SyncML Client &
Server Solutions
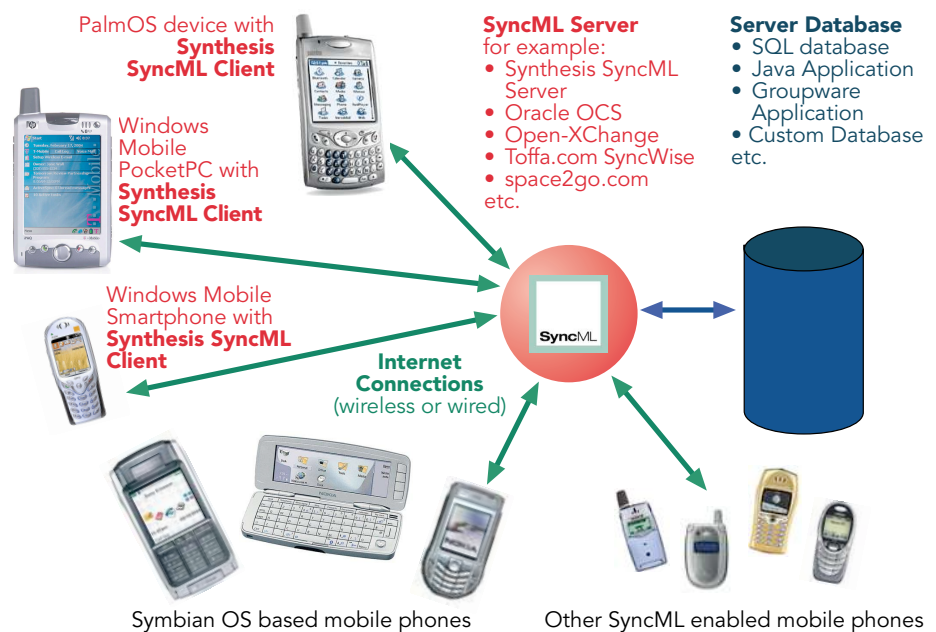
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Synthesis SyncML Client
for Windows Mobile 6 Professional, Windows Mobile 5, Windows Mobile 2003 (SE/PE), PocketPC 2003 and PocketPC 2002 (with Touch Screen)

With Synthesis SyncML Clients for mobile devices you can synchronize the contacts, events, tasks and emails stored on your mobile devices with any SyncML compliant server - over the (wireless or wired) internet. In the near future, the new SyncML/OMA DS 1.2 standard will also make synchronisation of files, images and music possible.

- SyncML breaks the barriers between mobile devices from different manufacturers.
- SyncML also unchains your mobile device from extra software installed on a specific PC. Sync your data from wherever you are - over the air!
- SyncML allows Palms, PocketPCs, Smartphones, desktop computers and mobile phones to be kept in sync with a single server.
- Any event you enter into your PDA will be available on your mobile phone. Any new phone number you save on your mobile phone will be transferred to your PDA, second mobile phone, your desktop

PalmOS device with **Synthesis SyncML Client**

Windows Mobile PocketPC with **Synthesis SyncML Client**

Windows Mobile Smartphone with **Synthesis SyncML Client**

SyncML Server
for example:
- Synthesis SyncML Server
- Oracle OCS
- Open-XChange
- Toffa.com SyncWise
- space2go.com
etc.

Server Database
- SQL database
- Java Application
- Groupware Application
- Custom Database
etc.

Internet Connections
(wireless or wired)

Symbian OS based mobile phones   Other SyncML enabled mobile phones

computer etc. as well.

Contents

1.   New Features in Version 3.0

Version 3.0 is a major upgrade from the 2.5.0.x versions. It is based on a completely reworked SyncML engine. The major advantages of 3.0 over 2.5 are:

• Support for new **SyncML DS / OMA DS Version 1.2 standard**, while retaining full SyncML DS 1.1 and 1.0 server compatibility.

• Full support for **Suspend & Resume**. This is one of the most important additions to SyncML DS in Version 1.2. If the synchronisation process is interrupted - be it intentionally by the user or due to external problems like network connection failure - it will be automatically **resumed where it was interrupted** rather than restarted from the beginning. This greatly enhances user experience when working with large sets of data or large data items (such as emails with large attachments).

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- **Server "Push" synchronisation** (Server Alerted Notification - SAN) supported via SMS. With SAN, servers can perform **real Push Email** or real time PIM updates.
- Supports extra data fields found in newer devices (such as **picture in contacts**)
- Synchronisation log lists operations performed on data (additions, updates and deletions) in past synchronisations.
- "Check for Update" option to **find and install latest SyncML client updates** easily directly into the device.
- Servers with HTTP authentication supported
- Proxy requiring authentication supported
- More precise textual error messages for common problems.
- Lots of improvements enhancing stability, error case behavior and interoperability with a wide range of SyncML server implementations, as well as many improvements and adaptations to newer mobile device's features.

2.   Product Variants

Synthesis SyncML Client is available for different mobile platforms and in two different basic variants, STD and PRO (This manual describes both variants, differences are marked with appropriate labels). The following matrix shows the differences:

	PocketPC		Smartphone		PalmOS	
Feature	STD	PRO	STD	PRO	STD	PRO
Contacts Sync (with photo)	✓	✓	✓	✓	✓	✓
Events/Tasks Sync	✓	✓	✓	✓	✓	✓
Email Sync		✓		✓		✓
w/Attachments		✓		✓		
Notes Sync					✓	✓
Multiple Profiles		✓		✓		✓
Secure HTTP (SSL)	✓	✓	✓	✓	✓	✓
AutoSync/Push/SAN		✓		✓		✓
gzip compression		✓		✓		

3.   How to get the SyncML Client Software

Synthesis SyncML Client for PocketPC is available only as a download from the internet. There is no boxed product nor printed documentation (but we provide this document in nicely formatted PDF so you can print it on paper if you want to).

Please download the latest version from our website at http://www.synthesis.ch/dl_client.php. Refer to the "Installation" paragraph further on in this manual for details on installation.

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There are two different downloads for STD or PRO version (see first page for differences between STD and PRO), and eventually also further options for localized versions of the software.

If you have already installed a version later than 2.9.9.0 of the SyncML client on your device, you can simply choose "Check for Update..." from the "Extras" menu to check for a more recent version and download and install it with a few clicks directly into the device.

If you have never installed the software before, or after major version updates you can evaluate the software for free - it runs without a license key for 30 days in demo mode (counting from the date you first use it).

After this free evaluation period, in order to continue using the software, you need to buy a license, from us or one of our re-sellers (see Chapter "Licensing - Registration" below.

For extended evaluation purposes, you can also request a temporary license from Synthesis usually at no cost.
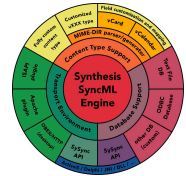
4.   How to get a SyncML Server account

In order to sync via SyncML, you need to have an account with a SyncML compliant server. Many web calendars, on-line PIM solution and mobile office services (web offices) offer SyncML or will do so in the near future. Please contact your service provider and ask for SyncML / OMA DS support.

For enterprises, solutions exist to bring groupware content on-line with SyncML. A few examples:

- Oracle Collaboration Suite (OCS) from Oracle (http://www.oracle.com/collabsuite) provides SyncML synchronization as a standard feature, including email sync in recent versions. Synthesis SyncML clients are Oracle's recommended choice for synchronizing OCS with Windows Mobile and PalmOS based devices.

- Toffa (http://www.toffa.com) provides solutions to enable GroupWise and Exchange for SyncML clients, including email Push (DMU technology) with attachments. Toffa also provides www.goosync.com, which enables SyncML for Google Calendar.

- Open-Xchange (http://www.open-xchange.com), a Open-Source based groupware solution supports SyncML for integrating mobile devices.

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- Synthesis SyncML server (http://www.synthesis.ch) is a generic solution to add SyncML capability to existing databases and applications. SQL databases can be directly accessed and any other type of database or application middleware can be integrated through custom database interface plugins (in C/C++, Java or .net, based on a plugin SDK). Fully functional free demo and evaluation versions are available from Synthesis.

- A lot of other SyncML capable solutions exist and can be used with Synthesis SyncML clients, like consolidate.at, desknow.com, mdaemon.com, scheduleworld.com, zyb.com, synkia.com, o-sync.com, eGroupWare/horde.org, nexthaus.com, mobical.net, funambol.com, synchronica.com, mobiledit.com, and many others.

5. Requirements

To use SyncML client for Windows Mobile / PocketPC 2002, you need the following:

- A user account in a SyncML Server (see above)

- A handheld computer or smart phone based on Windows Mobile 6 **Professional**, Windows Mobile 5, Windows Mobile 2003 (SE/PE), **PocketPC** 2003 or PocketPC 2002 **with a touch screen**. Note that there are "smart phones" without a touch screen based on the Windows Mobile Smartphone platform - these will need our SyncML client for MS Smartphone and will not work with the PocketPC version.

> ⚠ Note that the **presence of a touch screen** is the only reliable criteria to tell if a device is a **WM6 Professional / PocketPC**. The term "Smartphone" is used for both types of devices.

- A means to connect the device to the internet. Recent devices usually have built-in wireless access to the internet, older ones connect to the internet using a modem, a mobile phone or via USB when connected to a desktop machine having internet access. Please refer to documentation of your device and of your mobile data provider for instructions how to set up an internet connection.

6. Installation

Installation is very easy. Simply copy the appropriate *.CAB file (the "PPCWM" version for Windows Mobile 6, 5 and 2003, the "PPC2002" version for old PocketPC 2002) to your PocketPC and install it. There are two ways to do that:

- Directly download the *.CAB from our web server (or any other web server where this file is available) with Pocket Internet Explorer. Installation will start automatically.

- Copy the *.CAB to your PocketPC using ActiveSync. This is done with the following steps:

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1. Connect the PocketPC to your desktop PC, open ActiveSync on the desktop PC and click the "browse device" button.

2. An explorer window opens showing the files on your PocketPC.

3. Drag the *.CAB file to this window - it will be copied to the PocketPC.

4. Now on the PocketPC, open File Explorer (Start>Programs>File Explorer). You should now see the copied *.CAB file. Tap it once and it will be installed.

⚠️ Do not try to install the 2002 version on a 2003, Windows Mobile 5 or 6 device or vice versa - it will not function properly!

After Installation, you will find an application "Synthesis SyncML" in "programs" in your start menu with an icon like this:

7. Upgrading to more recent versions

To upgrade to a more recent version, just install the newer version over the current one. Your settings and license information will be carried over from the old to the new version.

⚠️ Starting with version 2.9.9.1, you can any time check for available upgrades via internet using the "Check for Update..." item from the "Extras" menu. If there is an update available, you can download and install it with a few clicks directly into the device.

⚠️ All upgrades up to and including version 3.0 are free for those who have purchased a license for any earlier version.

⚠️ Future major upgrades will be free to those who purchased a license not more than 12 months ago. Older licenses can be upgraded to cover the most recent version by paying an upgrade fee.

8. Downgrading to an earlier version

Normally this is **not recommended** as newer versions are usually more compatible and have problems eliminated that were found the in previous versions.

⚠️ If you still need to downgrade to an earlier version for some reason, please note that **all settings will be lost and must be re-entered**, depending on what step backwards you take with the downgrade (user data like contacts and calendar however is **not** affected by a downgrade!). Newer versions of the client will warn you before deleting the settings, but older versions, including all 2.5.x.x versions will delete the newer version's settings without warning.

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9. Starting up

To start, choose "Synthesis SyncML" from Start menu->Programs.

It will show its main screen as shown on the right:

PRO only: The "Autosync" checkbox is used to globally enable or disable automatic (unattended) synchronization features. See Chapter "Autosync" below for details.

PRO only: The "Profile" popup menu allows to select between different profiles. You can keep your PDA in sync with multiple SyncML servers without the need to change any settings. **Note that multiple profiles for the same server are not recommended, as this might lead to duplicates!**

When first started, there is only a single profile called "Default Profile". You can change it's name to something more meaningful for you (see details below).

Just above the menu bar you see the licensing status. For new installations, it shows "UNREG. DEMO (30 days left), which means that you can use the software for free for 30 days now. This is your evaluation period to find out if the software suits your needs. There is no restriction of functionality during this free demo period. Only after 30 days from the first time you have started the software, you need to purchase a license (see Chapter "Licensing - Registration" below) to continue using it.

In the menu bar at the bottom of the screen there are small icons for starting and stopping synchronisation, a button for showing a log of past synchronisations, the "Extra" menu where all settings are located and a "Help" menu containing the "About" item which shows you exactly what version and type of SyncML client you have installed.

Tapping on the icon in the "Synchronisation" box will start synchronization later, however you need to enter your SyncML server's settings first.

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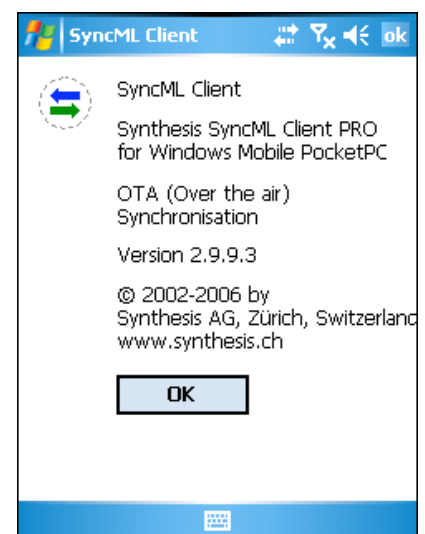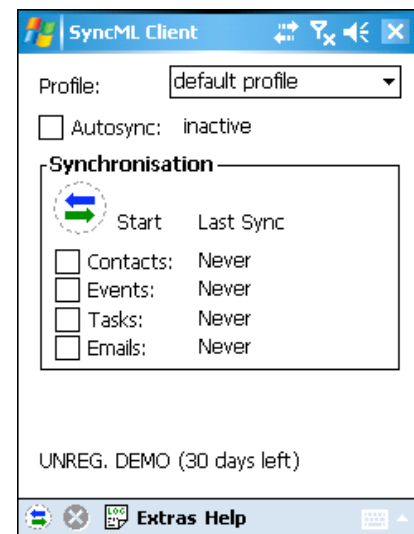
10. Configuration

Select "Profile Settings..." (PRO) / "Settings..." (STD) from the menu.

This will open the settings screen.

Server Account Settings

In the "General" tab of the settings dia-
logue, you can set the details of the
SyncML server account to use:

- PRO only: **Profile name**: You can
  give the profile (especially if you
  have multiple profiles) a meaningful
  name.
- **SyncML Server URL**: This is the
  internet address of your SyncML
  service. Your SyncML service pro-
  vider will inform you what needs to
  be entered here. Of course, if you
  have set-up a SyncML server of your
  own (for example the free Synthesis
  Demo Server) you can enter it's URL
  here.

  ⚠ Note that secure connections with SSL/HTTPS are supported -
  simply use https:// instead of http:// to start the Server URL.

- **User and Password**: This is how you login to the SyncML service.
  Normally, SyncML user and passwords are the same as for accessing
  the service via the web.

In the "synchronize" box, you can quickly select or deselect the data you
want to be synchronized. Please note that before syncing the first time,
you should also consult the "Organizer" and eventually "Email" (PRO
only) tab of the settings which contain a few more details for each of the
data types.

⚠ If you need to use a proxy to access your SyncML server, have a
look at the "Options" tab as well (details see below).

⚠ The "AutoSync" tab (PRO only) is used to configure automatic
scheduled or server-alerted ("push") synchronisation, details see
below.

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Data Type Settings

To change detail settings for each type of data synchronized, please open the "Organizer" tab for contacts, events and tasks settings, and "Email" tab for email settings (PRO only).

For all data types, the following settings are present:

- **Server Path**: This is how the database is called at the server's end. Synthesis SyncML client shows default values here ("contacts", "events", "tasks" and - for PRO only in the Email tab - "emails") which are widely used for SyncML servers, so in many cases you don't need to change these.

  ⚠️ Still, some servers need different names here - please refer to setup instructions from your SyncML provider. For example OCS needs "./contacts", "./calendar/events" and "./calendar/tasks"

  ⚠️ Some servers (such as those based on our server engine) allow some extra options to be specified in addition to the server DB name. **Note that such options are server specific, so please refer to your SyncML service provider's instructions to see if such extras are supported**.
  Therefore, in case of problems when synchronizing events or emails with a certain server, disable the extra options and try again.

- **Sync Mode**: This determines how to synchronize data:

  - **Normal:** Normal two-way synchronisation. All changes on the device are sent to the server, all changes on the server are sent to the device. This is the default mode of operation.

    ⚠️ For the initial synchronisation with a server and to recover from error conditions (like data loss on client or server, prematurely interrupted synchronisation etc.), a "Slow Sync" (see below) might be needed and will be automatically performed even if sync mode is set to "Normal".

  - **Slow Sync:** Special two-way synchronisation needed for the very first synchronisation with a server and to recover from error conditions. A "slow sync" is called slow because it includes that all data is sent from the device to the server which can take some time. The server takes an inventory of the device's data, so it'll be able to use
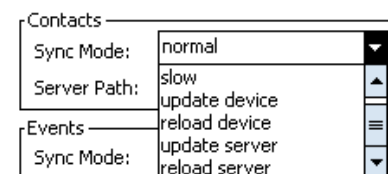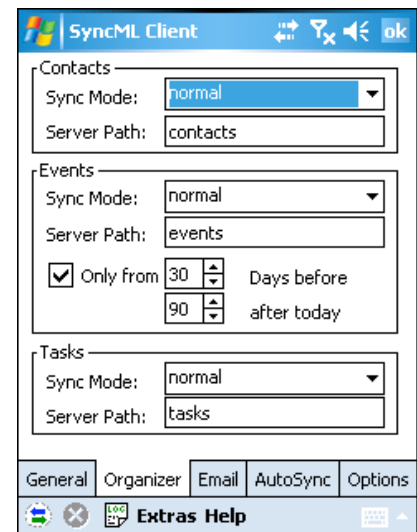
"normal sync" (only changes are transferred, which is of course much faster) in subsequent syncs.

⚠️ This mode is normally used automatically by the software when needed, there is seldom a reason to choose "slow sync" manually.
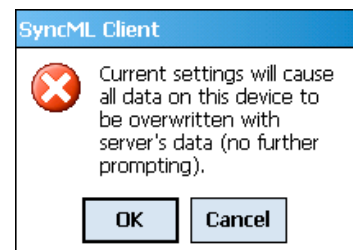
- **Update Device**: This is like "normal" sync, however only the device will be updated with changes from the server - the data on the server will NEVER be changed at all.

  ⚠️ Using this mode means that you want to have a copy of server's data on your mobile device. This implies that when you do an "update device" sync for the first time, **all extra data on your device that does not exist in your server account will be deleted!**

- **Reload Device**: This is a special "slow" sync as follows: First, **all data on the device will be erased**, then, all data from the server will be copied to the device.

  ⚠️ This is a good mode to restore a device which has accidentally modified or deleted data on it.

  ⚠️ As this involves loosing all data that was not previously saved on the server, a warning message will be shown when you start syncing in this mode.

- **Update Server**: This is like "normal" sync, but only changes made on the device will be sent to the server. The data on the device will NOT be changed at all. Note that this mode does not work with all SyncML servers (server must support "one way sync from client mode")

  ⚠️ Using this mode means that you want to make your server account an exact copy of the data on your mobile device. This implies that when you do an "update server" sync for the first time, **all extra data in your server account that does not exist on your device will be deleted!**

- **Reload Server**: This is the opposite of "reload device" and works as a special "slow" sync as follows: First, all data on the server will be erased, then, all data from the device will be copied to the server. Note that this mode does not work with all SyncML servers (server must support "refresh from client mode")

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Special Options for Calendar and Email Data

⚠️ Note that not all SyncML server support these extra options. In case you experience problems synchronizing events or emails, try disabling the extra options.

- **Only from**: For Events, you can limit the date range of events that are synchronized. Note that this does not work with every SyncML server, so if you encounter problems synchronizing events, just switch this option off.

- PRO only: **Full/Header/Max:** For Emails, the amount of data to be synchronized per message can be set here.
  "Full" means that there is no limit for the size of emails transferred.
  Use "Full" for servers that do not support email size limits.
  "Header" means that no body text or attachments will be transmitted, only the subject, sender and recipient.
  "Max" allows to set a maximal size. Body texts exceeding this limit will be truncated at the end, attachments that do not fit the size will be suppressed.

- PRO only: **Only messages of last xx days:** Here you can limit from how far back into the past you want to receive emails. **Do not use this option for servers that do not support date limits for emails.**

⚠️ Email received with SyncML will appear in the Inbox/Messaging application in the "SyncML" account/service. Use the "Show" pulldown (see screenshot) to select a folder from the "SyncML" account/service.

⚠️ To have emails sent via SyncML, you must create them in the SyncML account. You can make the SyncML message store default by selecting it from Inbox's "Services" menu (for Windows Mobile 2003) or by using the "switch account" menu (for Windows Mobile 5).

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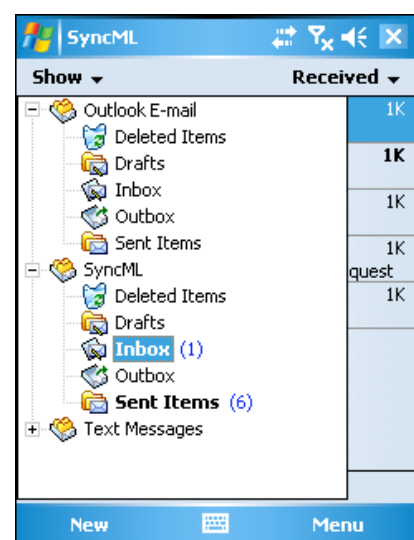
Other Profile Options: SyncML version, Proxy, HTTP auth

The "Options" tab contains some other, profile-related (related to a specific server) options:

- **Server Version:** Before the first sync with a server, this is set to "Automatic". This means that the client will try to figure out the highest version of the SyncML protocol a server supports automatically.
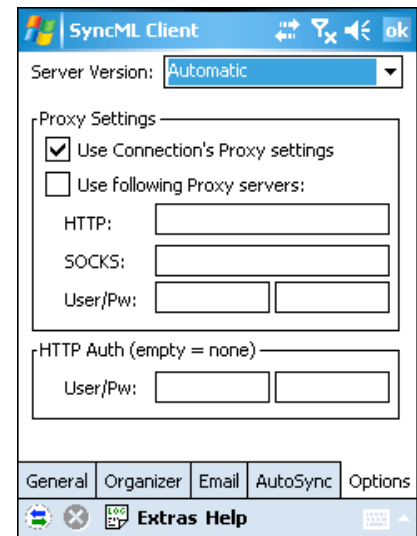 After the first successful sync, this setting shows the version of the SyncML server that was detected.

  ⚠️ Only under special circumstances it might be necessary to change this setting manually. In rare cases, the automatic detection does not work properly. So if you know for sure that a server only supports SyncML 1.1 or 1.0, and "automatic" does not work, try setting SyncML 1.1 or 1.0 manually. **Normally, you don't need to change this setting.**

- **Use Connection Proxy Settings:** Check this if you want to use the Proxy settings that are configured in the system's connection settings.

  ⚠️ **Note:** Make sure that **only the HTTP proxy** is set in the PocketPC system wide proxy settings (in Start Menu -> Settings -> Connections) when you don't have other types of proxy servers, using the "Advanced..." proxy settings. If you only enter the proxy settings without detailing it in "Advanced...", the same proxy server will be used for HTTP and SOCKS, **which is usually not working as expected**.

- **Use following Proxy Settings:** Check this when you want to specify your own proxy settings for accessing the SyncML Server (for example in case the SyncML server needs a proxy different from what is used for other services, or the proxy needs a login to let traffic pass).

- **HTTP:** This is the IP address or name of the HTTP proxy server, followed by a colon, followed by the port number, such as 123.45.67.89:8080 or myproxy.mylan.net:3128

- **SOCKS:** This is the IP address or name of the proxy server, followed by a colon, followed by the port number, such as 123.45.67.89:3701. Leave it empty if you do not have a SOCKS proxy server that must be used to reach the HTTP proxy.

- **User/Pw:** If your proxy needs a login, enter it here. Otherwise, leave these fields empty.

- **HTTP Auth, User/Pw:** If your SyncML server needs a login at the HTTP (web server) level, enter it here. Otherwise, leave these fields empty.

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11. Connection Settings and Extras

Connection Settings

Usually, connection management is automatic - the operating system chooses the appropriate connection (cradle, network card, wireless). However, in some cases this does not work as expected.

To open the connection settings, select "Connection Settings..." from the menu.

In the screen that shows up, you can define which connection is used when the device is in the cradle (connected with a desktop via ActiveSync) and which connection is suitable for mobile operation. The default is to set both to "automatic".

⚠️ The most frequent cause for automatic connection management to fail are special operator presets on a device. These are sometimes designed with specific use cases in mind, like mobile browsing via the operator's infrastructure. This might not be what is needed to reach your SyncML server, so automatic management fails because the wrong connection is established. There is no general rule what is the "right" connection, and different devices have different connection choices available. But often "The Internet" works for mobile connection and "Work" is good for cradled operation to use the internet connection of your desktop machine. Sometimes however, you need to find the right connection simply by try-and-error.
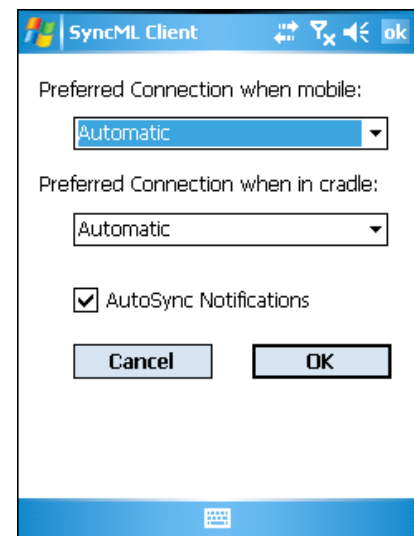
Extras

The "AutoSync Notifications" checkbox specifies if a visual notification (similar to alarms in the calendar) should be shown when an automatic scheduled synchronisation is running.

This option is off by default for Windows Mobile 2002 and 2003, and is on by default in Windows Mobile 5.

⚠️ There is an important technical background for this option: Some Windows Mobile Devices have a bug in the operating system that prevent them to wake up from power-off (sleep) mode at a scheduled time, unless a visual notification is shown. For these devices, **this option is required to have autosync while the device is unattended and not powered on.** For correctly working devices, turning this option on or off is a matter of personal taste.

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12. Synchronizing

When setup is complete, you can select the data to be synchronized using the checkboxes and start synchronization simply by tapping onto the icon with the two arrows in the middle (You can also tap on the small icon in the toolbar).

That's it - everything else will happen automatically (like with ActiveSync):

- The device will open a connection to communicate with the SyncML server. It uses the system wide Windows Mobile network and connection settings.

  ⚠️ If you get "connection error" messages, this means that the client cannot connect to the server. Please review your network and connection settings and refer to your mobile internet provider's information about details. Eventually, explicitly choosing one of the available connections (see paragraph about "Connection Settings" above) might help.

  ⚠️ If you get "No SyncML Response" message, the client can connect to a server machine, but the server does not appear to be a SyncML server. Usually, this happens when your SyncML server URL is not correctly specified in the settings - please check for typos and verify with the provider of the SyncML server that you are using the correct URL. For most services, **the SyncML URL is not the same as the URL you can use in a web browser** to access the server!

- Data will be synchronized. The main screen will show some progress information, such as how many items (contacts, events, tasks, and - PRO only - emails) are sent and received.

  ⚠️ For each data type, synchronisation starts with a "checking" phase. This is needed to find changes, additions and deletions made since the last sync and will always go through all items in your databases. Note however that during "checking" phase, no data is transferred to the server. So even if "checking" count might be high and take some time - "checking" does not cause any network traffic (or cost).

- Finally, the screen should read "successfully completed" and "Last Sync" will show the current date and time.
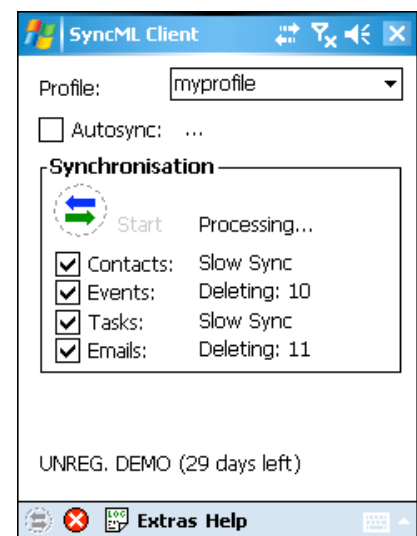
- **PRO only:** When email has been received during the synchro-nization, a small envelope icon will appear in the status bar at the top of the screen. If you tap it, the Inbox/Messaging appli-cation will be opened.

- After a completed (or failed) syn-chronisation, you can view its statis-tics by either choosing "show log" from the menu or by pressing the third little icon button in the task bar. This will show the 30 most recent log entries, newest at the top. Using the "Clear" button, you can delete all log entries.

  ⚠️ The log shows a separate entry for each datatype synchronized. So if you have checked "Con-tacts", "Events" and "Tasks" on the main screen and start a sync, you will get 3 new entries in the log.

  ⚠️ The number of bytes shown are net content only (your data) -
  but note that the total amount of bytes transferred over the net-work is always higher as there is some protocol overhead (8 KBytes sent and received extra in a typical session).
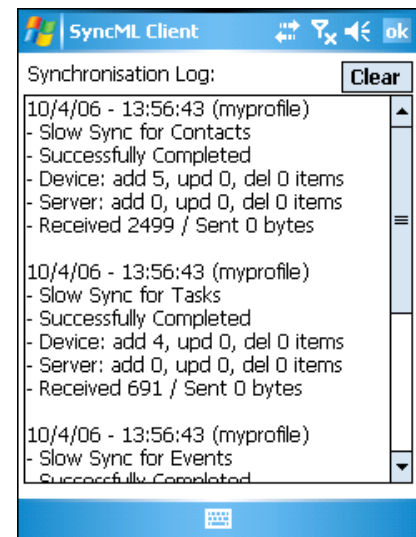
13. Suspend & Resume

A synchronisation can be interrupted, either manually or for external reasons e.g. when the network connection breaks. In SyncML versions before 1.2, this caused the session to **abort**, and a subsequent sync had to **repeat the entire sync from start**, and sometimes even required a **slow sync** to recover. With large data sets, this could be very annoying.

Fortunately, SyncML DS 1.2 has a now a solution for this named **Suspend & Resume**. This means that an interrupted sync will simply be resumed in the next attempt - at the point it was interrupted.

So if your sync aborts for whatever reason, you can resume it by simply pressing the sync button again.

⚠️ Suspend & Resume is fully supported in the Synthesis SyncML clients 3.0. But it can work **only with servers that support SyncML DS Version 1.2 and actually have the resume feature implemented.** For example, Synthesis SyncML Server 3.0 fully supports Suspend&Resume (but the older 2.1 version does not).

⚠️ To suspend a sync manually (for example because you need to leave the office and your device is in the middle of a sync in the cradle), press the little red stop button in the taskbar **once**. This causes a "soft" suspend - the client tells the server it wants to suspend and **waits for the server to acknowledge the suspend.** This this takes some time until the sync actually stops.
If you hit the stop button a **second time** in a row, this will cause a "hard" suspend - the client then **immediately** stops the sync (but as it needs to save some data to be able to resume, this might still take a few seconds). This is quite similar to what happens when suddenly the network connection to the server breaks. Even in this case, SyncML 1.2 can resume the session later. But if you can avoid "hard" suspend, using "soft" suspend is the better choice for manually aborting a sync session.

⚠️ If you want to explicitly prevent that the next sync resumes a previously aborted or suspended sync, change the sync mode in the settings to something different. This will clear the suspended sync information and ensures that the next sync will start at the beginning.

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14. AutoSync + Push

PRO only: The PRO version has a feature called "AutoSync". This means that it can automatically start an unattended synchronization under certain conditions. With Push enabled servers true **email-push** is possible!

⚠️ Synthesis SyncML client PRO supports two different push mechanisms:

- One is **SAN (Server Alerted Notification)**, which is fully standardized in SyncML 1.2 based on SMS. It is available in PRO clients by default. The SyncML server side must support SAN based push to make use of SAN.

- The other is **DMU (Direct Mobile Update)**, a proprietary technology developed by space2go.com and Synthesis before SAN got standardized in SyncML 1.2. DMU works over TCP/IP and does not require SMS connectivity. However to enable DMU you need a DMU-enabled license - which is available from providers of DMU-enabled SyncML services like space2go.com and toffa.com.

⚠️ Scheduled AutoSync (Timed Sync) works with any SyncML server and needs no server side support nor special license. This means that it can be used in all SyncML environments without restriction.

Configuring AutoSync

To view and change the Autosync settings, select the "AutoSync" tab in the settings screen.

There are two main blocks of settings:

- The "Automatic Sync activated" box determines if and under what conditions automatic synchronization takes place at all.

- The "Timed Sync" box determines how often automatic sync takes place in the periods when the conditions in the "Automatic Sync activated" box are met.

The "Automatic Sync activated" settings work as follows: There are two identical groups of conditions, each consisting of

- A **time of day range**, such as 8:00 … 17:00. Note that it is possible to specify ranges such as 22:00 … 5:00 as well, this would mean through the night from 10 p.m. to 5 am. For 24 hour all-day syncing, specify 0:00…0:00 or 0:00…24:00.

- A **list of weekdays**. Select those days when you want to have automatic sync active.
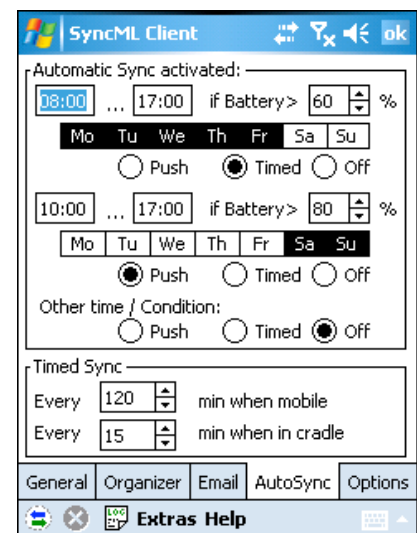
- A **minimal battery charge level**. This is useful to prevent unattended syncing to drain the battery of the device. To allow automatic syncing only when the device is connected to a power supply, set the charge level to 100%. To allow automatic syncing regardless of the battery level, specify 0%.

For each of the condition groups, you can select what should happen when the condition is met with a row of radio buttons (A third row of these buttons are available to specify what should happen when none of the conditions are met):

- **Off** means that no automatic synchronization takes place.

- **Timed** means that the device will automatically synchronize in the intervals specified in the "Timed Sync" box (see below).

  ⚠️ Note that for some Windows Mobile Devices that have a bug in the operating system preventing them to wake up from power-off mode without also showing a visual notification, the "Auto-Sync notification" option in the "Connection Settings..." dialog (see chapter 11) must be set. Otherwise, scheduled synchronisation only occurs while the device is fully powered on.

- **Push**: This option enabled "Push" sync (using SAN or DMU technology, see above).

Using AutoSync

To enable Autosync activities, the "Autosync" checkbox on the main screen of the software must be checked, otherwise Autosync is disabled regardless of the other settings made.

⚠️ An exception to this is SAN-based push as follows: SAN has background modes and an interactive mode. Interactive mode means that the server only recommends a synchronisation by showing an Alert, **but does not start the sync by itself.** The user can accept or reject the alert. This interactive mode is always enabled, even if the Auto-Sync checkbox is not set.

Next to the checkbox, the current Autosync status will be shown:

- **inactive**: Autosync is not active, either because the checkbox is unchecked or because none of the conditions (time, weekday, battery) specified in the settings are met.

- **at 5/10/2006 - 16:38:06**: Timed Autosync is active, the next time when a timed synchronization will take place is shown.

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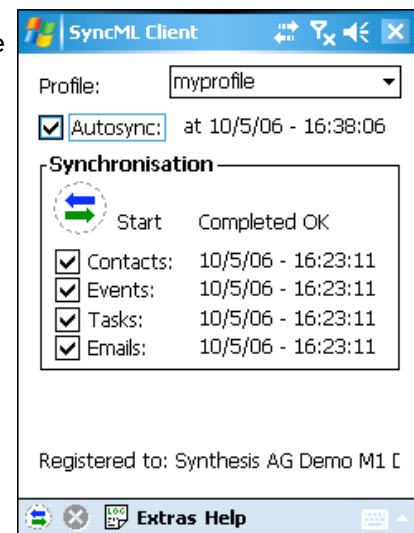
- **Push (SAN):** SAN-based Push is enabled. The server can start a sync remotely when required (e.g. new email or event arrived).

  ⚠️ The server can request sync happening entirely in the background, brought to your attention by switching the SyncML client into the foreground or even asking you to confirm or reject the sync (interactive mode, see note above)

- **waiting for activation**: DMU based Push is enabled, but a manual sync session is needed to activate DMU.

- **Push (DMU):** DMU based Push is active - as soon as there is new data (usually email) on the server, a sync session will automatically start. Note that it is not relevant which data is selected for synchronization - DMU will automatically select those data types for which there is new information to transfer.

- **off, low battery**: Autosync is inactive because the battery charge is below the level specified in the settings.

- **off, no phone**: Autosync is inactive because the phone is switched off and there is no other way available to connect to the DMU server.

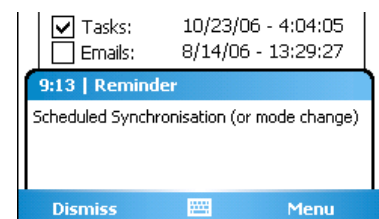- **Syncing now...**: an automatically started synchronization is currently running.

  ⚠️ When new email is received during a sync session, a small envelope icon will be shown in the status bar (even when the SyncML client is operating in the background). Just tap this icon to open the E-Mail application. Depending on the hardware of your device, a indicator LED will start flashing as well.

  ⚠️ Automatic Sync will not take place when the sync mode is set to either "reload device" or "reload server" for security reasons: These sync modes involve deleting all data at either client or server, and therefore it is required to manually initiate them to avoid unintentional data loss.

  ⚠️ Automatic Sync will only take place with a server that has been successfully synchronized at least once before. Again, this is a security measure to make sure a proper sync relationship is established between client and server before letting sync happen automatically.

  ⚠️ On Windows Mobile 5, by default a visual notification is shown for each timed Autosync taking place. This can be switched off in "Connection Settings" (see Chapter 11). But note that for some Windows Mobile Devices that have a bug in the operating system **a visual notification is required**, otherwise, autosyncs will not take place when the device powers off automatically after a few minutes.

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15. Licensing - Registration

The Synthesis SyncML Client for PocketPC which you can download for free from our website initially runs only for 30 days after the first use.

At the bottom of the main screen you see how many days are remaining of the trial period. After these 30 days, you must license the software, that is, buy a registration code.

Purchasing a license on-line

For immediate on-line purchase of licenses in small quantities (for other possibilities to obtain a license see note below) we provide a web store at Kagi, which is linked from our website or can be directly reached at the following URL: http://order.kagi.com?L3U.

⚠️ Note that the **entire purchase and payment process is handled by Kagi**, a company specialized in processing orders for software registration for may years. Kagi offers secure processing for all major credit cards, check, money order and even cash payment and also collects VAT when applicable. **Please always contact Kagi in case of purchase or payment questions, including VAT issues.**

⚠️ Before ordering, please make sure you order a registration code for the product variant (STD or PRO) you actually want to use. To see what version you currently have installed on your device, please have a look at the "About..." screen.
A PRO license will work with both STD and PRO software variants, but a STD license **does not** work with the PRO software.

Within a few hours (usually only minutes) after your payment, you will receive an email containing your registration details.

Other ways to obtain a license

There are a number of Re-Sellers of Synthesis SyncML clients, who offer the software under different terms like DMU push support (see details in "Autosync" chapter) enhanced support conditions, already pre-configured for and bundled with a service subscription or other software, etc. Some enterprises might have a site license or another volume licensing agreement.

So please check with the provider of your SyncML server solution if there are better ways to obtain the software for your particular case before buying directly.

⚠️ One important reason to buy from the provider of a SyncML based solution might be terms of support. Synthesis AG can only provide support for purely client-related issues, and usually cannot help you with server-side problems.
If you buy from the provider of the SyncML service, this might entitle you for support covering the entire solution.

⚠️ In case you intend to buy a large number of licenses directly from us or want to become a re-seller yourselves, please contact us at sales@synthesis.ch for details.

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Entering Registration Details

When purchasing a license, you will receive licensing information consisting of a "license text" (usually name and email address) and a "license code" (or "registration code").

With these two pieces of information, your already installed SyncML software running in demo mode can be "registered", which means removing the 30-day demo restriction and make it a permanent installation.

Please start SyncML Client on your PocketPC, choose "Registration..." from the menu and enter the licensing information.

⚠️ Enter the license text (usually your name and email address) **as one line of text exactly as shown in the registration email, including character case**. You may enter extra spaces, but no other extra characters.

⚠️ For the license code, character case is irrelevant and the dashes separating the four groups may be omitted. Note that an O in the code is always the character "O" (Oh) and never the digit "0" (zero). Make also sure that you don't mix digit "1" and letter "i" or "L".

If the data you entered is correct, your name will be displayed at the bottom of the main screen and the software will continue to work without any time limit.

If the registration information is rejected, please check

- Is the name and email address entered exactly as shown, including character case, on a single line?

- Is the code entered correctly?

- Was the license purchased for the right variant (PRO codes will work with STD version software, but STD code only works with the STD version software)

⚠️ Please keep the registration code in a safe place, in case you need it again when re-installing the software after a hard reset of your PocketPC device.

⚠️ Future major upgrades will be free to those who purchased a license not more 12 months ago. Older licenses can be upgraded to cover the most recent version by paying an upgrade fee.

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16. Troubleshooting

⚠️ This section gives some information about common problems that might occur with SyncML synchronisation. In addition, especially for more specific problems like compatibility with certain environments etc., **please always consult our Frequently Asked Questions Page on our Web site:** http://www.synthesis.ch/faq.php

Basically, if your connection to the internet is stable, synchronization should be no problem. Just start a synchronization whenever you want to update your data.

Still, there are a few possible problems, mostly caused by interrupted sync sessions.

- **Synchronization aborts with error code:** See error code explanation in next chapter for details.

- **User interface behaves strangely, scroll bars do not work:** This is usually caused by installing the software intended for Windows Mobile Smartphones (devices without touch screen) on Windows Mobile PocketPC devices (devices with a touch screen).

  ⚠️ Only the "touch screen" criteria is relevant here. Many PocketPC devices have a phone built-in, but this does not make them a "Windows Mobile Smartphone". If it has a touch screen, it's a PocketPC, if it has no touch screen, it's a MS-Smartphone.

- **Registration does not work:** Please make sure that…

  - name and email address is entered exactly as shown, including character case, on a single line.

  - the code is entered correctly ("O" is always letter "o" and not digit zero; also make sure not to mix up digit one "1", letter "L" and letter "i".

  - the license purchased is for the right variant (PRO codes will work with STD version software, but STD code only works with the STD version software).

- **Strange behavior in general**: If it seems to you that your data is not synchronized as it should, it is a good thing to make a fresh start. SyncML is an incremental method - which means that the things that happened in the past synchronizations influence what will happen in future synchronizations. This is a good thing (saves a lot of time) under normal circumstances, but sometimes this dependency on the past is replicating old problems. To make a new starting point, make sure you have all recent data stored on the server and then set the sync mode to "reload device". This will cut all dependency on past synchronization problems.
  PRO only: In case of persisting problems with email, it might also help to delete the "SyncML" service/account:

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- **For Windows Mobile 2002 and 2003:** Open "Inbox" from Start menu, select "Tools"-"Options..", select "SyncML" from the list and then tap the red cross at the bottom of the screen.
- **For Windows Mobile 5:** Open "Messaging" from Start menu, select "Switch Account"-"SyncML" from the menu, then select "Tools"-"Clear SyncML" from the menu.

This will remove all mail you received/sent via SyncML. Then do a "reload device" sync for email.

- **Sync always takes a long time**: Most probably, the previous synchronization did not complete successfully, so a slow sync occurs. If this happens all the time, this indicates either a very poor quality of the internet connection or a compatibility problem with the server used.

  ⚠️ If you need to report the problem to the SyncML service provider, please include date and exact time of the failing sync attempt(s), username, and also the error message displayed at the end of the synchronization in your report. Without this information, it is difficult for the service provider to track down the problem.

- **Duplicates**: In some cases you might notice that some of your data gets duplicated. If this happens only for a few contacts, this is perfectly normal, it shows that a record has been modified on your device and on the server in parallel. In order not to loose either modification, the server has decided to keep both versions of the record so you can decide which version is the "right" one. Just delete the version that is obsolete on the device or on the server.
  If you encounter a lot of duplicates without having modified anything, this indicates a compatibility problem with the server used.
  Please note that if you cannot successfully complete a synchronization, the probability of getting duplicates is slightly higher as there might have been problems in the previous synchronization.

- **Missing fields**: If you think that you don't get all data stored on the server or vice versa, not all server fields get update with data you have on your mobile device - please consider that this might be perfectly normal. Why? Unlike proprietary synchronization technologies such as HotSync and ActiveSync, SyncML is an open standard which allows synchronizing any compliant device with any compliant server. However, not all servers and not all devices support the same set of data fields. A mobile phone is likely to support only telephone numbers, but no street address. Or some devices are restricted to one address per contact, while others support separate work and private addresses. This might be confusing on the first sight, but a properly set-up server will be smart enough to preserve your data even if there is no exact 1:1 mapping possible.

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- PRO only: **Where is my email?** The Inbox application on the device has multiple accounts. Email delivered via SyncML is stored in a separate account named "SyncML". To view it, open the Inbox/Messaging application (from the Start Menu), then select the drop-down menu in the grey header bar at left to open the accounts and folder tree. Here you should see a "SyncML" entry with its own Inbox, Outbox and other standard folders. Please note that in order to send email via SyncML, you must create new messages in the SyncML outbox.
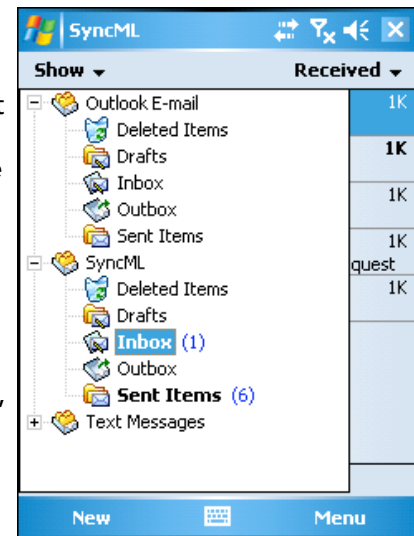
- PRO only: **Scheduled autosync does not work while the device is unattended (goes into auto-power-off mode). Why?** This is caused by a bug in the operating system of some devices - they only wake up on time when there is a visual notification shown at the same time. So please switch on "AutoSync notifications" in the "Connection Settings..." menu (see Chapter 11).

Using debug (DBG) versions to track down problems

For solving some problems, especially interoperability problems with a specific server or a special set of data, additional information about what's going on "inside" a sync session is required.

SyncML servers usually write so-called log files by default, and often these server side logs ar sufficient to track down a problem.

Synthesis SyncML clients do not create log files by default, because log files can get very large (serveral megabytes) and useful (that is - detailed) logging reduces performance on mobile devices considerably.

Still, in some cases client side logs are needed to analyze difficult problems. Therefore, special debug versions of Synthesis SyncML clients exist and can be obtained from Synthesis when needed.

⚠️ To see if the software you are using is a debug version, have a look at the "About..." screen. If the version number is followed by a **(DBG)**, it is a debug version.

Debug versions create log files in the \temp directory of the Windows Mobile device. These logs are HTML files and can be viewed with any web browser (even on the device itself using PocketIE). We recommend copying the logs from the device via ActiveSync "Explore" to the desktop and viewing them with a desktop browser or sending them to us for analysis.

Error messages and error codes

Config incomplete/bad

This message is shown when trying to start a sync session while missing configuration information.

The reason for this message could be missing server URL, missing server paths of the individual data stores, no database selected for sync at all, or database to sync with is not available on the device (for example, corrupted Contacts or calendar database on the device)

Demo/License Expired

This means that either the free trial period of 30 days (counted from the first time the software is used) is over or the temporary license code you were using has expired. You need to buy a permanent license or obtain a new temporary license (usually granted by our resellers and Synthesis for evaluation and piloting) to continue using the software (see chapter "Licensing - Registration").

License code too old

This means that the software version is too new to be covered by the license you have. Major upgrades to the software are free for 12 months after purchasing a license. To use upgrades that are released after this period, you need to upgrade your license.

License does not match product

Most common reason for this message is when you try to use a license for a STD product with a PRO software version. It can also occur when the license you have is for a completely different product (like a Synthesis Server).

License not valid here

This message means that your license, although basically valid, cannot be used with this server at this time.

This can be the case for licenses that are restricted to a certain type of server or to a certain server URL (those licenses have a double colon followed by some server specification in the license text like "::u=*my.domain.com/sync" or "::t=servertype").

Another reason for this message can be if the license is already in use by more devices than allowed (e.g. a 5 user license being used on 7 devices).

Connect not possible

Unlike "Connection error" (see below), this indicates that the software finds no way to even try to establish a connection, for example when the device has no network interface configured at all.

Phone switched off

For devices with built-in phone, this message is shown when trying to start a sync session while the phone is switched off and no other

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means to connect to the internet (e.g. via the cradle cable or WLAN) is available.

Connection error

This means that the client cannot establish a connection to the server.

If this error occurs right after starting the synchronization, either the URL entered for the server is wrong (no such server exists) or there is a basic networking problem. Note that if you can reach the internet only via a proxy server, your proxy settings must be configured correctly. To test the connection, try to browse a web site using Pocket Internet Explorer.

If this error occurs in the middle of a synchronization, this is most likely an intermittent problem, see Sending/Receiving error below.

No SyncML Response

This is usually caused by an incorrect SyncML Server URL entered in the settings. It means that the SyncML client can connect the server, but does not get a SyncML response as it should, but something different, like a error message web page.

Sending error
Receiving error

An error occurred during sending or receiving data. This indicates a (possibly only temporary) network problem.

No response (timeout)

This means that the server is not responding within a reasonable amount of time (several minutes, usually).

This can indicate that the server has experienced a problem and cannot answer in time, but this could also be caused by a network connection vanishing (not working any more, but no error detected yet).

Invalid data

This means that the data received from the server is not a syntactically valid SyncML message (containing invalid tags or WBXML encoding).

This usually indicates some sort of network problem that causes data corruption on the way.

Another possible cause is that the server is actually generating invalid SyncML messages - however this is not likely with well tested and officially SyncML conformant servers (it might occur for new servers still under development).

In case of network problems, a frequent cause are mobile operators who feed data traffic from mobile devices through equipment that tries to optimize bandwidth. This is fine for web browsing, but often interferes with SyncML. To find out, try to synchronize using the ActiveSync network connection which is available when the device is in the cradle, or insert another mobile operator's SIM card to see if it makes a difference.

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Access denied

This message is shown when the client cannot login with the server.

Usually, the reason is an invalid user name and/or password; Please check the settings and eventually re-enter the password (note that depending on the server it usually is case sensitive).

⚠️ In case your SyncML server needs additional authentication at the web server (HTTP) level or if you are using a proxy server that needs extra authentication, "access denied" might also indicate that one of these secondary authentications failed. For details, see paragraph "Other Profile Options" in the "Configuration" chapter.

Sync mode not supp.

This means that the sync mode specified for a datastore in the settings is not supported by the server.

Usually, this is caused by selecting "update server" or "reload server" mode, which is not supported by all SyncML servers.

Aborted by user

The synchronization was manually aborted by the user.

⚠️ If the server supports SyncML Version 1.2, aborted synchronizations can be resumed simply by starting sync again. See Chapter "Suspend & Resume" for details.

DB not found

A database (contacts, events, tasks…) was not found.

Usually, this means that the database does not exist on the server side or has a different name than what was entered as "server path" in the settings (see "Data Type Settings" paragraph in the "Configuration" chapter).

Device DB error

Some problem occurred accessing the device's databases.

This also indicates some internal database problem, usually caused by corrupted data on the device.

Server Database Error

The server reported a problem accessing its data.

This usually indicates a server problem - please check with your SyncML service provider if you repeatedly get this message.

Server busy - try later

The SyncML server is not ready for processing a synchronisation right now. Just wait a few minutes and try again.

Error Code=<number>

Some rarely occurring error codes do not have a text message, but are shown like this.

Some codes you might encounter are:

101	Server is busy
400	Bad request (usually a server compatibility problem)
405	Command not allowed (compatibility problem)
408	Timeout
412	Incomplete command (compatibility problem)
413	Too large - the server cannot process some data sent by the client because it is too large. If this happens when sending emails, it might be caused by large attachments - try sending without attachments.
415	Unsupported media type or format (usually this means that the server does not support this type of data - for example synchronizing task to a server that has no support for tasks).
417	Retry later. This indicates some sort of temporary failure - re-trying after a while might solve the problem.
421	Unknown search grammar (compatibility problem)
422	Bad CGI script. This might indicate that the server does not understand the special options like date range restrictions for events or size limit for emails (see "Special Options for Calendar and Email data" in the "Configuration" chapter). Try turning off these options.
424	Size mismatch. This indicates a transmission problem of a large object, possibly caused by a temporary network problem. Retrying (resuming) the session might help.
426	Partial item not accepted.
500	Command failed (usually a server malfunction of some kind or a SyncML compatibility problem)
501	Not implemented (compatibility problem)
503	Service unavailable. This usually indicates a temporary problem.

⚠ Some servers send this error code when a session was interrupted with error only a short time ago, and the server is not ready yet to start another session. Please wait a few minutes and try to run the session again.

511	Server error (some general server error)
512	Synchronisation failed (generally failed due to some server error)
520	Server database full (the server has no room to store more data)
10xxx	This has the same meaning like xxx, but indicates that the problem has occurred locally in the client rather than in the server.
20025	Out of memory

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| 20998 | Internal exception (client encountered an internal exception - a possible reason could be extreme shortage of memory in the device) |
| 20999 | Undefined internal error |

Reporting problems

⚠️ Before reporting a problem by email to us, please have a look at our FAQ page at http://www.synthesis.ch/faq.php and our public forum at http://forum.synthesis.ch.

⚠️ In most cases, sync problems are specific to a SyncML service provider's environment. Therefore, please first ask your service provider in case of problems and mention that you use Synthesis client software. The service provider will then be able to analyze the problem and will contact us directly in case they think the problem is in our client software.

⚠️ To report a bug or a problem (to the SyncML service provider or to us), please collect the following data before reporting a problem to Synthesis AG

- Version of the Software (please choose "About..." from the menu to find out the exact version number, such as 3.0.1.4)

- Type, model name/number and brand/manufacturer name of the device.

- URL of the server you are using to synchronize with.

- Error messages shown by the software.

- As the problem needs to be tracked down together with the SyncML service provider, please include your user name you used to login to the SyncML service and the exact date and time when you tried to synchronize.

You can contact us at support@synthesis.ch for support issues, but please first have a look at our FAQ at http://www.synthesis.ch/faq.php or our forum at http://forum.synthesis.ch. Suggestions or ideas for enhancing the product are also welcome!