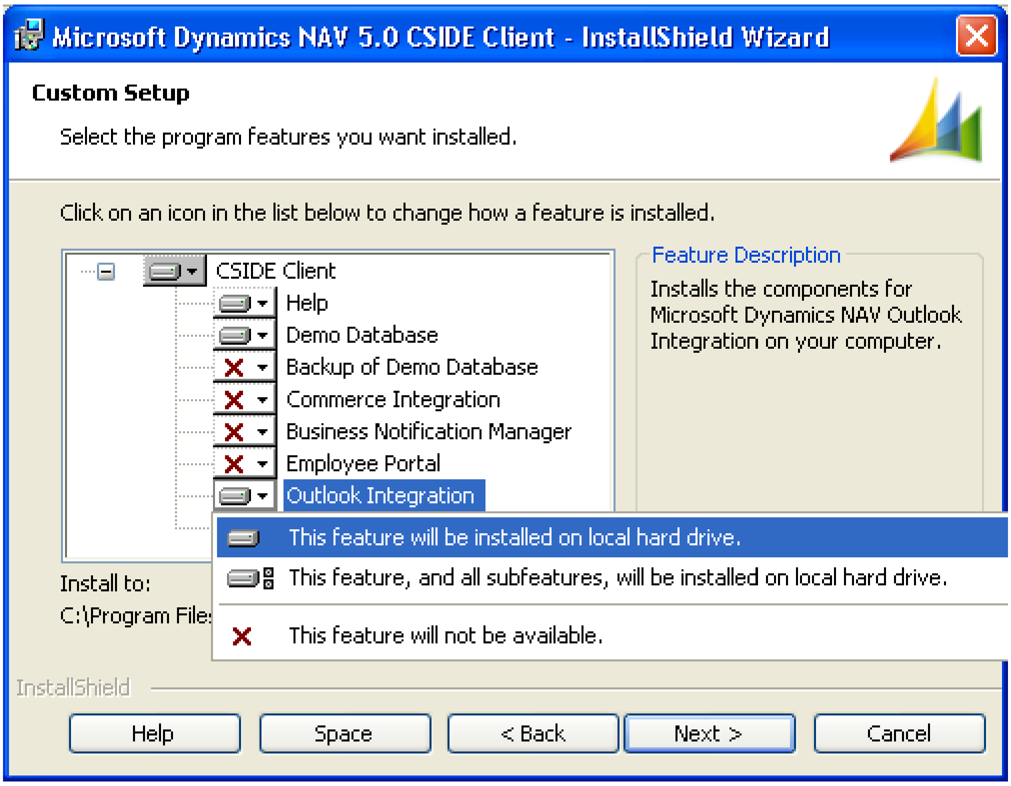


Figure 3. Custom installation of the C/SIDE Client

When the installation is completed, the C/SIDE Client provides you with the environment to set up NAV entities that you want to synchronize with Outlook.

The Application Server

During the Application Server installation, select the Custom installation option and include the Outlook Integration feature into the set of features to be installed.

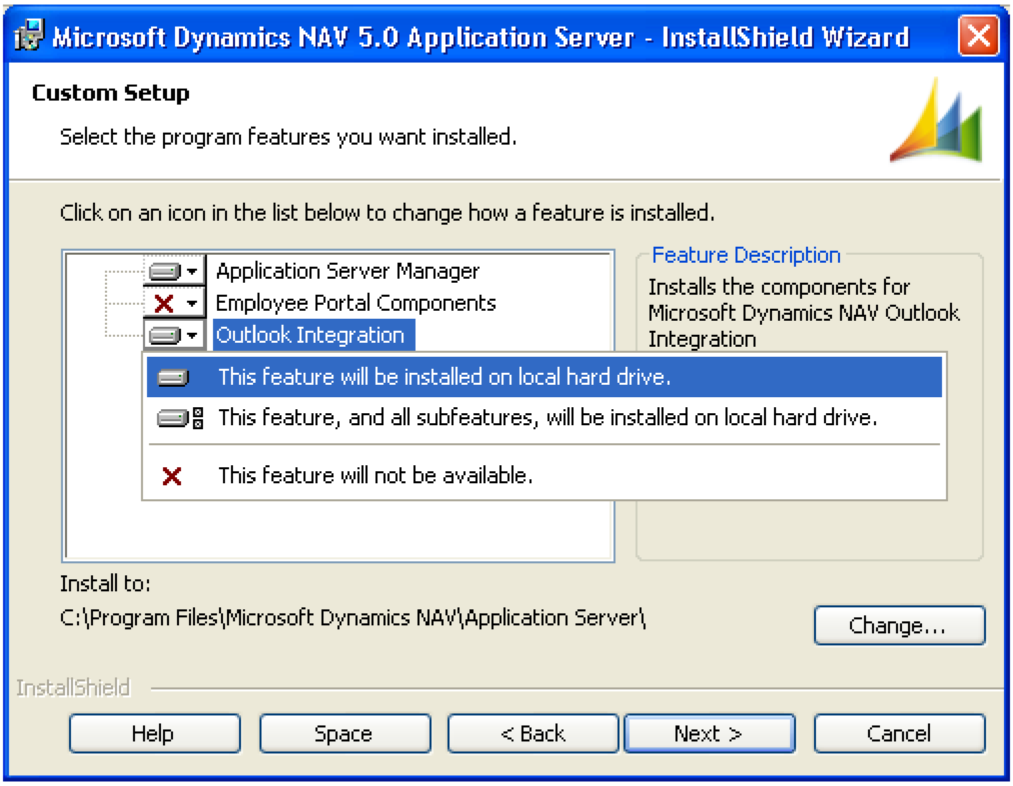


Figure 4. Custom installation of the Application Server

Important

Ensure that the Application Server uses the same regional settings and language as those in the NAV database to be synchronized. On the machine where the Application Server will be running, set the **Regional and Language Options** window with the language and format that is used by the NAV database.
Please refer to the Localization Tips appendix for the issues that should be considered when a localized version of NAV is used.

If a native database is used, refer to the Configuring Microsoft Dynamics NAV Database Server appendix for the configuration required by the Database Server.

Installing the Outlook Add-in

Install Microsoft Dynamics NAV 5.0 Outlook Add-in to enable synchronization on the Outlook side.

Run the Microsoft Dynamics NAV Outlook Add-in installation file. Carefully read the Microsoft Software License Terms. Select the **Complete** option to install the Outlook Add-in.

After you install the add-in, the synchronization toolbar will appear in Outlook the next time you start it.

Removing the Outlook Add-in

The procedure of removing Outlook Synchronization is quite simple and identical to removing other programs installed in the Windows OS.

To remove the add-in, follow these steps:

1. In the Control Panel window, open the Add and Remove Programs window.
2. Scroll to the Microsoft Dynamics NAV 5.0 Outlook Add-in and click Remove to the right of it.

Then, go to Outlook and delete the Microsoft Dynamics NAV Synchronization toolbar:

1. Right click the toolbar, choose **Customize**.
2. On the **Toolbars** tab of the **Customize** window, select Microsoft Dynamics NAV Synchronization and click **Delete**.
3. Click **OK** in the confirmation window.

Setting Up Outlook Synchronization

In this section, you can learn what settings and options are available for adjusting synchronization. This section contains the following subsections:

- The Microsoft Dynamics NAV Synchronization toolbar
- The Settings window
- The Troubleshooting window
- The Synchronization Progress window
- Step by step instructions

The Microsoft Dynamics NAV Synchronization Toolbar

Using this toolbar you can run synchronization, set up its options, review errors that occurred during synchronization, resolve synchronization conflicts and check if the connection to Microsoft Dynamics NAV is available.

Figure 5. The synchronization toolbar with five buttons

The **Synchronize** button allows you to synchronize items which have been created or modified since the last synchronization in both applications.

The **Full Synchronization** button allows you to synchronize all Outlook items which are stored in folders specified on the **Folders** tab of the **Settings** window. All entities in Microsoft Dynamics NAV that comply with the user settings made in Microsoft Dynamics NAV will be synchronized as well.

For example, full synchronization might be required when you have just installed the feature and would like to synchronize all data available or in response to a change of time zone. In this case, the last modification date/time of objects will be changed and must be adjusted.

This button is not visible by default, but you can add it to the toolbar using the **Customize** tab of the **Settings** window.

Clicking the **Settings** button will open the **Settings** window, where you can adjust synchronization and conflict resolving settings.

If you click the **Troubleshooting** button, you will open the **Troubleshooting** window. This window displays errors and conflicts that occurred during synchronization. Here, you can solve these conflicts manually by selecting one of the appropriate menu options on the toolbar for each of the conflicts. The actual update of processed entities in Microsoft Dynamics NAV and Outlook items is performed when you click the OK button on this form

Note

Synchronization of conflicting records might take a few minutes. You have to wait for the process to be finished.

If you click the **Connection State** button, a message will be displayed informing you of the status of connection between Outlook and Microsoft Dynamics NAV.

The forms which appear when you click the buttons on this toolbar are described in the following sections.

The Settings Window

In the **Settings** window, you can set up synchronization parameters.

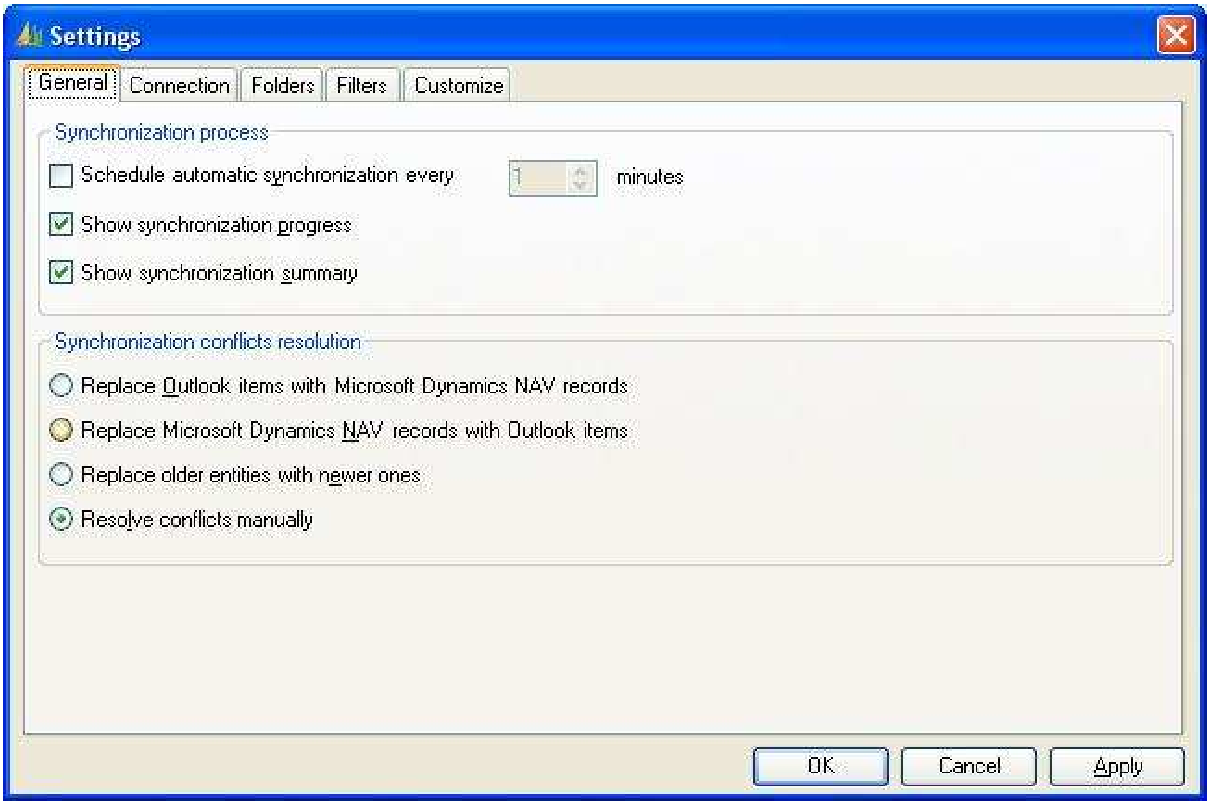


Figure 6. In the Settings window you define synchronization settings before running synchronization

You can open this window by clicking the **Settings** button on the **Microsoft Dynamics NAV Synchronization** toolbar.

The **Settings** window contains five tabs:

- General
- Connection
- Folders
- Filters
- Customize

Each of these tabs will be described in detail in the following sections.

The General Tab

The **General** tab is used to set up the primary synchronization options. The following table contains the options that are located on this tab and descriptions of them.

Table 1. Options on the General Tab of the Settings Window

Option	Description
The Synchronization Process area	
Schedule automatic synchronization every ... minutes	If you select this option, you enable automatic synchronization between Outlook and the working server for Microsoft Dynamics NAV. This option contains a text box. The value you specify in the text box shows the amount of time that passes after the previous synchronization has been successfully finished before a new synchronization starts.
Show synchronization progress	If selected, this option provides a visual representation of the synchronization process. The **Synchronization Progress** window will be displayed when you click the **Synchronize** button on the **Microsoft Dynamics NAV Synchronization** toolbar. Note that the **Synchronization Progress** window is not displayed at any time during automatic (scheduled) synchronization, this setting only affects the visibility of the **Synchronization Progress** window when you run synchronization manually with the **Synchronize** button. For more details about the **Synchronization Progress** window, refer to the *Synchronization Progress Window* description.
Show synchronization summary	This option makes it possible for the user to review synchronization statistics. If this option is selected, you will see the synchronization summary after synchronization is performed.
The Synchronization conflicts resolution area	
Replace Outlook items with records in Microsoft Dynamics NAV	If this option is selected, all Outlook items will be automatically replaced with records in Microsoft Dynamics NAV when a synchronization conflict occurs between them.
Replace records in Microsoft Dynamics NAV with Outlook items	If you select this option, all records in Microsoft Dynamics NAV will be automatically replaced with Outlook items records when a synchronization conflict occurs between them.
Replace older entities with newer ones	If you select this option, all older entities will be automatically replaced with newer ones when a synchronization conflict occurs between them no matter which side they are on during synchronization.
Resolve Conflicts Manually	If this option is selected, all synchronization conflicts which occur during synchronization will be saved and then displayed in the **Troubleshooting** window for manual resolution.

The Connection Tab

The **Connection** tab contains options for establishing communication between Outlook and Microsoft Dynamics NAV.

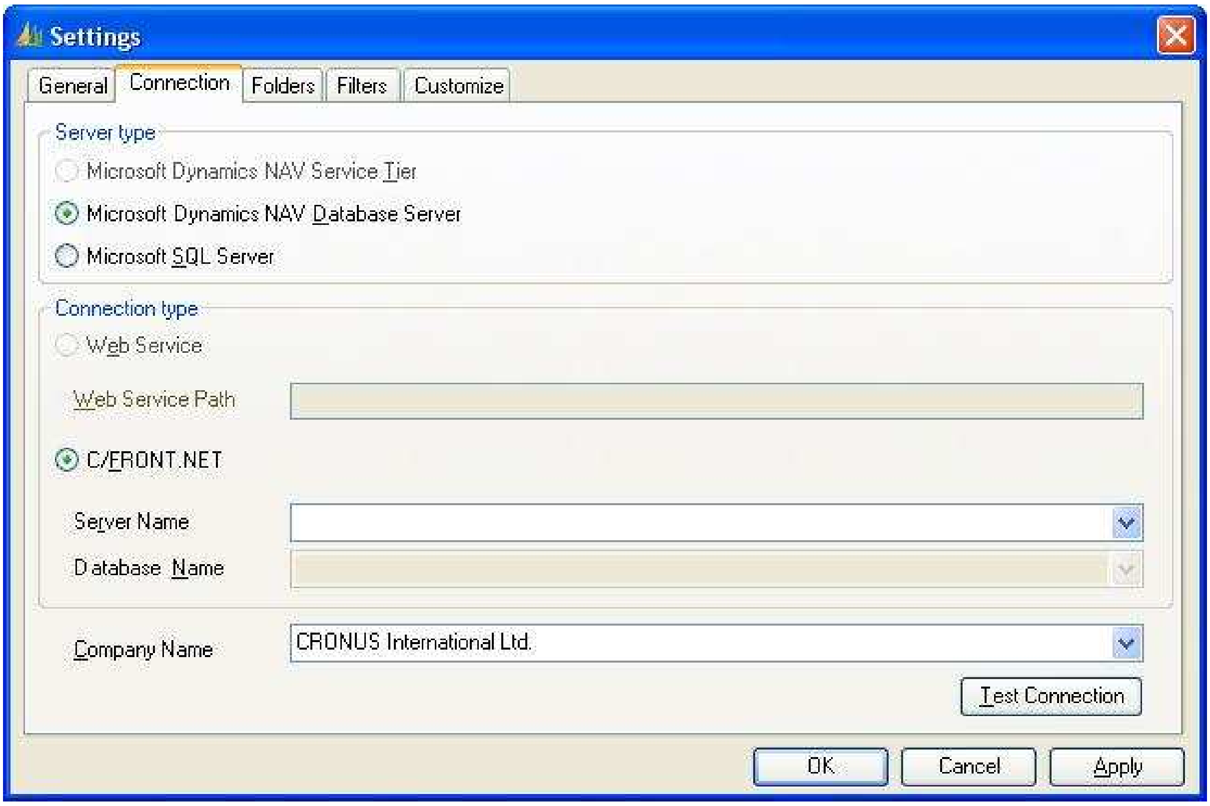


Figure 7. On the Connection tab you specify options for server to work with

In the **Server Type** area, you can select the type of server working with Microsoft Dynamics NAV and Outlook.

- **Microsoft Dynamics NAV Service Tier** (NST) – communication will be performed through NST. If this option is selected, you will be able to adjust Web service settings in the **Connection type** area below in this window. This option is reserved for future versions of Microsoft Dynamics NAV where NST will be available.
- **Microsoft Dynamics NAV Database Server** – communication will be performed through the database server for Microsoft Dynamics NAV. If you select this option, you will be able to adjust only the C/FRONT.NET related settings in the **Connection Type** area below in this window.
- **Microsoft SQL Server** – communication will be performed through the Microsoft® SQL Server™. If you select this option, you will be able to select a database name in Microsoft Dynamics NAV in the **Connection Type** area.

In the **Connection Type** area, you specify the kind of transport which will be used for communication between Outlook and Microsoft Dynamics NAV. The availability of the **Web Service** or **C/FRONT.NET** option and the corresponding text fields depend on which option you have selected in the **Server Type** area.

- When the **Web Service** option is available, you must enter in the **Web Service Path** field the path to the Web service resided on the Microsoft Dynamics™ NAV Service Tier.
- If the **C/FRONT.NET** option is available, you must specify the name of the server to work with. To specify a server name, in the **Server Name** field click the drop-down list and select the server you want to use. When the **Microsoft SQL Server** option is selected, you must define not only the server name, but also a Microsoft Dynamics NAV database. To do that, click the drop-down list in the **Database Name** field and select the database you want to work with.

In the **Company name** field enter the name of the Microsoft Dynamics NAV company.

After specifying the necessary information, click the **Test Connection** button to establish and test the connection with the specified server. The connection test must pass in order to set folders and files as well as perform synchronization.

The Folders Tab

To select the folders for synchronizing Outlook items with entities in Microsoft Dynamics NAV and for storing already synchronized items, go to the **Folders** tab.

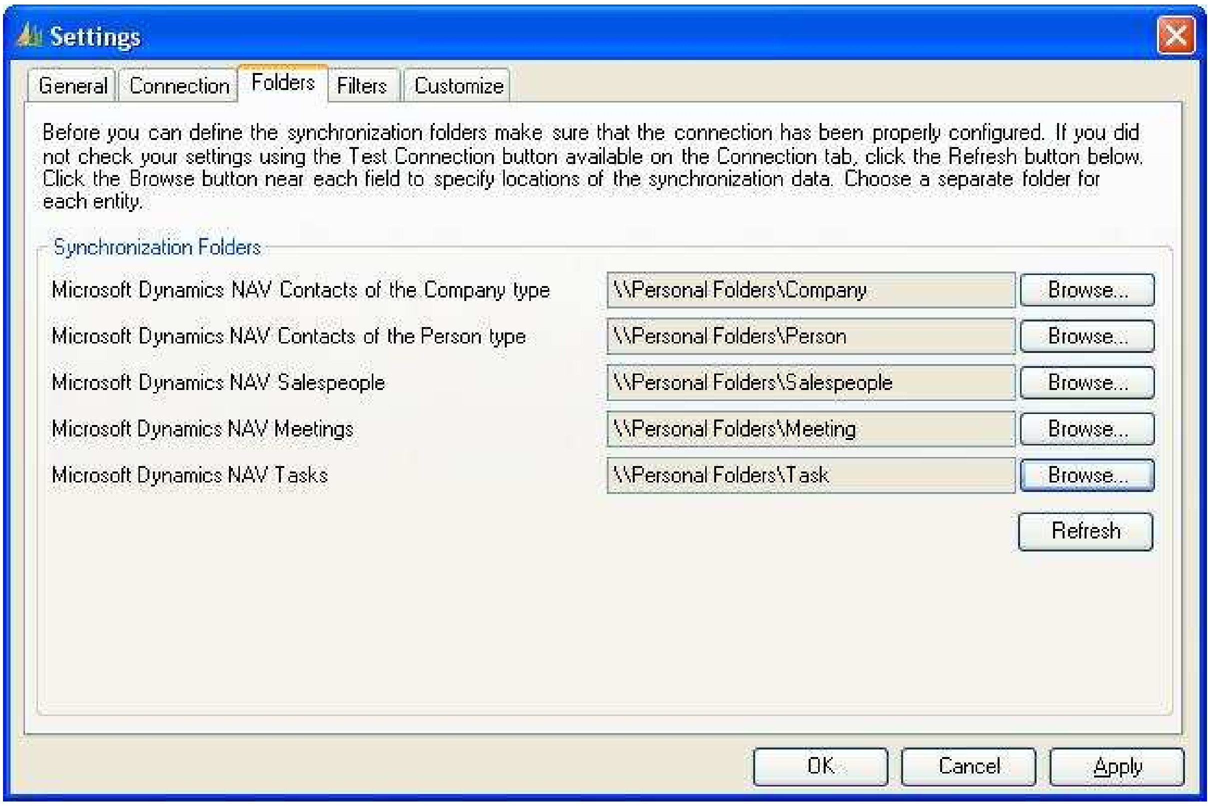


Figure 8. Select Outlook folders on the Folders tab of the Settings window

The controls on this window are added dynamically – one folder for every synchronization entity defined for the specific user in Microsoft Dynamics NAV.

The labels for these controls (in this case Contacts of the Company type, Contacts of the Person type, Salespeople, Meeting, and Tasks in Microsoft Dynamics NAV) correspond to the description of the synchronization entity in Microsoft Dynamics NAV.

Note

Specifying folders is crucial – if you do not specify any of them, the solution will not work.

The Filters Tab

On the **Filters** tab, you can specify criteria for reducing the number of Outlook items that will be synchronized with entities in Microsoft Dynamics NAV. Items that comply with filters applied will not be synchronized. For example, you might want to prevent private contacts from appearing in Microsoft Dynamics NAV. The items you are going to apply filters to originate from the folders you have specified on the **Folders** tab.

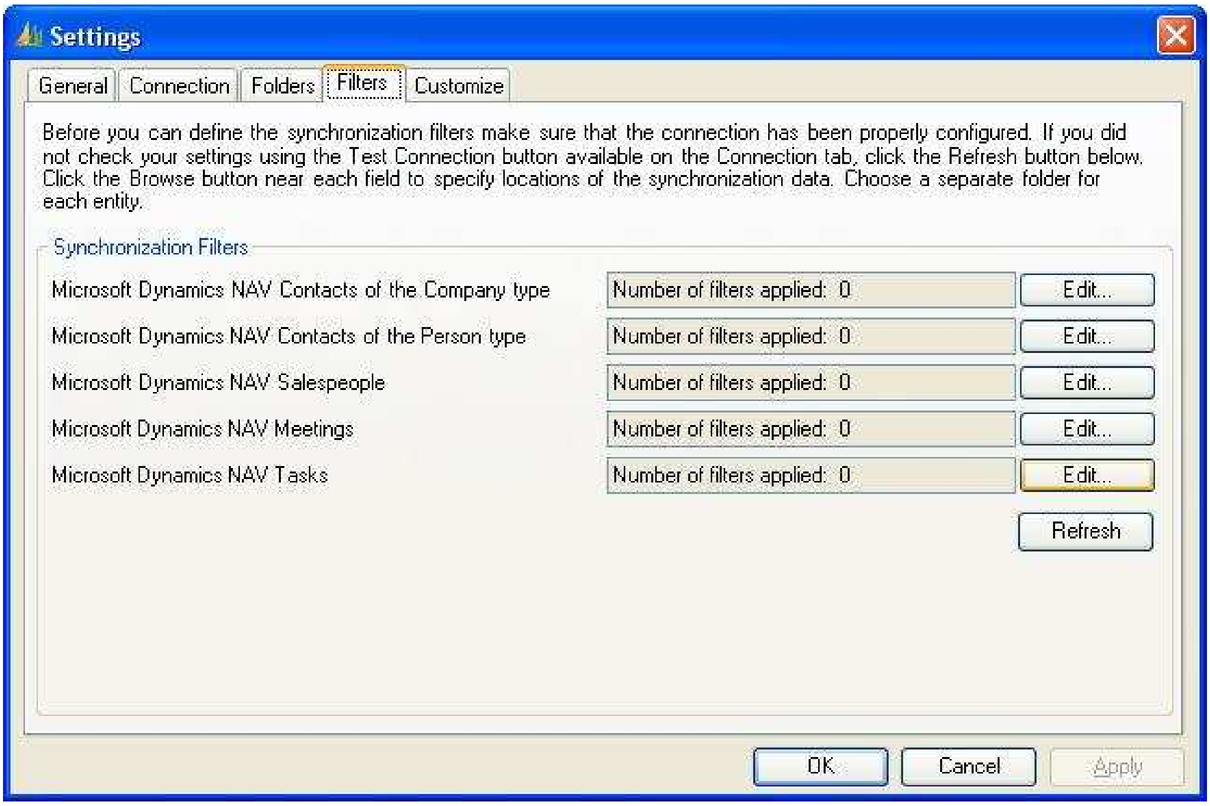


Figure 9. Add a filter to any of the available Outlook entities

Each item type has its own set of filters that can be edited in the **Filter** window. You can open this window by clicking the **Edit** button on the **Filters** tab of the **Settings** window next to filter you want to modify:

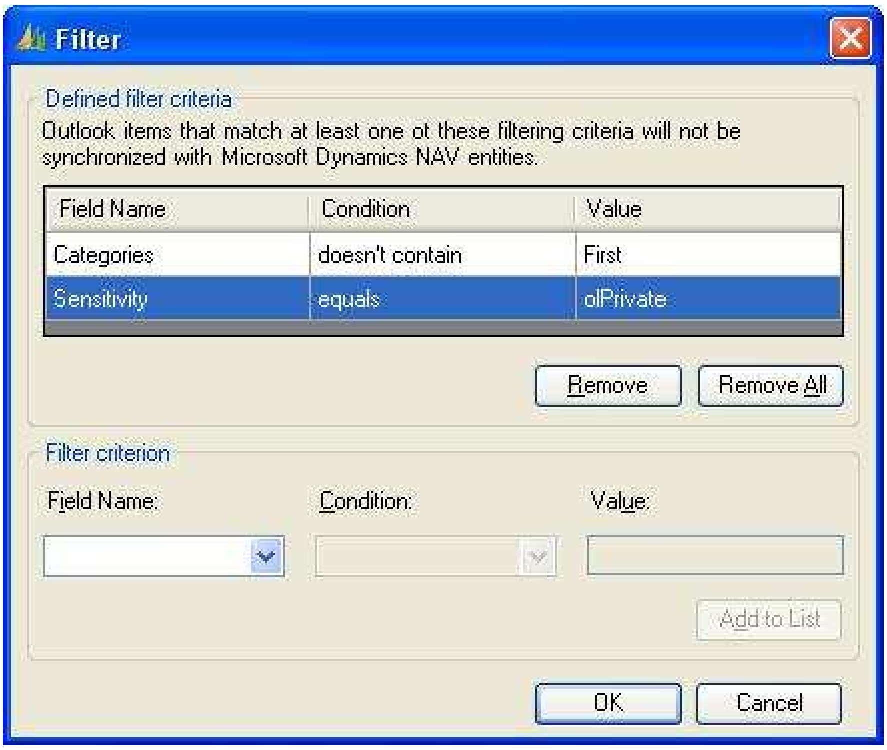


Figure 10. Enter filter criteria in the Filter window

The filter expressions are shown in the rows in the **Defined filter criteria** window area. You can remove filters in the same window area or add them in the **Filter criterion** area of the same window.

The following table contains options for the **Condition** drop-down list depending on the field type:

Table 2. These Outlook data type values you can choose from the Condition drop-down list

Data Type	**Value**
String	Is (exactly)
	does not contain
	Contains
	is empty
	is not empty
Boolean	equals
	not equal to
Date	Between
	doesn't exist
	Exists
	On
	on or after

	on or before
Numeric	Equals
	not equal to
	is at most
	is at least
	is more than
	is less than
Enumeration	Equals
	not equal to

The Customize Tab

On the **Customize** tab, you can choose which command buttons you want to display on the **Microsoft Dynamics NAV Synchronization** toolbar. The **Settings** button is not in this list of optional buttons because it must always be visible.

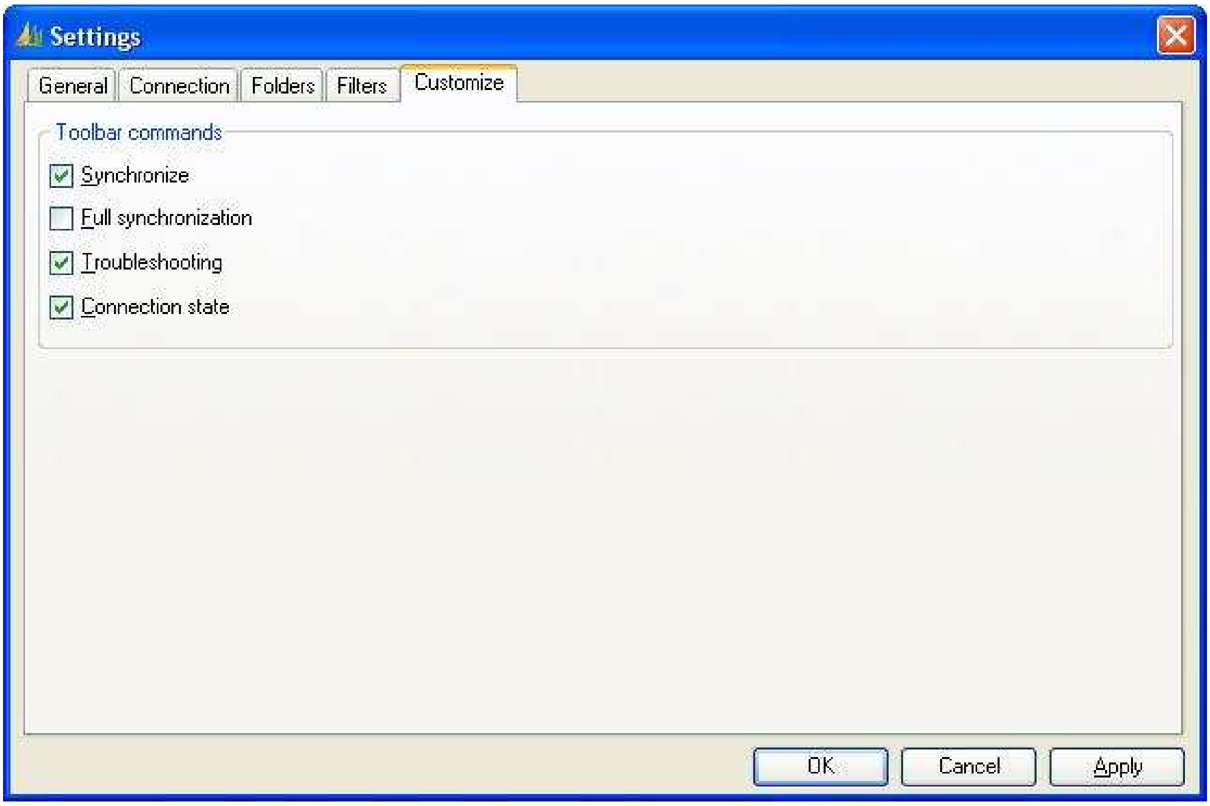


Figure 11. Select what buttons will be visible on the toolbar by using the Customize tab

By default, the **Synchronize**, **Troubleshooting** and **Connection state** options are selected. Therefore if you do not change these settings, you will see four buttons on the **Microsoft Dynamics NAV Synchronization** toolbar: **Synchronize**, **Settings**, **Troubleshooting** and **Connection state.**

The Troubleshooting Window

The **Troubleshooting** window displays a list of those synchronization errors and conflicts that occurred during synchronization. Synchronization errors that occur are automatically recorded every time synchronization is performed. You can then view all these errors on the **Errors** tab of the **Troubleshooting** window. Note that several errors for the same Outlook item can be registered. If the same error occurs for the same item during more than one synchronization, the record will not be repeated for this error – but the time of its occurrence will be updated.

Conflicts on the **Conflicts** tab are logged for each outlook item. So every time when a conflict occurs, the existing conflict is updated.

To view the Outlook item for which a conflict has been logged, select the record and click **Show Outlook Item**.

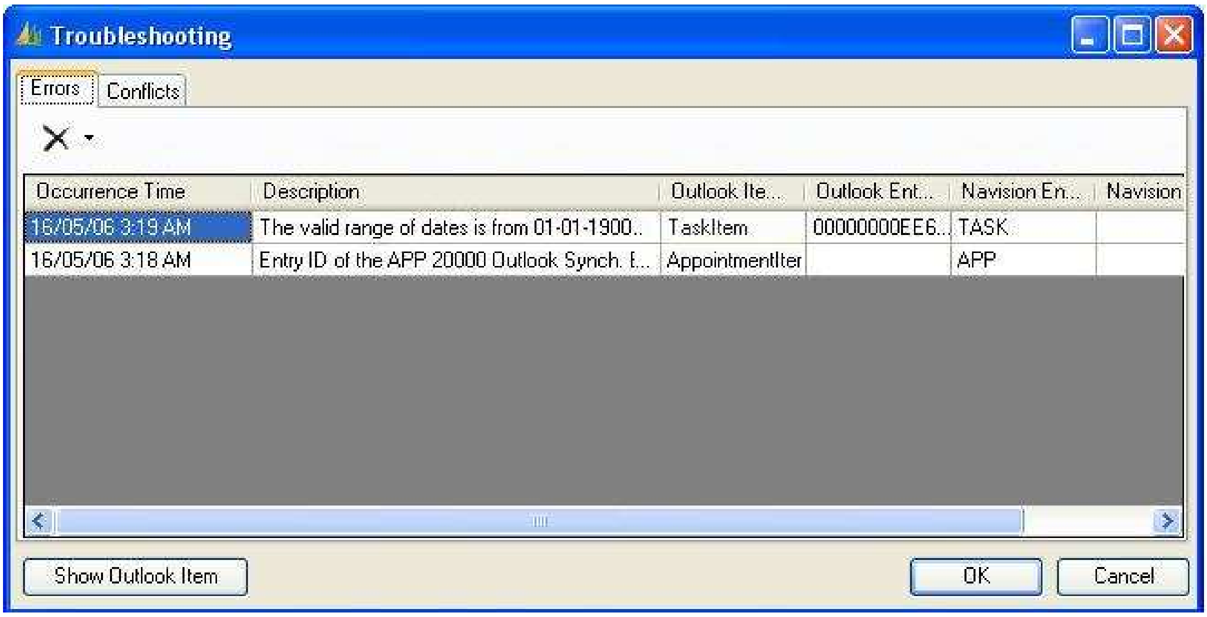


Figure 12. The Errors tab of the Troubleshooting window contains a list of errors that occurred during synchronization

You can access the **Troubleshooting** window by clicking the **Troubleshooting** button on the **Microsoft Dynamics NAV Synchronization** toolbar. This button can have two states:

- When the button is white, no errors or conflicts have been logged.
- When it is red, at least one conflict or error is logged.

The **Troubleshooting** window contains 2 tabs:

- Errors – to store synchronization errors.
- Conflicts – to store synchronization conflicts.

Both of these tabs will be described in detail in the following sections.

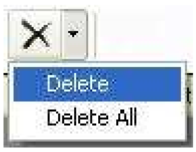
The Errors Tab

Synchronization errors are shown on the **Errors** tab. An example of a synchronization problem is an attempt to synchronize items from a folder that has been deleted or to perform synchronization without specifying folders for storing synchronized items in Outlook.

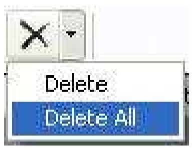
Error records contain the following fields:

- Occurrence Time – displays the time when the synchronization error occurred
- Description – contains a brief description of the error
- Outlook Item Type – shows the type of Outlook entity
- Outlook Entry ID – displays the entity ID
- Entity Type – shows the type of record in Microsoft Dynamics NAV
- Record ID – shows the record ID in Microsoft Dynamics NAV

After correcting an error, you delete the corresponding error record manually by clicking the **Delete** button on the **Errors** tab:



The **Delete All** button allows you to delete all the records in the **Error** log:



If during synchronization an error occurs and is not logged in the Troubleshooting window, this error is of a technical nature. To have such errors traced, please follow the instructions in the System Diagnostics section of the Configuration File appendix.

The Conflicts Tab

The **Conflicts** tab contains information about the corresponding Outlook items and entities in Microsoft Dynamics NAV that have been modified after the last synchronization both on the Microsoft Dynamics NAV and Outlook side. In this case, the synchronization routine cannot apply changes either to the Outlook item or entity in Microsoft Dynamics NAV– you have to decide which information is more valuable. This decision is done manually on this tab.

Conflict records contain the following fields:

- ID – conflict identifier
- Occurrence Time – displays the time when the synchronization error occurred

- Item Type – shows the type of item in Outlook
- Entry ID – displays the entity ID in Outlook
- Last Modification Time in Outlook- displays the time when the corresponding item was changed in Outlook
- Entity Type – shows the type of record in Microsoft Dynamics NAV
- Record ID – shows the record ID Microsoft Dynamics NAV
- Last Modification Time in Microsoft Dynamics NAV- displays the time when the corresponding item was changed in Microsoft Dynamics NAV

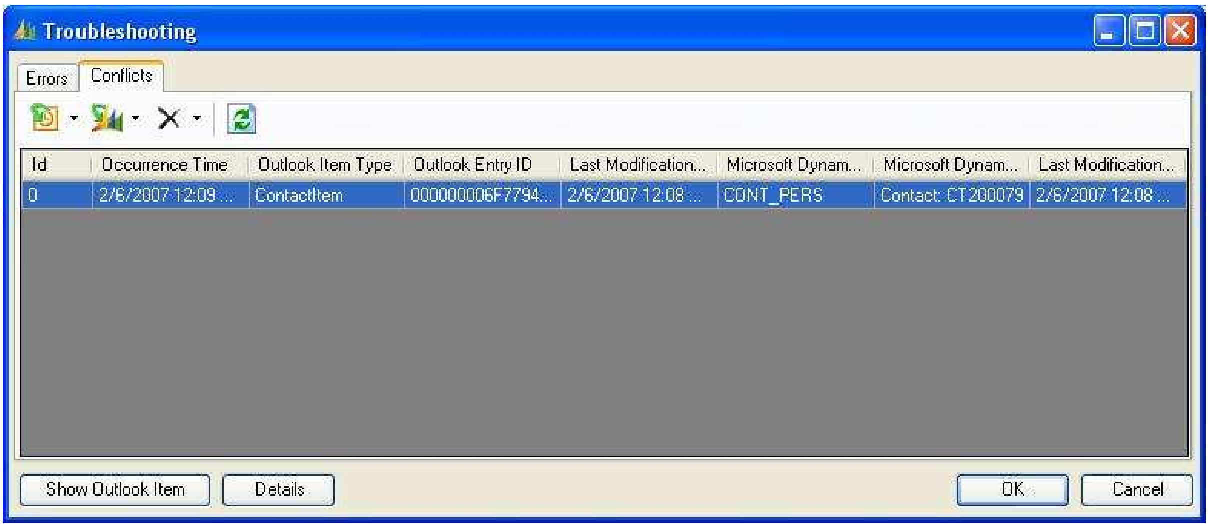


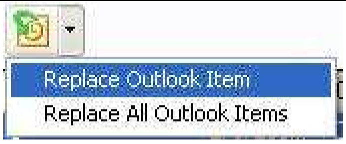
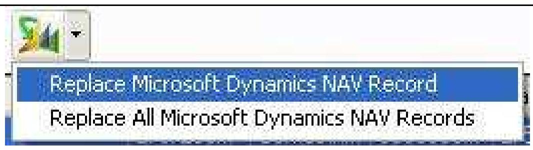
Figure 13. The Conflicts tab contains logged synchronization conflicts

Note

Records of synchronization conflicts will be stored and then displayed on the **Conflicts** tab if the **Resolve Conflicts Manually** option was selected on the **General** tab of the **Settings** window. It is selected by default. If you selected any other option for conflict resolution, synchronization conflicts will be resolved automatically according to the selected option and will not be logged.

The buttons on the toolbar provide the following functionality:

Table 3. Buttons on the Synchronization Toolbar

Button	Description
	The **Replace Outlook Item** button Click this button to replace an Outlook item with the corresponding record in Microsoft Dynamics NAV.
	The **Replace All Outlook Items** button Click this button to replace all Outlook items with the corresponding record in Microsoft Dynamics NAV.
	The **Replace Record in Microsoft Dynamics NAV** button Click this button to replace a record in Microsoft Dynamics NAV with the corresponding Outlook item.
	The **Replace All Microsoft Dynamics NAV Records** button Click this button to replace all records in Microsoft Dynamics NAV with the corresponding Outlook items.
	The **Delete** button Click this button to delete the selected conflict.
	The **Delete All** button Click this button to delete all conflicts.

	The **Refresh** button. If you click this button, all logged synchronization conflicts will be processed by checking whether or not any of the conflicts are still unresolved. If a conflict appears to be resolved (for example, you have already synchronized all the fields manually, or conflicting records have been deleted from the database), it is removed from the list automatically. The process of checking and deleting appropriate conflicts might be continuous, since the program has to retrieve and analyse both records in Microsoft Dynamics NAV and items in Outlook.

If you double-click a row or click the **Details** button, you can review the difference between the Outlook items and records field by field in the **Conflict Details** window:

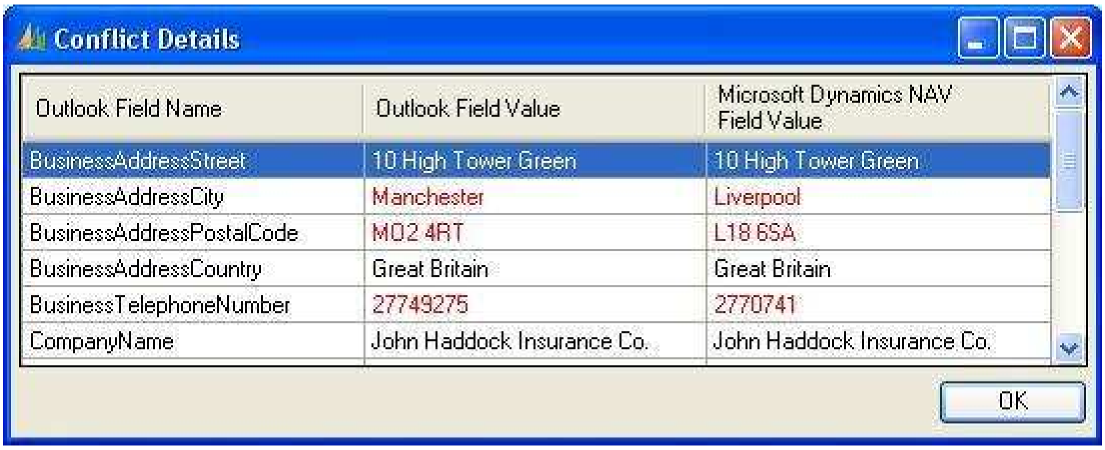


Figure 14. Use this window to compare field values in Microsoft Dynamics NAV and Outlook

In this window, you can review and compare field values of Microsoft Dynamics NAV and Outlook records in order to choose which of values is more valuable and which should be replaced.

When you have finished resolving the conflicts, click OK on the Troubleshooting window to apply the changes to the entities in Microsoft Dynamics NAV and Outlook items (you might have to wait for the synchronization of conflicting records to be completed), otherwise the conflicts will remain unresolved.

The Synchronization Progress Window

The **Synchronization Progress** window shows the current status of the synchronization being performed. This window is very similar to the **Send/Receive** window in Outlook.

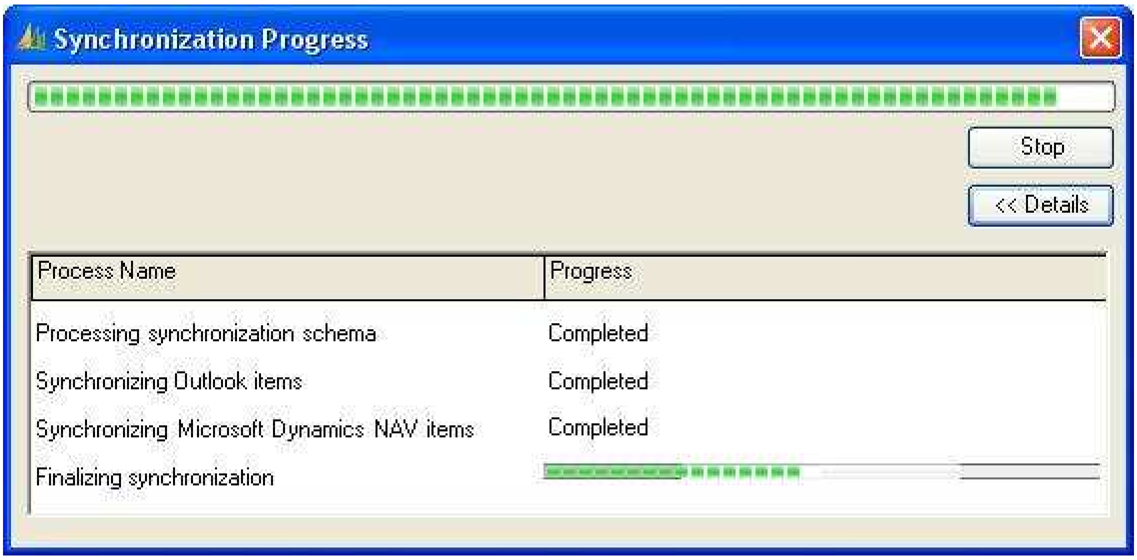


Figure 15. The Synchronization Progress window shows the current status of synchronization

You can see the **Synchronization Progress** window if you click the **Synchronize** button on the **Microsoft Dynamics NAV Synchronization toolbar.** This window is shown only if the **Show synchronization progress** option in the **Settings** window is selected. If you selected the **Schedule automatic synchronization every … minutes** option on the **General** tab of the **Settings** window and synchronization is started automatically, the **Synchronization Progress** window will not be shown. If you click the **Synchronize** button on the **Microsoft Dynamics NAV Synchronization toolbar** while the synchronization is already running in the background, the **Synchronization Progress** window appears, reflecting the current status of the synchronization.

Note

You can continue working with Outlook while synchronization is being performed; simply minimize the **Synchronization Progress** window.

It is possible to show/hide the details of the synchronization by clicking the **Details** button. The synchronization details include the status of the synchronization process, synchronization Outlook and Microsoft Dynamics NAV items, and synchronization finalization.

When the synchronization process is complete, the **Synchronization Progress** window shows the summary of the performed actions. You will see the synchronization summary if the **Show synchronization summary** option in the **Settings** window is selected. The **Synchronization Progress** window with the summary displayed looks as follows:

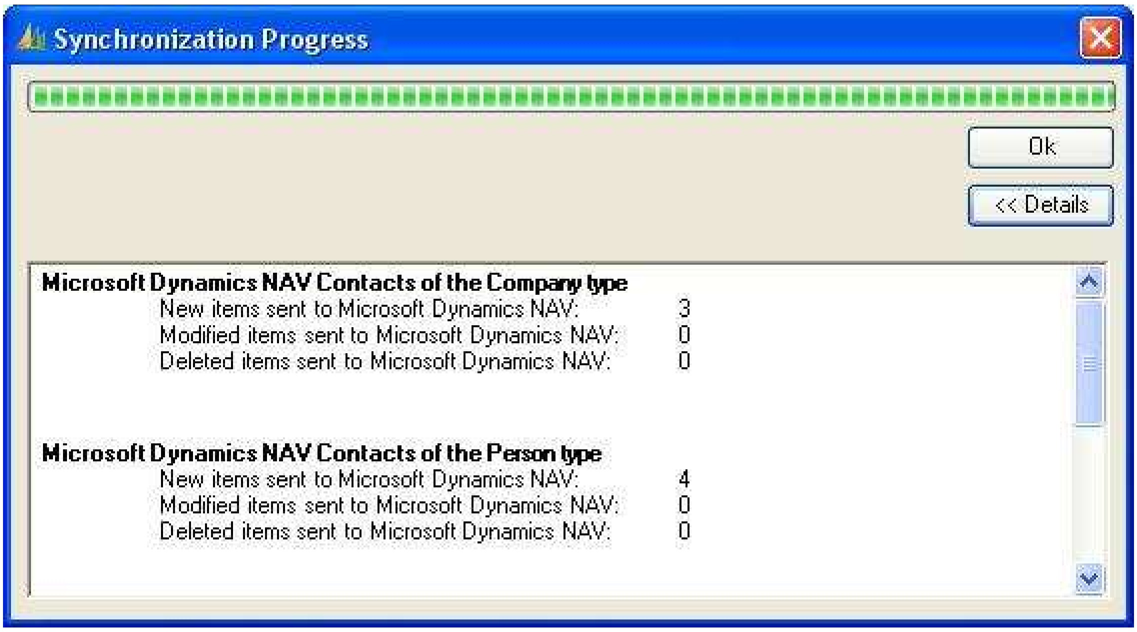


Figure 16. The Synchronization Progress window shows the summary of the synchronization performed

Note

To avoid pitfalls when using synchronization between Microsoft Dynamics NAV and Outlook, please refer to the Points to Remember section of this white paper.

Step by Step Instructions

This section outlines the steps required to set up and start Outlook Synchronization. The Outlook Synchronization requires setting up the NAV and Outlook sides.

Steps on the NAV Side

Setting up synchronization on the NAV side includes defining the synchronization users and the entities to be synchronized. This setup is performed using the C/SIDE Client. When the setup is complete, the synchronization process itself is maintained by the Application Server, so the C/SIDE Client is not required to be run.

To set up the synchronization users and entities, perform the following steps:

- Define Windows logins for the synchronization users
- Set up NAV entities that should be synchronized with Outlook items
- Assign synchronization entities to synchronization users
- Enable tracking changes to synchronization entities

The subsections below present a sequence of actions required on the NAV side. To learn more about basic synchronization concepts and typical scenarios, please refer to the Outlook Synchronization chapter in the What’s New document.

Defining Synchronization Users

Use the Windows Logins window to specify logins and roles for the synchronization users:

1. From the **Tools** menu of the C/SIDE Client, go to **Security**, **Windows Logins.**
2. In the **Windows Logins** window, create a login for the account running the Application Server. Assign the **Super** role to the newly created account.
3. Create logins and assign roles for other synchronization users.

In order to synchronize appointments and tasks for the synchronization user, this user should be created as a salesperson in NAV. When you create a salesperson in the **Salesperson/Purchaser Card** window, make sure that you specify the name and E-mail of the synchronization user the way they are defined in the Outlook profile. You can verify the name and E-mail of the synchronization user in one of the following ways:

- In **Outlook**, go to **Tools**, **Account Settings.** Select the required account and click **Change.** See the **User Name** field for the name of the user.
- In **Windows Server 2003**, go to **Administrative Tools**, **Active Directory Users & Computers.** In the list of users pertaining to your domain, double click the required record to view the user properties. See the **General** tab to find the name and E-mail.

Setting up Synchronization Entities

A synchronization entity is a definition of an object in NAV which contains data to be synchronized. The definition includes table number, table name, filter, and the Outlook item with which synchronization will be done. Use the **Outlook Synch. Entity** window to define each combination of NAV entity and Outlook item you want to synchronize.

NAV provides you with a set of pre-defined synchronization entities. To create a new synchronization entity, go to **Administration**, **Microsoft Office Outlook Integration**, **Outlook Synch. Entities.**

Assigning Synchronization Entities to Users

Assign synchronization entities to synchronization users in the Outlook Synch. User Setup window and specify criteria to filter the entries during the synchronization.

To assign entities to synchronization users:

1. In the C/SIDE Client, go to **Administration**, **Microsoft Office Outlook Integration**, **Outlook Synch. User Setup.**
2. Create a line for each combination of synchronization user and synchronization entity.

Registering Change Log Settings

Activate the change log to enable tracking changes made to NAV entities. Only records with changes logged will be synchronized.

To register change log settings for a synchronization entity, run the **Outlook Synch. Change Log Set.** batch job. The batch job is available from:

- The **Register in Change Log Setup** item of the **Setup** menu in the **Outlook Synch. User Setu**p window.

- The **Register in Change Log Setup** item of the **Synch. Entity** menu in the **Outlook Synch. Entity** window.

When you have registered the change log settings for all required synchronization entities, close and reopen the company for the change log settings take effect.

Note

Run the **Outlook Synch. Change Log Set.** batch job every time you change a synchronization entity, to make sure that newly added data is synchronized with Outlook.

Starting the Application Server

Start the Application Server with the OSYNCH parameter. Use the Application Server Manager to set up the service as follows:

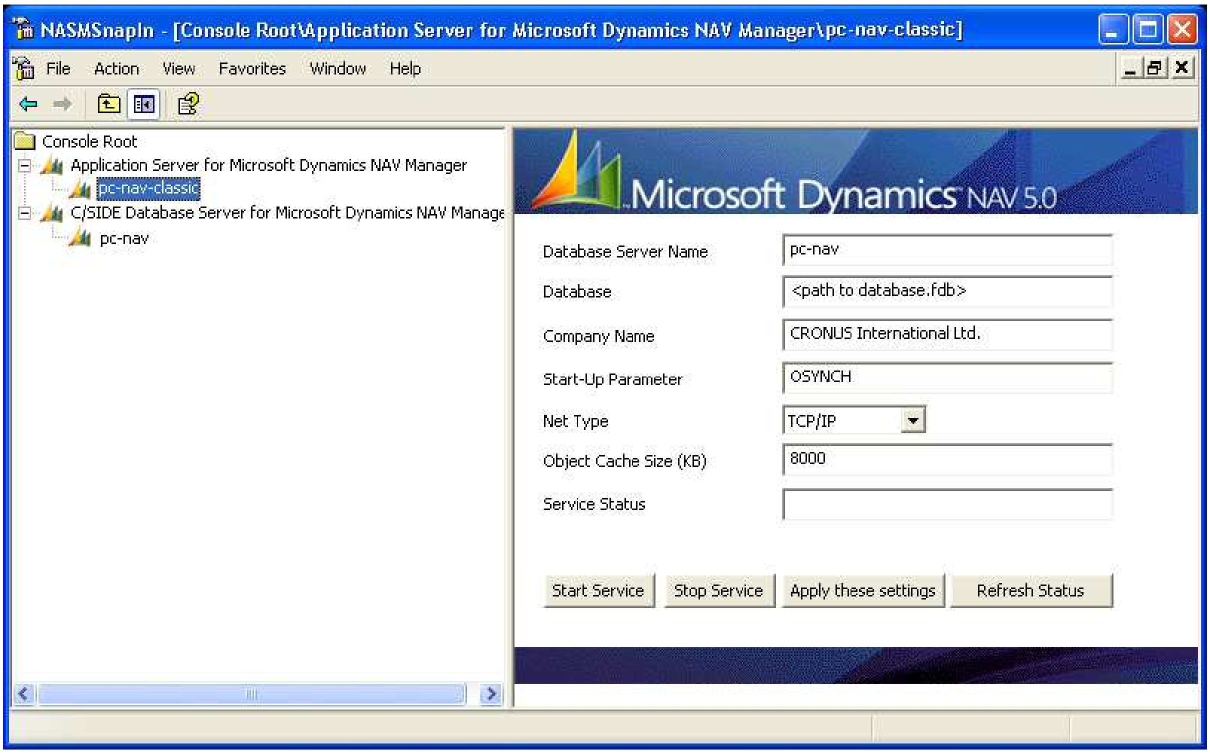


Figure 17. The Application Server configuration for the classical service

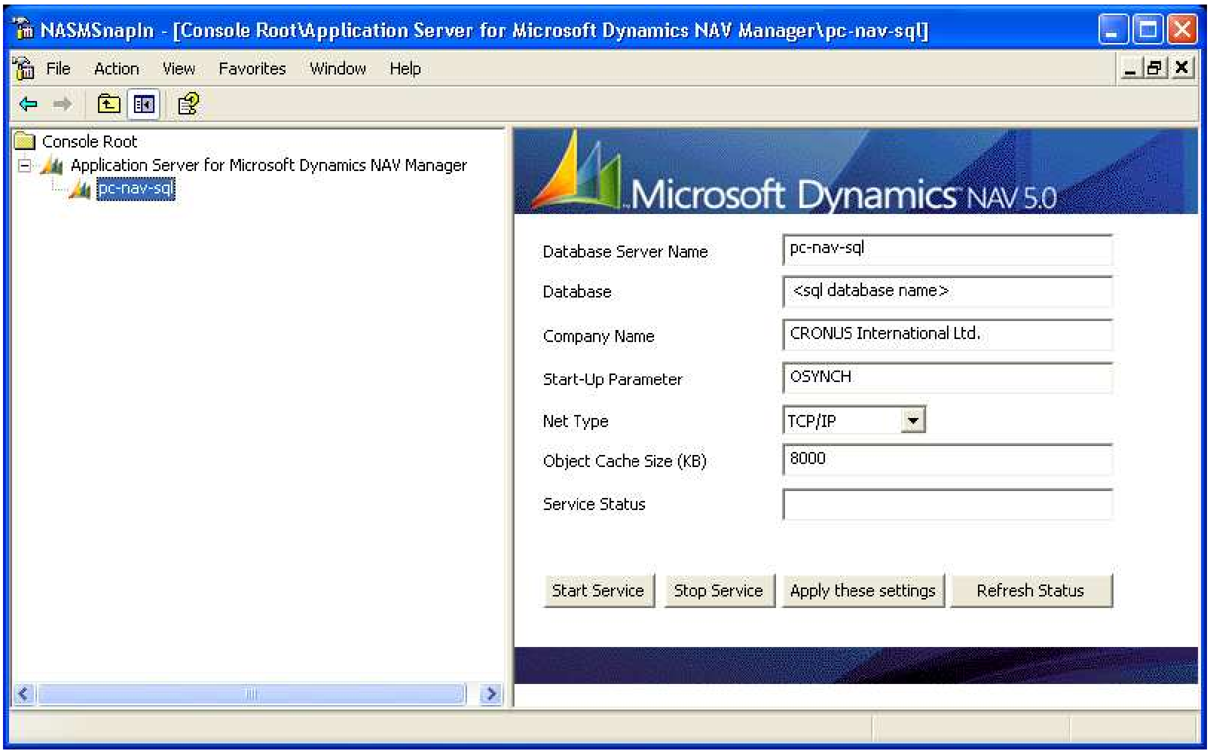


Figure 18. The Application Server configuration for the SQL service

You also need to configure the service used with the dedicated computername\username account:

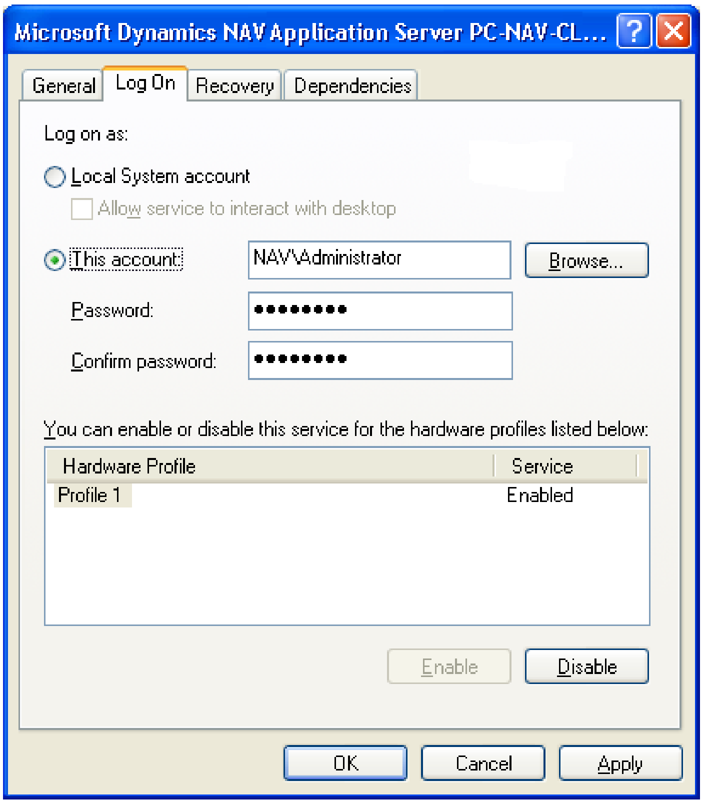


Figure 19. Assigning a logon account to NAS service

If the computer belongs to domain, assign the logon account as username@domain.

Steps on the Outlook Side

Setting up synchronization on the Outlook side requires:

- Setting up the connection between Outlook and Microsoft Dynamics NAV.
- Defining Outlook folders to store the synchronized items.

When the setup is ready, start the synchronization by running the full synchronization operation.

Setting up Connection

The communication between Outlook and Microsoft Dynamics NAV is established on the Connection tab of the Settings window.

1. Click the **Settings** button on the **Microsoft Dynamics NAV Synchronization** toolbar.
2. In the **Settings** window, go to the **Connection** tab.
3. Specify the server type, server name, database and company that you will use.
4. Click **Test Connection** to establish and test connection with the specified server.

The connection test must pass in order to set folders and files as well as perform synchronization.

Note

If you use the native option of NAV database and you have installed network protocol TCP/IP, you have to modify the protocol type in the Outlook.exe.config file. For details, refer to the General Settings section in the Configuration File appendix.

Defining Outlook Folders

Define folders for synchronizing Outlook items with NAV entities and for storing already synchronized items:

1. Click the **Settings** button on the **Microsoft Dynamics NAV Synchronization** toolbar.
2. In the **Settings** window, go to the **Folders** tab.
3. Select a folder for each entity that you have set up for the synchronization user in NAV.

Note

It is recommended that you create separate folders to store the items synchronized with NAV.

Performing Full Synchronization

The full synchronization processes all Outlook items that are stored in folders specified on the Folders tab of the Settings window and all NAV records which comply with the settings made for the user in the Outlook Synch. User Setup window. You have to perform the full synchronization when:

- You synchronize for the first time
- You have set up new synchronization entities for the synchronization user.

Any other synchronization should be initiated by clicking the Synchronize button in order to synchronize only the changes since the last synchronization.

To perform the full synchronization:

1. Click the **Settings** button on the **Microsoft Dynamics NAV Synchronization** toolbar.
2. In the **Settings** window, go to the **Customize** tab.
3. Select the **Full Synchronization** check box.
4. Close the **Settings** window.
5. Click the **Full Synchronization** button on the **Microsoft Dynamics NAV Synchronization** toolbar.

To prevent misuse of the Full Synchronization option, you can hide this button by clearing the Full Synchronization check box on the Customize tab of the Settings window.

Note

During the full synchronization operation, the synchronization might fail due to restrictions of the Microsoft Exchange Server service provider. For details, refer to KB articles

- 188295 http://support.microsoft.com/kb/188295.
- 830829 http://support.microsoft.com/default.aspx?scid=kb;EN-US;830829
- 830836 http://support.microsoft.com/default.aspx?scid=kb;EN-US;830836

Points to Remember

When synchronizing such different applications as Microsoft Dynamics NAV and Outlook, the user should take into account the specifics of each. This section contains the following subsections:

- Working with Contacts –recommends on the functionality that affects synchronizing contacts
- Working with Tasks and Appointments – highlights the points to be considered when synchronizing tasks and appointments
- General Settings – emphasizes the general settings that can cause deviations from the expected behavior.

The details below will help avoid many pitfalls when using synchronization.

Working with Contacts

When working with contacts, remember the following:

- *Salespeople can only be created in Microsoft Dynamics NAV.*

  Due to functional limitations imposed by Microsoft Dynamics NAV limit for adding salespeople, Outlook contacts synchronized with Microsoft Dynamics NAV salespeople should be created in Microsoft Dynamics NAV as a salesperson and then synchronized to Outlook.

  After the salesperson is created this way, its properties can be synchronized both ways.

- *Make sure that the full Name field is empty on the Contact window in Outlook or copy the value of the Company field for contacts that should be synchronized with Microsoft Dynamics NAV contacts of the Company type*

  As the name of contacts of the Company type is always the same as the Company name the related Outlook contacts either should not have the full name specified or the full name should be identical to the value of the Company field.

  If the user specifies the Full Name different from the Company name, the data in Microsoft Dynamics NAV can become inconsistent

- *Close the Microsoft Dynamics NAV window to apply changes to an entity that should be synchronized*

  Modifications to Microsoft Dynamics NAV entities cannot be detected until the user closes all the appropriate windows. Closing windows finalizes changes and registers them properly in the change log from where they become available to the Outlook Synchronization.

- *Avoid starting names of companies with the word "The"*.

  Due to the specifics of Outlook, the word "The " that appears at the start of a company name is truncated automatically. As a result the synchronization will fail since the related Microsoft Dynamics NAV contact of the Company type will not be found.

- *If you have chosen for the contacts to inherit certain data from the related company (on the Inheritance tab of the Marketing Setup window), when you make changes to this data in Outlook and then synchronize these changes to Microsoft Dynamics NAV, this data will not be updated for the contacts assigned to the company. Therefore, it is recommended to make these changes in Microsoft Dynamics NAV*.

Working with Tasks and Appointments

The following recommendations will facilitate working with tasks and appointments:

- *The name of the effective Outlook user (the synchronization user) should coincide with the name of the salesperson in Microsoft Dynamics NAV*

To synchronize tasks and appointments the Outlook user must be the same as the contact registered as a salesperson in Microsoft Dynamics NAV. The name and e-mail address should be identical in both applications. Otherwise the synchronization fails.

When working in Microsoft Exchange environment make sure that the e-mail for the salesperson is defined in Outlook, and not in Microsoft Dynamics NAV. In this case, the e-mail will be converted into Exchange format,
for example c=us;a= ;p=Cronus;o=Exchange;s=Hill;g=Annette;i=ah.

- *When a contact being synchronized is registered in Microsoft Exchange environment, make sure that the e-mail for this contact is defined in Outlook, and not in Microsoft Dynamics NAV. In this case, the e-mail will be converted into Exchange format and the synchronization will work properly.*

- *The name and e-mail of the to-do organizer must be filled in and be identical to the name and e-mail of the current Outlook user in order for the to-do to be synchronized correctly*.

- *Choose related contacts and recipients for appointments or tasks exclusively from the folders defined in the synchronization setup*

When creating an appointment or task, choose related contacts and recipients from the folders defined in the synchronization setup. If contacts and recipients were selected from other folders, these appointments and tasks will not be synchronized.

Note

To see a synchronization folder in the Address Book (e.g. when adding attendees to a meeting in Outlook), ensure that the **Show this folder as an e-mail Address Book** check box is selected for this folder:

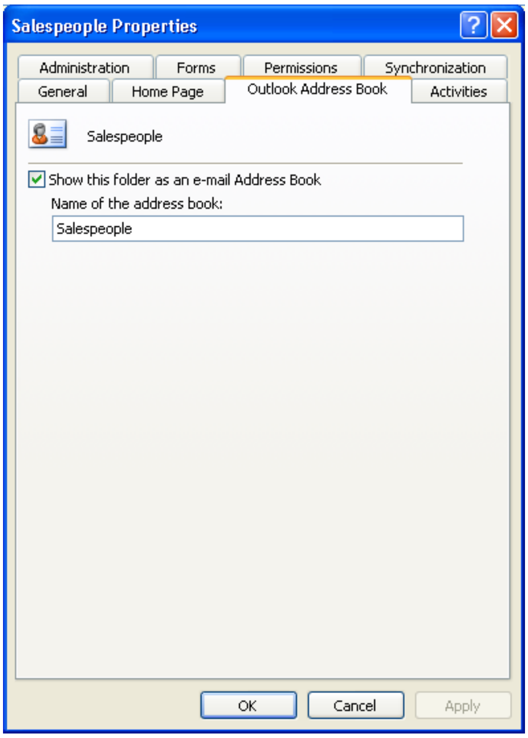


Figure 20. The Outlook folder properties

- *When creating a task that should synchronize with Microsoft Dynamics NAV to-dos of the Phone Call or Blank type, select only one contact. Choose a contact synchronized with a Microsoft Dynamics NAV contact of the Person or Company type.*

Outlook tasks can be synchronized with Microsoft Dynamics NAV to-dos either of the Phone Call or Blank type. These types can have only one contact assigned.

If more than one contact is specified for Outlook, the program automatically chooses the last and ignores all others.

- *When defining the Outlook contact's full name, avoid using titles, such as Mr. or Mrs., For tasks and appointments that can be used as related contacts*

If you intend to use a contact as a related contact in tasks and appointments do not fill in the Title field in the Contact window in Outlook (accessible from the Full Name button). Otherwise, the program can fail to find this contact during synchronization.

- *When synchronizing Outlook tasks, select only contacts that are synchronized with Microsoft Dynamics NAV contact of the Company or Person type to synchronize with Outlook tasks (no sales person as a synch folder)*

Microsoft NAV permits only contacts of the Person or Company type to be assigned a to-do (the Phone Call or Blank type).

- *In order to avoid creation of duplicate to-dos in Microsoft Dynamics NAV remove the checkmark in the "Keep an updated copy of this task on my task list" filed for the task you want to reassign to another salesperson in Outlook.*

If this checkmark is removed then during next synchronization your to-do in Microsoft Dynamics NAV will be closed and a new one will be created for another salesperson.

- *Tasks assigned to others but stored in the synchronization folder of the effective Outlook user are not synchronized*
- *Appointments with the organizer stored in the synchronization folder but different from the effective Outlook user are not synchronized due to Outlook limitations.*
- *Make sure that the related contact added manually to tasks and appointments is recognized as a valid Outlook contact*.

If the user inserts a contact manually it is required to check if the specified value is the name of a valid Outlook contact (using the Check Names button available from the Tools menu). Otherwise the contact is not synchronized.

General Settings

When synchronizing data, the user should take into account the following Outlook specifics:

- *Do not change the value of fields that identify a synchronization entity otherwise this entity will not synchronize*

If the program finds a synchronization entity by the e-mail address, for example, and is used in a specific synchronization it will not be synchronized if the user modifies the e-mail address in Outlook.

- *The synchronization folder moved to the Deleted Items folder in Outlook can still be synchronized*.

To remove a synchronization folder the user should delete it completely from the Deleted Items, too. Then it is necessary to run the synchronization and restart Outlook for the changes to take effect.

- *Avoid duplicates in the fields that are used for finding synchronization entities*.

The synchronization entities should not have duplicates in fields that identify these entities. Otherwise Outlook only synchronizes the first one it finds ignoring the other ones.

For example, as the related contacts are identified by their names there should not be two such contacts that have the same name.

- *Multiple profiles in Outlook*

Multiple profiles are not supported. If you have more than one Outlook profile and the synchronization is set up for one of them, then the synchronization will be performed according to these settings for all other profiles. The synchronization will not be performed correctly if the settings from the other profiles are used.

- *Do not change the system time manually*

The current version of synchronization supports only automatic time changes caused by the time zone change or summer/winter time change. Therefore, it is not recommended to change the system time manually.

- *Adjust the time span between automatic synchronizations in accordance with the number of objects that should be synchronized*

If many entities are expected to be synchronized increase the scheduled period of time that should elapse between synchronization.

Appendixes

Configuring Microsoft Dynamics NAV Database Server

Use the Application Server Manager to configure the Database Server as follows:

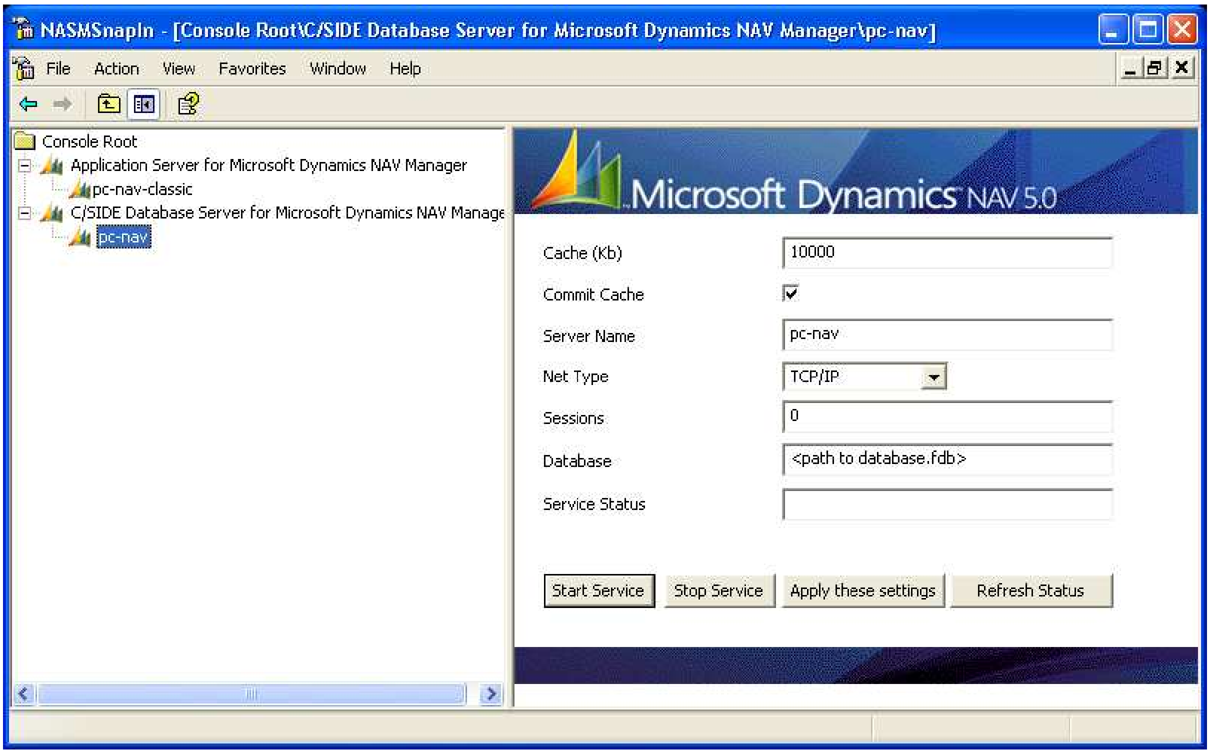


Figure 21. Database Server configuration

You also need to configure the database server service with a dedicated computername\username account:

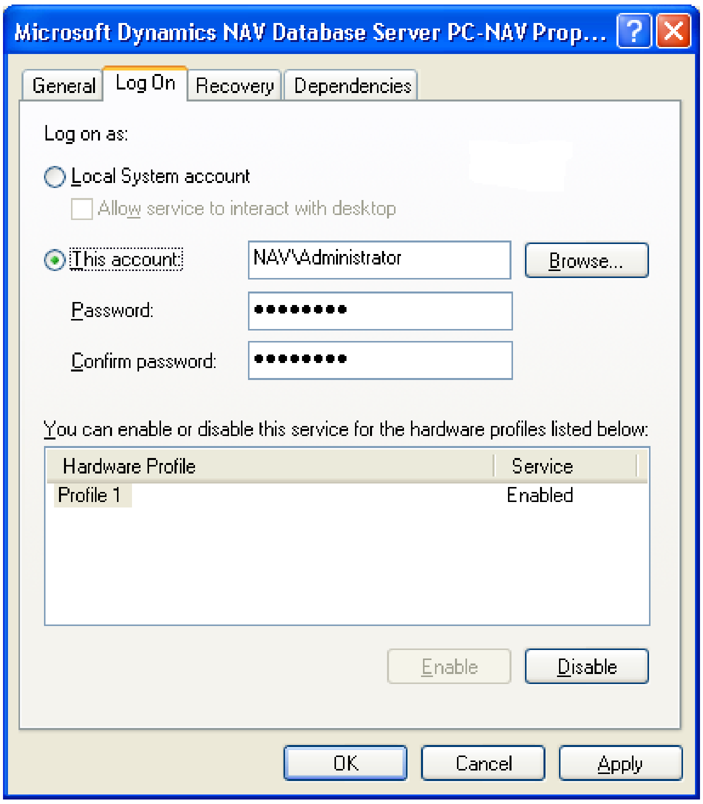


Figure 22. Assigning a logon account to the database server service

If the computer belongs to domain, assign the logon account as username@domain.

Configuration File

There are two methods of transporting XML messages to Microsoft Dynamics NAV and receiving responses after they are handled – using the C/Front library or using Microsoft Dynamics NAV Web Services. In the current implementation, C/Front library API is used to access Microsoft Dynamics NAV.

Outlook.exe.config is the .xml file shipped in the Outlook Add-in installation package. This file contains settings specific to Outlook Synchronization. To edit the configuration file, browse to the root folder of your Microsoft Office suite and open the Outlook.exe.config file using a text editor (Notepad, WordPad, etc.)

System Diagnostics

Diagnostics logging is not enabled by default. To use the logging, you have to define a trace level in the System Diagnostics section.

The table below provides the available trace levels enumeration:

Table 4. Trace levels

Trace Level	Configuration File Value	Logged Information
Off	0	No tracing and debugging messages
Error	1	Error-handling messages
Warning	2	Warnings and error-handling messages
Info	3	Informational messages, warnings, and error-handling messages
Verbose	4	All debugging and tracing messages

To enable diagnostics logging:

1. Locate the following line:

<add name="NavisionSynchronizationSwitch" value="0"></add>

2. Change the 0 value to preferable trace level, e.g. for verbose mode:

<add name="NavisionSynchronizationSwitch" value="4"></add>

It is recommended to set up the system diagnostics with the **Error** or **Warning** trace level before you start using synchronization.

To change location where the tracing log file will be stored:

1. Locate the following line:

<add initializeData="C:\DynamicsNAVsync.log" name="NavisionSynchronizationListener" type="System.Diagnostics.TextWriterTraceListener"></add>

2. Change the initializeData value to the valid path where the log will be stored, e.g.:

<add initializeData="D:\NAV.log" name="NavisionSynchronizationListener" type="System.Diagnostics.TextWriterTraceListener"></add>

General Settings

The General Settings section is used to specify and verify parameters that are used by Outlook Add-in for transporting data with C/Front SDK.

- MessageExpirationAdjustment - defines the time when the requested message will be deleted if it is not handled. Time is displayed in the following format - hours:minutes:seconds.
- MessageEarliestStartTimeAdjustment - defines the time when the message is going to be handled after the request is issued. Time is displayed in the following format – hours:minutes:seconds.
- RequestIntervalMSec – defines how often Outlook will request a response from Microsoft Dynamics NAV after a request message is sent. Time is displayed in milliseconds.
- CfrontThreadWrapperRequestIntervalMSec – defines how often Outlook C/Front thread wrapper will ask for a response from the C/Front thread for a command from queue. Time is displayed in milliseconds.
- RequestTimeOutSec – defines the time out at the start and during the execution of the TestConnection operation. Time is displayed in seconds. Increase this interval if you synchronize large volume of data.
- SyncronizationTimeOutSec – defines the time out for the Synchronization and FullSynchronization operations. Time is displayed in seconds. Increase this interval if you synchronize large volume of data.
- AuthenticationUseDomainPart – defines whether the user name should include the domain name when the user name is sent to Microsoft Dynamics NAV (TRUE/FALSE).
- DynamicsNAVPath – contains the path to the folder where the C/SICE Client .dll files are stored.
- NativeProtocolType – defines the type of the protocol that is used for communication with Microsoft Dynamics NAV, if the Native database for Microsoft Dynamics NAV is used. The following types are supported: NativeSecureTcp (used by default), NativeTcp and NativeNetB.
- SqlProtocolType – defines the type of the protocol that is used for communication in Microsoft Dynamics NAV, if the SQL Server Option is used. The following types are supported: SqlDefault (used by default), SqlMultiProtocol, SqlNamedPipe and SqlTcpSocket.

Request Table Parameters

Request Table Parameters define which table in Microsoft Dynamics NAV should be used for storing requests received from Outlook and other information which will help Microsoft Dynamics NAV to decide how the request should be processed. When a request is made to Microsoft Dynamics NAV, it is stored in a table. You can specify table numbers manually. In this case, field numbers should be valid.

Below are the parameters for the Request Table:

- TableNo - request table ID number
- IDNo - request ID field number is used to give unique identification to the request number
- UserIDNo - request UserIDNo field number is used to store the ID of the user who has sent the request
- XMLNo - request field number field is used for storing XML data that came as a request
- CreationDateTimeNo - request CreationDateTimeNo field number field indicates when the request has been created
- ExpirationDateTimeNo - request ExpirationDateTimeNo field number field indicates when the request will be out of date and will become non-active (will not be handled)
- EarliestStartDateTimeNo - request EarliestStartDateTimeNo field number indicates when the request will become active and will be executed
- ObjectTypeToRun - request ObjectTypeToRun field number field contains the type of the object to be run. Look at the CodeUnitNumbers/ObjectTypeToRun section
- CodeUnitToRunNo - request CodeUnitToRunNo field number field stores the number of code unit which will handle the request

Response Table Parameters

Response Table Parameters define which table in Microsoft Dynamics NAV should be used for storing responses that are made by Microsoft Dynamics NAV. This helps Outlook Integration Add-in to decide where the response can be retrieved and to see the status of the response. When a request is handled and the response record is generated, this record is stored in a table. You can customize Microsoft Dynamics NAV and specify the table number manually, however field numbers should also be valid.

- TableNo - request table ID number
- IDNo - response IDNo field is used to give unique identification to the request number
- UserIDNo - response UserIDNo field contains the ID of the user that sent a request and should receive the response.
- XMLNo - response XMLNo field is used to store XML response data.
- StatusNo - response StatusNo field contains the status of data transportation and execution.
- LastErrorMessageNo – response LastErrorMessageNo field contains the number of the last error message, which appears if data transportation or data execution fails.

Codeunit Numbers

Codeunit numbers configuration group parameters should be changed only if codeunit numbers have been changed in Microsoft Dynamics NAV.

- Synchronization – contains the number of the Microsoft Dynamics NAV codeunit that is used to start the synchronization process.
- ConflictResolution – contains the number of the Microsoft Dynamics NAV codeunit that is used for handling conflict resolution on NAV side.

- PostUpdate – contains the number of the Microsoft Dynamics NAV codeunit that is used for processing the post update message from Outlook.
- GetSchema – contains the number of the Microsoft Dynamics NAV codeunit that is used for exporting the synchronization scheme to Outlook.
- FullSyncronization – contains the number of the Microsoft Dynamics NAV codeunit that is used to start the Full Syncronization process.
- LastSynchronizationTime – contains the number of the Microsoft Dynamics NAV codeunit that is used for calculating the time when the last synchronization was performed.
- RefreshConflicts – contains the number of the Microsoft Dynamics NAV codeunit that is used for refreshing information about the conflicted entities.
- ObjectTypeToRun – contains the value that indicates the type of objects specified above. Figure “5” represents the Microsoft Dynamics NAV codeunit.

Working with Change Log Entities Using C/AL

The change log functionality is used to log the changes the user makes to data in Microsoft Dynamics NAV. The change log can provide a chronologically ordered list of all changes in any field of any table. All modifications that the user makes from the user interface to the data in those tables are logged. The Outlook Synchronization feature uses the change log functionality for tracking changes made in Microsoft Dynamics NAV and synchronizing them with Outlook.

Here are several facts you need to know about the change log in relation to the Outlook Synchronization:

1. The Change Log Entry table, which stores the information about tracked changes, has two keys. The primary key is the Entry No. field and the secondary key consists of the Table No. field and the Primary Key Field 1 Value field. During the synchronization process, we need to do a lot of filtering on the Date and Time field. So a new key which contains this field is defined in the Change Log Entry table to speed up the searching routine.
2. The change log tracks only those changes that are made to the tables and fields defined in its setup. In order to track and synchronize the changes to the tables and fields defined for the synchronization entities in Microsoft Dynamics NAV, you need to register these objects in the Change Log setup.
   To ease the setting up process of the synchronization entity, the tables and fields which take part in the synchronization process are automatically registered in the change log when you run the Register in Change Log Setup batch job from either the Outlook Synch. Entity form or the Outlook Synch. User Setup form. However, the new settings of the change log are activated only after the current company is closed and opened again. So, reopening the company must be performed manually.
3. The change log collects only those changes that were made by the user from the GUI (graphical user interface). Changes made through the C/AL code are not logged. That is, when you change a field in a table and the validation logic on this field changes other fields in other tables, these indirect changes are not tracked by the change log. Therefore, the synchronization routine does not synchronize them.
   This problem can be solved by placing the calls to logging methods LogInsertion, LogModification, LogRename and LogDeletion (which can be found in Codeunit 423 Change Log Management) directly in the places which cause the change. This code must generate the required records in the change log. These modifications must be created for every synchronized entity.

In general, it is important to remember that if a change is not logged by the change log (due to incorrect change log setup, or because the change was caused by the C/AL code and not the user), the records in Microsoft Dynamics NAV with this change will not be synchronized with an Outlook item.

Installing Outlook Synchronization Update

The Outlook Synchronization update solves several issues that impaired Outlook Synchronization performance (KB article 945879 Outlook Integration update rollup 945879 is available for Microsoft Dynamics NAV 5.0). The update should be installed on each machine involved in the synchronization.

Single PC Installation

In the single PC installations, when the Outlook Add-in, C/SIDE Client and Application Server are installed on one machine, perform the following steps to install the Outlook Synchronization update:

1. Remove the installed Outlook Add-in.
2. Install the Outlook Add-in from the Outlook Synchronization Update installation package.
3. Start the C/SIDE Client and open the database that should be synchronized with Microsoft Office Outlook.
4. Open the **Object Designer** window.
5. Import the C/AL objects included in the Outlook Synchronization update installation package.

Note

You must have a developer license to import the objects.
The imported versions of objects will overwrite the existing objects.

6. Compile the imported objects.

When the objects are compiled and no errors occur, the installation is completed successfully.

Multiple PC Installation

In the multiple PC installation, the Outlook Synchronization components are installed on different machines. Thus, actions on installing the update include updating the machines with Outlook Add-in and updating the machines with the Microsoft Dynamics NAV C/SIDE Client or Application Server.

Updating PCs with the Outlook Add-in Installed

To install the Outlook Synchronization update on a machine where the Outlook Add-in is installed:

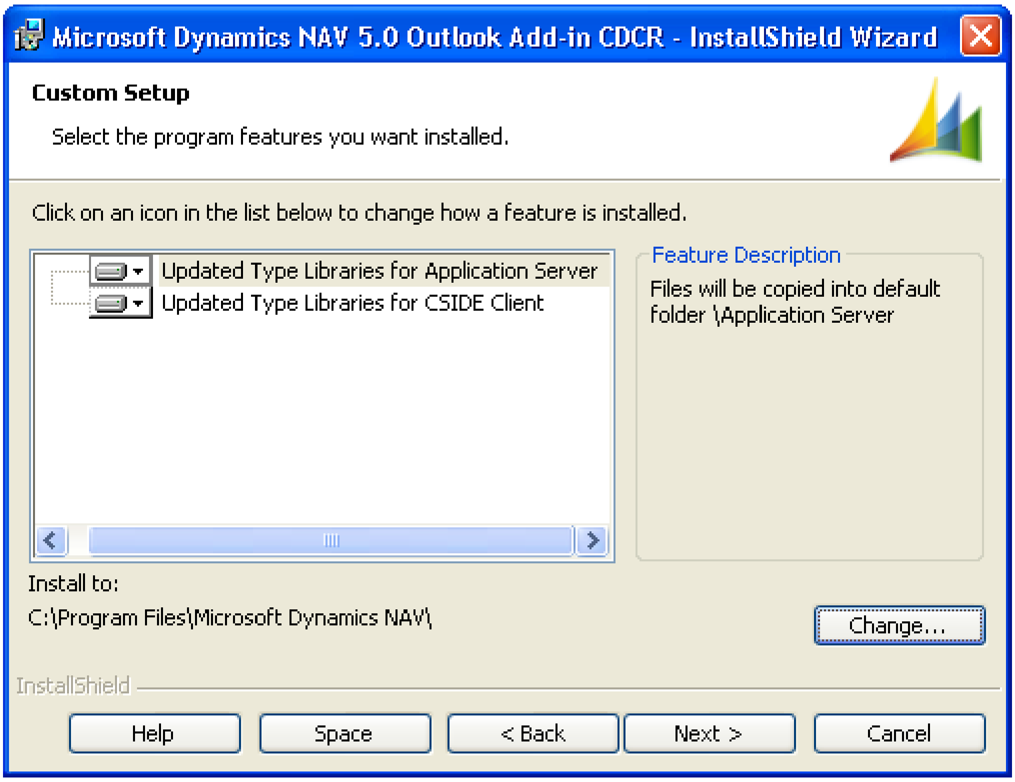
1. Remove the installed Outlook Add-in.
2. Install the Outlook Add-in from the Outlook Synchronization Update installation package.

Updating PCs with the C/SIDE Client or Application Server Installed

To install the Outlook Synchronization update on a machine that does not have Outlook Add-in but has the C/SIDE Client or Application Server installed, run the wizard included in the Outlook Synchronization Update installation package. The wizard registers the updated assemblies and type libraries to be used by the C/SIDE Client or Application Server.

To update a PC with the C/SIDE Client or Application Server:

1. Run the **Microsoft Dynamics NAV 5 0 Outlook Add-in CDCR2.msi** file included in the installation package.
2. In the wizard that opens, click **Next**.
3. On the **Custom Setup** page, select the program features which will be installed and where they will be installed. The wizard suggests installing the files to the default location of the C/SIDE Client or Application Server. If your C/SIDE Client or Application Server is installed to another location, click **Change** to modify the default path to the current location of the C/SIDE Client or Application Server.



4. Click **Next**, **Install** to begin the installation.
5. After the installation is completed, click **Finish** to close the wizard.

Repeat the described steps on each machine that that does not have Outlook Add-in but has the C/SIDE Client or Application Server installed.

Updating NAV Database

To update NAV database:

1. Start the C/SIDE Client and open the database that should be synchronized with Microsoft Office Outlook.
2. Open the **Object Designer** window.
3. Import the C/AL objects included in the Outlook Synchronization Update installation package.

Note

You must have a developer license to import the objects.

The imported versions of objects will overwrite the existing objects.

4. Compile the imported objects.

When the objects are compiled and no errors occur, the installation is completed successfully.

Known Issues Solved by the Update

The Outlook Synchronization update incorporates solutions to the following issues:

Synch. Error if Two or More Windows Logins Were Used in NAV

If two or more Windows Logins had been created in NAV, the system could check permissions for the wrong user when performing the synchronization and as the result an error could occur.

For more details, see KB article 936064: Error message when you synchronize Outlook with Microsoft Dynamics NAV 5.0 or test the connection to Outlook: "Microsoft Dynamics NAV Codeunit execution for response Error"

Synch. Failed if NAV Language was Other Than English

The synchronization with Outlook failed when the application language selected in NAV was other than English.

For more details, see KB article 939347: Error message when you use the Outlook Synchronization to synchronize records in Microsoft Dynamics NAV 5.0: "Microsoft Dynamics NAV Codeunit execution for response Error: '<Translated_Value>))' is not an option"

Data of Outlook Synch. Field in Localized Versions of NAV

Incorrect data in the Field Default Value field of Table 5304 in localized versions of Microsoft NAV made the synchronization from Outlook to Microsoft NAV fail.

For more details, see KB article 939351: Problems that you may encounter if the NAS server is started by using the localized Fin.stx file that differs from the host language settings on your computer

OL Synchronization Failed with an Error on Windows Vista

When the user ran the Outlook synchronization on Microsoft Vista operating system a run-time error was raised and the synchronization failed.

For more details, see KB article 941479: Error message when you use the Outlook Integration feature for Microsoft Dynamics NAV 5.0 to test the connection: "Overflow under type conversion of Text to Text"

NAV Fields Not Mapped to Outlook Collection of Categories

Outlook Add-In did not map Navision fields to the Outlook collection of categories.

Synch. Scheme With Incorrect Attribute in Localized NAV

During the export of the synchronization scheme in a localized version of NAV, the data from the Read-Only Status field of the Outlook Synch. Field table was exported incorrectly. This led to failure of the synchronization process.

Incorrect Memory Management of OLAddin Crashes Outlook

Outlook crashed during synchronization because the memory allocated for the MAPI structure populated with the meeting recipients was released before the work with this structure was finished.

Localization Tips

When a localized version of Microsoft Dynamics is used, check the license and system text files of the C/SIDE Client, Application Server and Outlook Add-in. Pay attention to the version and country code specified:

- The country specified in licenses to the Application Server and Outlook Add-in must be the one specified in the C/SIDE Client license located in the C/SIDE Client root folder.
- The system text files of the C/SIDE Client root folder, Application Server, and OutlookAddin folders must have the same version and country code as in the system text file located in the C/SIDE Client subfolder named after the language code.

If you meet any deviations, follow the instructions below to provide the correct settings:

1. Copy fin.stx from the C/SIDE Client subfolder named after the language code to the C/SIDE Client root folder, Application Server and OutlookAddin folders.
2. Copy Cronus.flf from the C/SIDE Client root folder to the Application Server folder.
3. Copy Cronus.flf from the C/SIDE Client root folder to the OutlookAddin folder. In the OutlookAddin folder, delete the old fin.flf file.

As a result, the correct license and system text files will be located as follows:

(The table below is based on the example of Microsoft Dynamics 5.0 DE version installed).

	Cronus.flf	fin.flf	fin.stx
CSIDE Client	DE		DE with Country Code DE
CSIDE Client\DEU			DE with Country Code DE
Application Server	DE		DE with Country Code DE
OutlookAddin		DE	DE with Country Code DE