

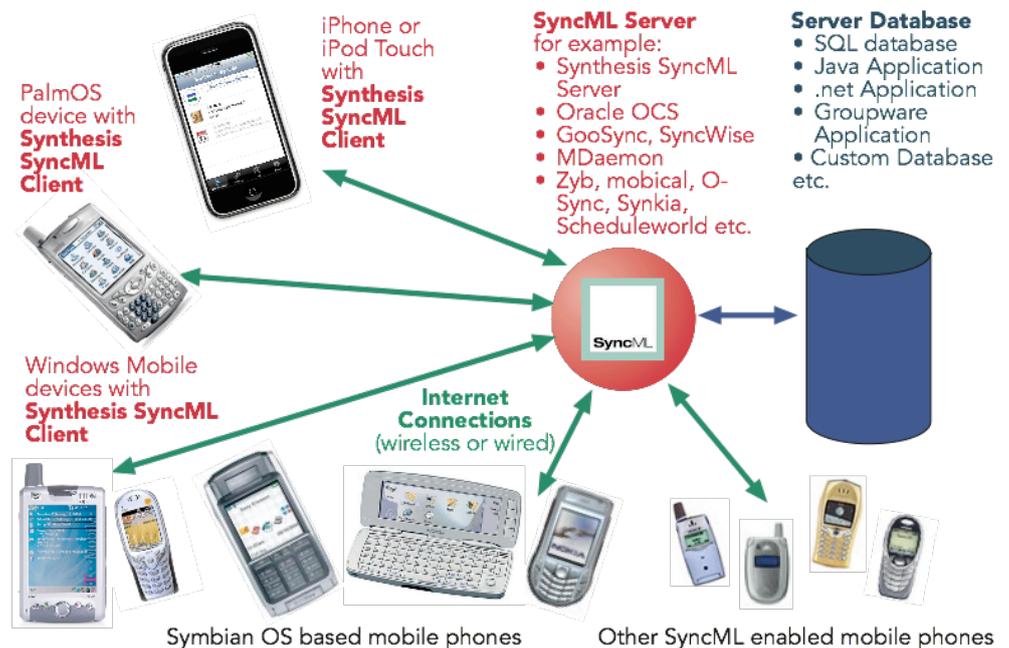


Synthesis SyncML Client for Android

for Android 1.5 up to Android 9.0 (ARM and Intel Atom, 32/64 bit)
for Synthesis app version V4.1.0 / V4.1.2 and newer

With Synthesis SyncML Clients for mobile devices you can synchronize the contacts and events stored on your mobile devices with any SyncML compliant server - over the (wireless or wired) internet.

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



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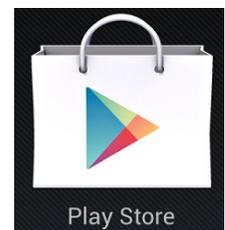
1. Features

Synthesis SyncML client for Android (1.5 .or higher) is based on the widely used Synthesis SyncML engine 3.x, which powers SyncML client for a variety of platforms, including iOS, PalmOS, Windows Mobile, Windows Phone, Linux, Mac OS X, Windows. The use of a common engine in all of our products guarantees consistent behaviour among all platforms and services. The Synthesis SyncML engine is one of the most advanced SyncML implementations with the following features:

- Full support for **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.
- Efficient and fast implementation
- Modular design - new data types can be added quickly as they become available on target platforms (like calendar on iPhone).
- The SyncML engine is already well tested over many years with many Synthesis SyncML enabled products and services world wide, which ensures smooth operation.

2. How to get the SyncML Client Software

Synthesis SyncML Client for Android is available as download from the [Synthesis](#) web page or directly at [Google Play](#). 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).



The software is available as:

- **LITE** sync of contacts only, **only** at [Google Play Store](#)
- **CAL** sync of calendar only, **only** at [Google Play Store](#) (including timed sync)
- **STD** contacts - events - tasks
- **PRO** **additionally** notes – SMS – documents – call logs - bookmarks, timed sync, birthday and task due dates in calendar, widgets for tasks and notes, multi profile sync).

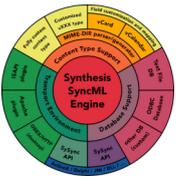


Either download the latest version of the Android client from our website at http://www.synthesis.ch/dl_client.php or purchase it at **Google Play** (former **Android Market**). Refer to the "Installation" paragraph further on in this manual for details on installation.

The technical features of the two variants (**Google Play** and **non-market**) are identical, they **CAN'T** be exchanged however. The licenses **CAN'T** be exchanged between the two variants. Furthermore Google does **NOT** allow an upgrade path from LITE/CAL to STD/PRO, or from STD to PRO for the **Google Play** version.

3. 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) and Beehive from Oracle (<http://www.oracle.com>) 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 mobile and devices. 
- Open-Xchange (<http://www.open-xchange.com>), an open-source based groupware solution supports SyncML for integrating mobile devices. 
- Memotoo (<https://www.memotoo.com>) supports the standard services like contacts, calendar and tasks sync, as well as synchronisation of documents, pictures and videos. 
- Synthesis SyncML server (<https://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. 

Other services and software known working include winfonie.de, social.com, qaleido.com, eGroupware.org, horde.org, syncevolution.org, funambol.com, consolidate.at, desknow.com, mdaemon.com, scheduleworld.com, zyb.com, synkia.com, o-sync.com, nexthaus.com, memotoo, mobical.net, synchronica.com, mobileedit.com, and many others.

4. Requirements

To use the Synthesis SyncML client for Android you need the following:

- A user account on a SyncML Server (see above).
- An Android device with version 1.5 or higher (currently it is officially tested up to **Android 9.0, vSDK=28**).
- A means to connect the device to the internet, i.e. access to a WiFi access point or simply cellular network coverage.
- Some Android device require an installed **gmail account** to have the events visible within the Synthesis app.



5. Installation

Download the „synthesis.apk“ file directly into your device. After successful installation, the SyncML client will appear with the following icon on your Android home screen:

The icon contains a red plus sign for the PRO version and a green Android for the Google Play version.

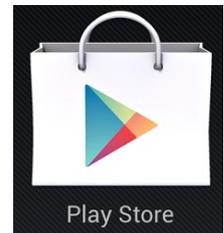


6. Upgrading to more recent versions

To upgrade to a more recent version, just download the latest version from the Synthesis web page.

The Android SyncML client will ask the user automatically for updates, when available.

With the version from **Google Play** (former **Android Market**) you will be notified for updates directly.



7. Starting up

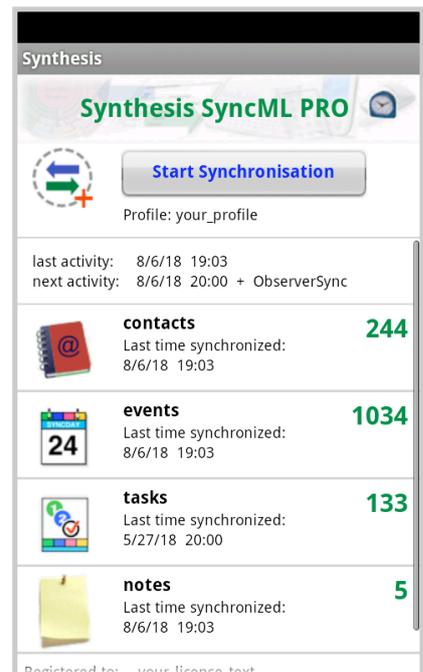
To start, tap the "Synthesis" icon at the application screen of Android or move the „Synthesis“ icon to your home screen and start it from there.

When started, it will show its main screen as shown on the right:

Use the menu button to choose between the different screens. When opened, the "Synchronization" screen is shown. That's where you can start a synchronization and observe its progress and completion.

The "Settings" screen is used to configure the client for a specific SyncML server or service.

The "Log" screen shows a short summary of the results of past synchronizations.

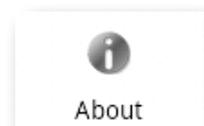


Tapping on the "Start Synchronization" button will start synchronization once everything is set up, however before that you need to enter your SyncML server's settings - please see next chapter.

Tapping on the title will show the current version number of the app.

For app version 2.3.16 and for Android 3.0 and later the **menu button** can be reached via the three white dots (or one of the icons) in the top right corner, as usual for actual Android apps.

The "About" screen is useful to see the version of this application and the version of the SyncML engine.



It also contains a link to the Synthesis web site.

Check for updates allows to check whether updates for this application are available.

Upgrading to PRO is also possible here. Please note that the PRO version requires an additional license.

Download docu: The most recent version of this documentation is also available here for download

There are 2 variants of the app: **V4.1.0** for vSDK=3 and later, and **V4.1.2** for vSDK=14 and later (based on vSDK=27 with 64 bit native support).





8. Sync LITE

The SyncML Client for Android is available in a **LITE** version for **contacts sync only**.

It fully supports all **Android** versions from **1.5** up to **9,0**

The **Sync LITE** app is **only** available at the **Google Play Store** (former **Android Market**). There is **no 30 days evaluation for free**.

All Android phone books (Internal Phonebook, gmail account and private phone books) can be used and selected/deselected.

The SyncML functionality and performance is the same, also secure connections using **https** are possible, but some specific **STD** or **PRO** features are not supported.

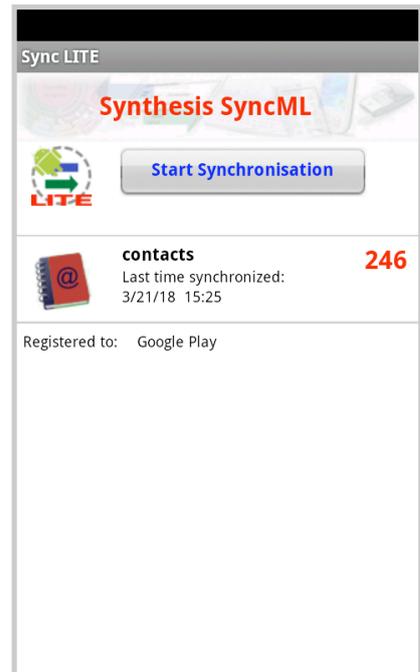
Sync LITE supports **contact groups** (as categories) and allows to create new contacts in any address book (by clicking to the according addressbook name at the settings).

Sync LITE does not support multiple profiles and does not have a log viewer. However diagnostic logs can be created and sent to Synthesis.

Sync LITE can't be upgraded to the **STD** or **PRO** version.

Sync LITE does not have a widget (for syncing from home screen) available.

Sync LITE is a simple and straightforward tool for easy use.





9. Sync CAL

The SyncML Client for Android is available in a **CAL** version for **calendar sync only**.

It fully supports all **Android** versions from **1.5** up to **9.0**

The **Sync CAL** app is **only** available at the **Google Play Store** (former **Android Market**). There is **no 30 days evaluation for free**.

All Android calendars (Internal calendar, gmail calendars and private calendars) can be used and selected/deselected.

The SyncML functionality and performance is the same, also secure connections using **https** are possible, but some specific **STD** or **PRO** features are not supported.

Sync CAL supports **TIMED SYNC** (but without the detailed settings).

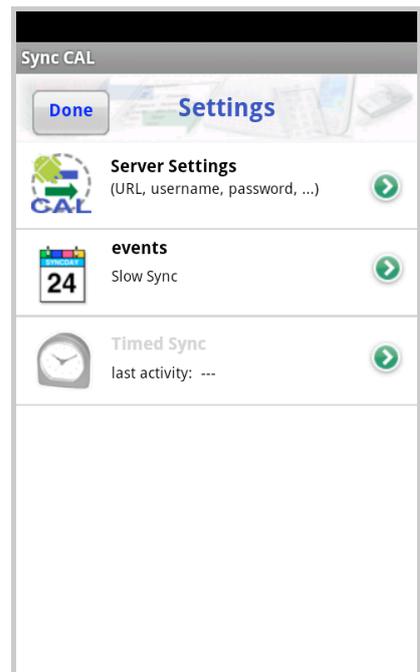
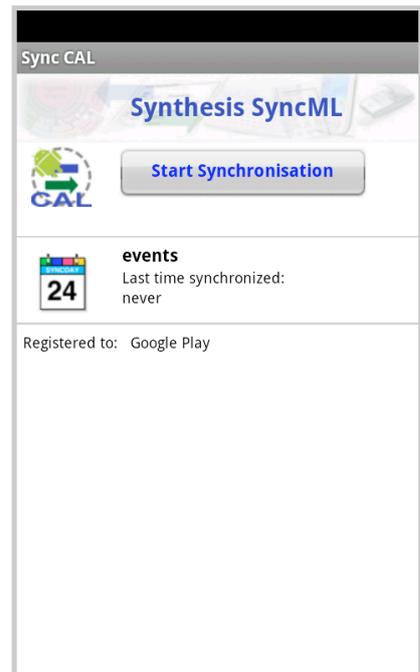
Sync CAL supports categories and allows to create new calendar entries in any calendar (by clicking to the according calendar name at the settings).

Sync CAL does not support multiple profiles and does not have a log viewer. However diagnostic logs can be created and sent to Synthesis.

Sync CAL can't be upgraded to the **STD** or **PRO** version.

Sync CAL does not have a widget (for syncing from home screen) available.

Sync CAL can also be installed and used in parallel to **Sync LITE**.



10. Configuration

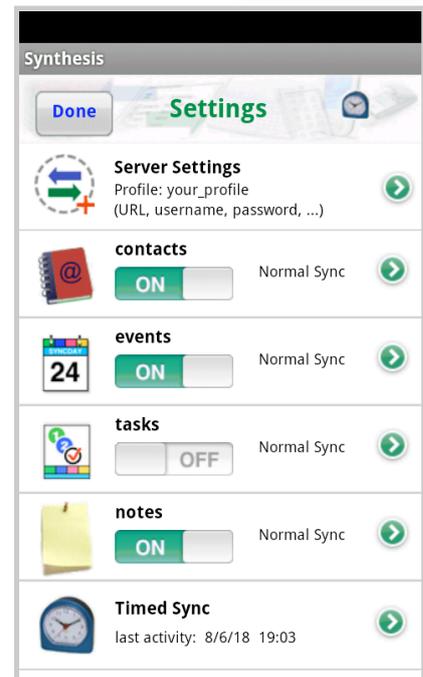
Switch to the "Settings" screen by tapping on its tab bar icon. This will show the settings screen.



The settings screen looks similar to the main screen, but has a on-off switch for each of the data types supported. The switch is used to include or exclude synchronisation of the respective datatype. To be able to synchronize, at least one switch must be set to "ON".

To configure the overall settings like the SyncML server URL, user, password etc., tap the green arrow button in the "Server Settings" box. To configure settings related to only one of the datatypes (contacts, events), press the green arrow for that datatype.

Use the ON-OFF switches for each data type to select them for synchronisation.



PRO Version only: Configure the timed sync here, next activity time will be displayed.

10.1. Server Settings

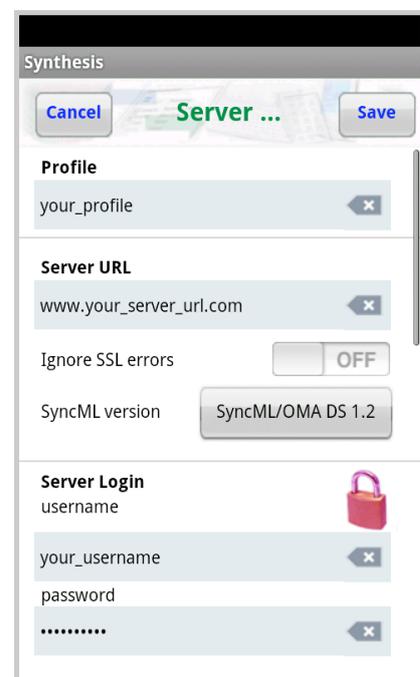
In the "Server Settings" screen you can set the details of the SyncML server account to use:

- The **profile name**: There are multiple profiles supported, the name can be changed. This is a purely internal name for your settings. NOTE: The name of the already existing profile is "default profile" will not be shown on the main page, it can be changed however.
- **SyncML Server URL**: This is the internet address of your SyncML service. Your SyncML service provider 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 its URL here.

- ⚠ Note that secure connections with SSL/HTTPS are supported - simply use https:// instead of http://, if the sync server supports it.
- **Ignore SSL errors:** This switch allows to communicate with SSL even if the certificate of the server cannot be verified or is expired.

⚠ Note that this option is **potentially dangerous**, and should be only used if you really know why you have to use it (e.g. if you have your own server with self-signed certificates). Otherwise, ignoring SSL errors is a **security risk!**

⚠ Note: Only **Android 2.3** and later support ssl certificates with key lengths larger than **1024 bit**. Today's certificates usually have a key length of 2048 bit. Ignoring SSL errors can suppress this problem.



- **Username 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.
- **Http Auth:** username and password can be set here for the Http Authentication of your sync server, if required.
- **ObserverSync:** New with version 4.1.0 / 4.1.2 automatic Sync can be initiated each time the Android system recognizes changes on a datastore (e.g. within an address book). For this case only a partly sync for this specific datastore will be executed. Changes will be propagated to the sync server a few seconds after the new data has been stored. Syncs w/o any changes can happen this way, as e.g. the messenger application WhatsApp is notifying contacts changed, though in most cases no changes at the contacts are applied. These sync sessions will be shown in **orange color** at the log menu.

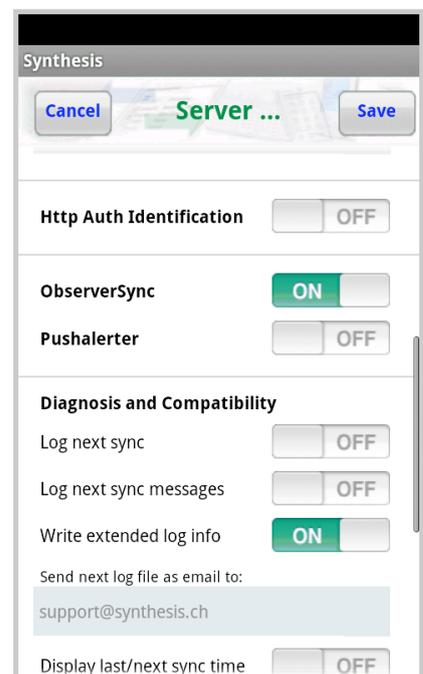
- **Pushalerter:** New with version 4.1.0 / 4.1.2 push messages via Server Alerted Notification (**SAN**) are supported. This extension supports sync, started via incoming binary SMS according to **OMA DS/1.2**. Your SyncML server must support this service however. The SyncML server can notify synchronisation for one specific more specific or all datastores. A phone number filter must be chosen for the phone number of your SyncML server, sending these binary SMS, as usually only a specific phone number is valid. Choosing the wildcard "*" will inspect all incoming SMS. This is less efficient, but works in every case. Multiple phone numbers (separated with spaces) can be used as filter, e.g. „+4476* +3584*“. These sync sessions will be shown in **purple color** at the log menu. If SMS entries will be synced as well, a more precise pushalerter filter is recommended, as SMS with phone numbers matching the pushalerter filter will not be synced.

- **Diagnosis and Compatibility:**

- This app contains a mechanism to **log next sync** (and/or sync messages) and send these files to the Synthesis server for inspection. It can be activated here for the next sync session. You can decide at the end of the sync session whether to **send** the files to the **Synthesis web server**, to send them **as email**, to **keep** them (then they will be stored to the SD card's "download/log" directory) or to **remove** them again.

-  If you send a log file to Synthesis and you'd like to get some help, you have to inform Synthesis about time of sync, URL, server user name and a description of your problem.

- The **message logs** (that's what client and server are exchanging as data in wbxml/xml format) can be sent as well. Usually these files are only needed on special request.
- If „**Write extended log info**“ is switched off, a smaller log file will be created which is also sufficient in most cases.

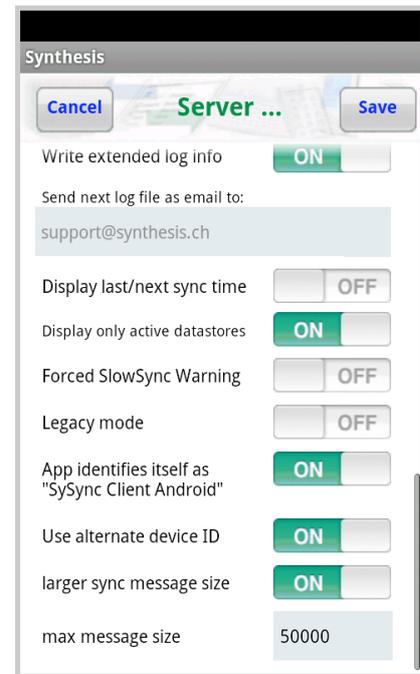


- The **email address** for sending log files can be added here. If the field is left empty, mail will be sent to support@synthesis.ch.

- **Display last / next sync time:** Shows this additional information at the main menu (in earlier versions this could be activated by using the hidden option :DILN).

- **Display only active datastores:** Hides not syncing datastores (e.g. contacts) on the main screen.

NOTE: Each datastore can be switched on and off from the main menu: With a long click to a specific datastore it can be switch off. A **long click** to the registration field opens a selection of the currently disabled datastores to be switched on.



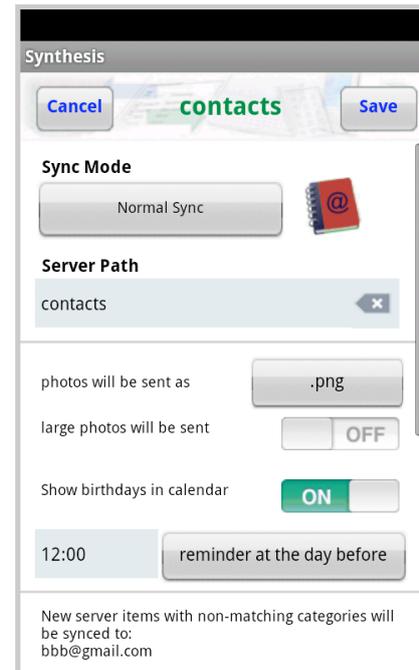
- Slows Syncs duration is long, all data will be transmitted and there can be duplicates to be created. This is not desirable in any case. Therefore it can be warned before **forced slow syncs** (not manually configured slow syncs).
- The **legacy mode** is used for cases where the syncML server does not support the newer formats (VCARD 3.0 and/or VCALENDAR 2.0) correctly. E.g. some versions of Alt-N's MDAemon server require this mode for syncing events correctly.
- For compatibility reasons on some SyncML servers, this app identifies as „SySync Client Pocket PC STD“ (or PRO) by default. It can be changed to „**SySync Client Android STD**“ (or PRO).
- **Use alternate device ID:** Can be useful e.g. for use with multi profile sync. This ID is different for each profile. For the server it looks like it will be contacted by a different device.
- The **larger sync message size** (50'000 bytes) can be reduced to 20'000 bytes for problems with some sync servers. The smaller size will reduce the overall performance of the sync session. Additionally any size can be set in a range of 5'000 .. 2'000'000 bytes. A larger value will increase the throughput, e.g. for document sync, if the server supports it as well.

10.2. Data Type Settings

To change detail settings for each type of data synchronized, tap on the green arrow in the settings screen for that datatype.

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", ...) 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/Beehive uses

- ./contacts
- ./calendar/events
- ./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.

NOTE: The Android system 2.0 and newer has **more than one account** to store contacts and events, so the user has to decide where to store these entries. A switch for every active account exists. Calendars must be activated at the Android calendar app, else they are greyed out here.

New accounts can be created here (or via the Android settings).

- ⚠ At least one account must be activated here, else no more entries are on the server after the next sync.
- ⚠ Some Android devices do not have a native internal phonebook. On several **HTC** devices it is called „pcsc“, on most **Samsung** devices it is called „vnd.sec.contact.phone“.
- ⚠ Some Android devices (e.g. HTC Desire with Android 2.1) seem to forget Synthesis calendars after some time or after reboot. So be careful with Synthesis created calendars.

Multipath Support

Some SyncML servers support two or more address books or calendars, using different server paths.

e.g.: `"/events/home"` and `"/events/work"`

If the accounts are also named "home" and "work" for this example, the server path can be directly: `"/events/home ./events/work"`.

If they are named e.g. "a" and "b", the combined server path will be: `"/events/home:a ./events/work:b"`

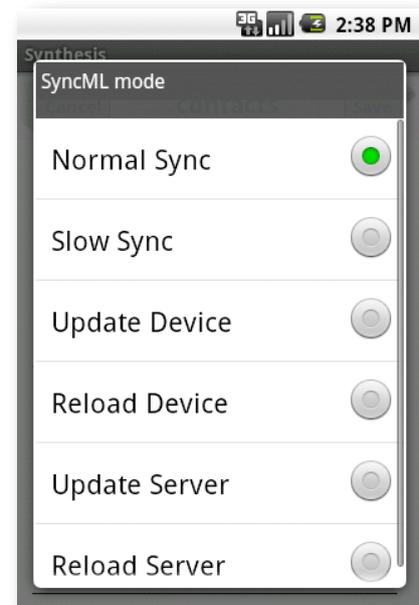
The paths can be separated either by spaces or line feeds (new line):

```
"/events/home:a  
./events/work:b  
./events/xxx:c"
```

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

Normal Sync: Normal two-way synchronization. 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 synchronization with a server and to recover from error conditions (like data loss on client or server, prematurely interrupted synchronization 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 synchronization needed for the very first synchronization 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.

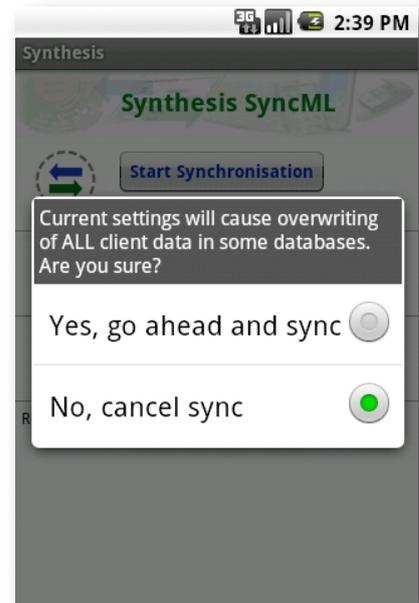
- ⚠ Using this mode means that you want to have a copy of server's data on your mobile device. This implies that when you do an "update device" sync for the first time, **all extra data on your device that does not exist in your server account will be deleted!**

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

After a successful „Reload Device“ the app **automatically switches back to „Normal Sync“** for all subsequent syncs.



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 (the 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** (the server must support "refresh from client mode")

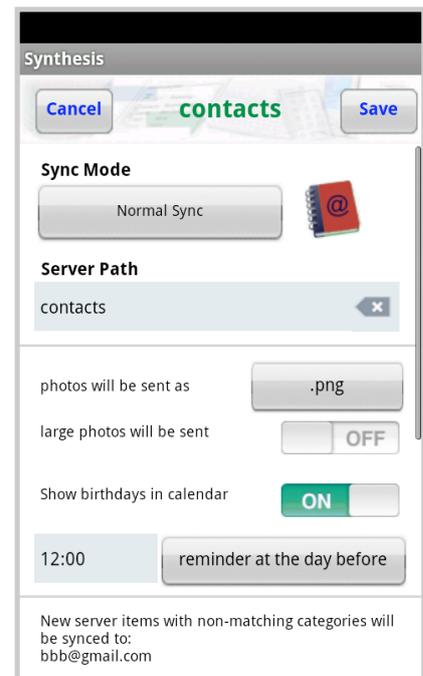
- ⚠ After a successful „Reload Server“ the app **automatically switches back to „Normal Sync“** for all subsequent syncs.

A change of the **SyncML mode** can be invoked from the **main menu** directly with a **long click** to the according datastore.

10.3. Special **Contacts** options (>= Android 2.0)

Contact photos will be sent usually as **PNG** files. With the latest version, these pictures can also be sent in **JPEG** format, as some SyncML servers can only handle pictures in this format. Syncing photos can also be switched off completely (which usually reduces data transfer strongly).

- ⚠ JPEG is not a lossless compression format. So pictures can lose quality when being copied several times back and forth. Default therefore is the lossless PNG format.
- ⚠ Large photos will be downsized to a maximum length/width of 1000 pixels.



With Android 4.0 and newer (and Synthesis app V3.2.0 or newer), contact photos larger than 96x96 pixels are possible. If "large photos will be sent" is switched on, they will be transmitted in large format, if available.

Some devices were able to send larger photos before Android 4.0, but only as vendor specific feature, not general purpose. That's why this switch will not be shown for Android versions before Android 4.0.

PRO-Version ONLY:

- All **Birthdays** of available contacts will be written into the special „**Birthdays**“ **Calendar** (in red color). A reminder can be set either on the day before or on the birthday itself.

As Android reminders can only be defined **before the start time** of an event, an allday event will be defined for reminders on the day before the birthday. For reminders on the birthday itself, an event for the rest of the day will be defined.

Android supports multiple accounts for 2.0 and higher. Each of these accounts can be synced with the Synthesis app, or not.

It must be considered that usually some additional information (as groups/categories) are need, to assign entries to the according address book.

 The internal addressbook is treated especially by several mobile manufacturers and is not acting as expected. In case of problems we recommend either the gmail account for sync or use a specific Synthesis account.

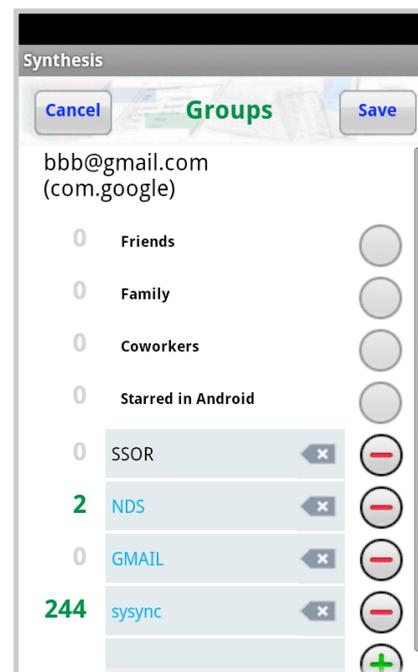
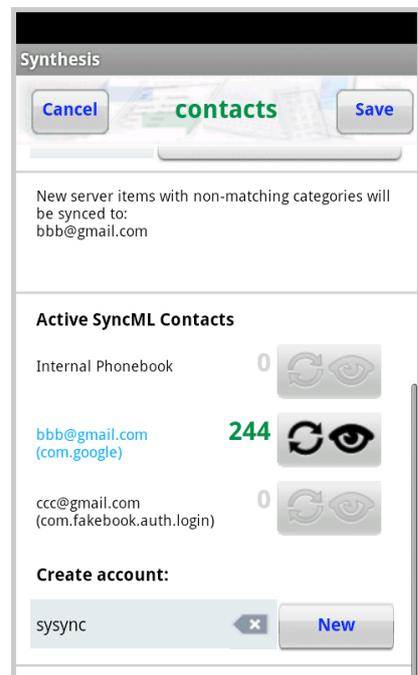
New with Version **V2.2.13, Android Groups** will be synced as categories. The groups of each addressbook can be configured via a new menu. This menu can be opened by clicking on the name of the according address book.

A selection appears for:

- **edit groups**
- create new entry
- delete all entries

Each addressbook has its own groups. The current number of assigned items will be shown on the left hand side. New groups can be added with the last edit field.

Android System Groups can neither be edited nor deleted. The names of your own groups can be changed or deleted.



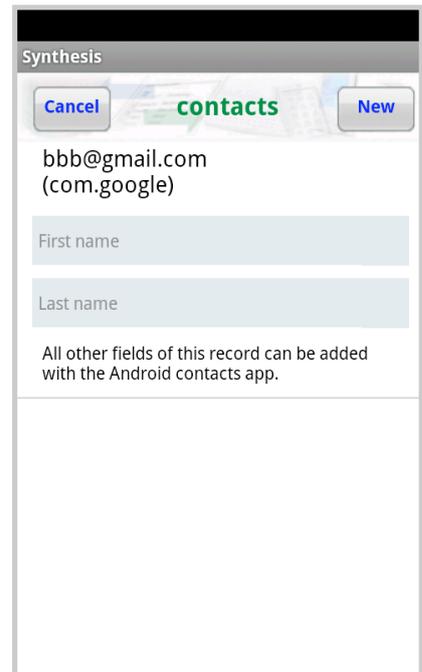
New groups from the sync server will be displayed in **blue**.

So called **Account Groups** can be created as well.

Notation: "Account: xxx". After entering, only xxx will be displayed in red. Such groups will be added automatically to each item of this addressbook. They will also be used for a priority assignment for new server items, which will be synced to the device.

Using "**create new entry**" a new item can be created. Some Android addressbook apps are only able to create entries at a "gmail" account.

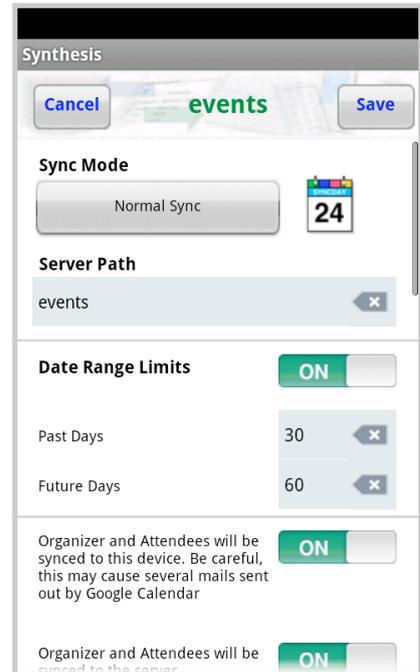
Using "**delete all entries**" will empty this specific addressbook. This operation can't be undone.



10.4. Special **Calendar** options

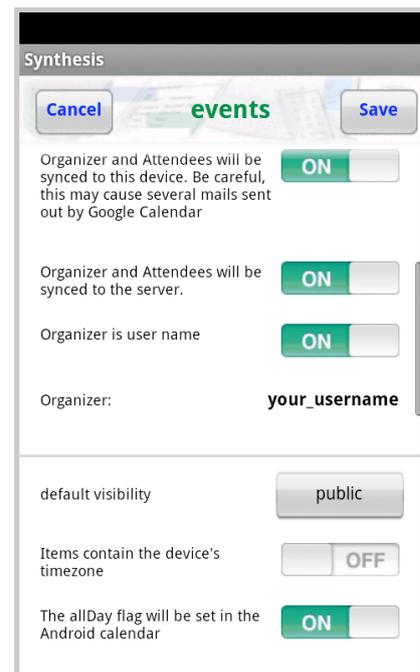
- **Date Range Limits:** For Calendar entries, you can limit the date range of entries that are synchronized. If activated, only calendar entries not older than the number of days set with "Past days" and not more in the future than set with "Future days" will be synchronized. On the server all events outside the chosen range will be kept.

- ⚠ Not all SyncML server support this extra option. In case you experience, try disabling the date range option.
- ⚠ Some Sync-Server are using a default daterange if it is not activated at the app.

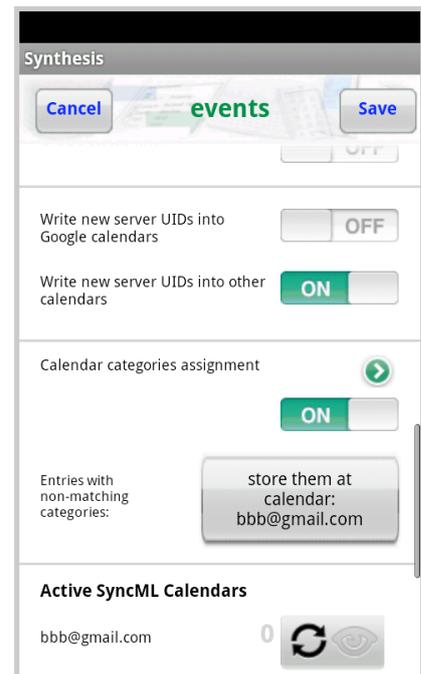


- **Organizer and Attendees:** Google Calendar is sending out emails to all organizers and attendees of newly synced events. This could cause a lot of mails being sent out after syncing the first time. In most cases this is unwanted. So by default, Organizer and Attendees information will **NOT** be synced.

- ⚠ For non-Gmail accounts (local calendars and calendars created with the Synthesis app) it's not a problem, as they do not sync with the Google calendar at all.



- The direction Client -> Server might also be critical (e.g. on some eGroupware servers), therefore it can be switched off as well. The default setting is on.
- A **changed organizer** can be added, if required. (most eGroupware Servers make problems, if this field is not set). Either the user name can be chosen as organizer. Or a specific text. With the notation "FirstName LastName" email@xxx.yyy name and email address can be chosen.
- **Default Visibility:** The default setting for new events can be chosen „private“ or „public“, if not already defined at the event itself.
- Entries usually will be stored and sent to the sync server with its time zone info. Entries can also be sent with the **device's timezone**. For changing the UNIX based device timezone, a restart of the device is required.
- **All day events:** Some earlier Android versions have a serious bug in the Android Calendar which causes all day events to be extended onto the day before (in all time zones eastern of UTC). This is not a bug of the Synthesis SyncML client for Android, but switching it off can prevent strange behavior with all day events. By default, all day event information will be stored.
- **Oracle Status Filter:** Oracle's Sync Server is storing some status information at the title field. Activating this switch will filter out such irritating texts. The status is still stored locally at the Synthesis app.
- **UIDs** are required to display repetition events with exceptions correctly. Unfortunately the Google Calendar will not sync items with foreign UIDs, that's why they are suppressed by default for gmail accounts (with some restrictions for repetition events with exceptions).



- Calendar categories assignment:**
 Android does not support calendar categories, but a system with multiple calendars. That's why a category can be assigned to each of these calendars. By default this category is „cal=calendarname“, but it can be changed freely (particularly the prefix „cal=“ can be removed).

All server entries which can't be assigned will be stored in the chosen default calendar (if the according switch is activated).



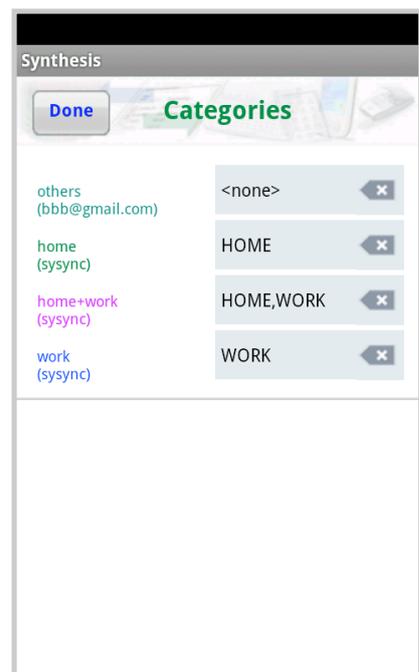
These conditions mandatory:

- All categories for all calendars must be unique
- The prefix „cal=“ is only allowed with its own calendar name

Android has no category system for calendars, therefore the SyncML server's categories must be mapped to specific calendars. New with version V3.2.0 also combinations of calendars can be used, which for example two categories can be mapped to four calendars. See example below:

EXAMPLE:

If there is an event with both categories HOME,WORK, the server entry will be stored in calendar **home+work**. If only HOME is available, it will be stored at **home**, respectively with WORK at **work**.



The client sends the according categories to the server.

The predefined category <none> sends/receives no category values.

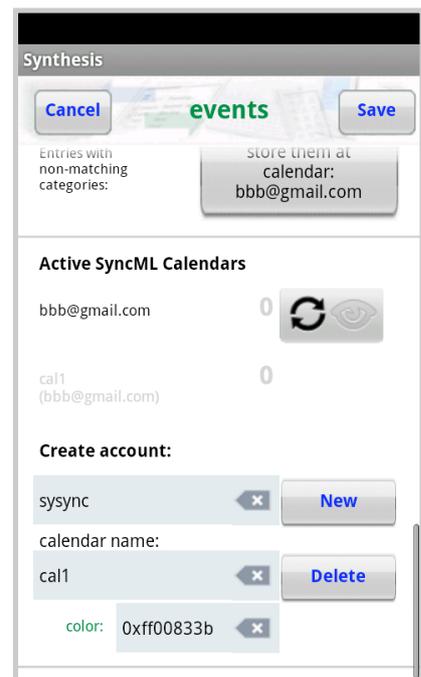
If categories are changed on server side, they will be **moved** to the according calendar on client side.

This example can be changed / extended with any attributes.

Multiple **calendars with the same name** are supported with V2.5.0 and newer. This is allowed if such calendars are located in different accounts.

- **Create account:** Own calendars can be created. They are always assigned to an account (which is also visible at the contacts settings). One account can contain more than one calendar. Calendars can be removed again, their accounts can be deleted at the Android Settings (Accounts & sync).

⚠ Some Android 2.1 and 4.1.2 devices can loose your own created calendars. Be careful.



Clicking fills names and color into the settings fields.

Long Clicking to the calendar name is opening a menu which allows to:

- Create new entry
- Get new Color
- Pick a Color
- Delete all entries

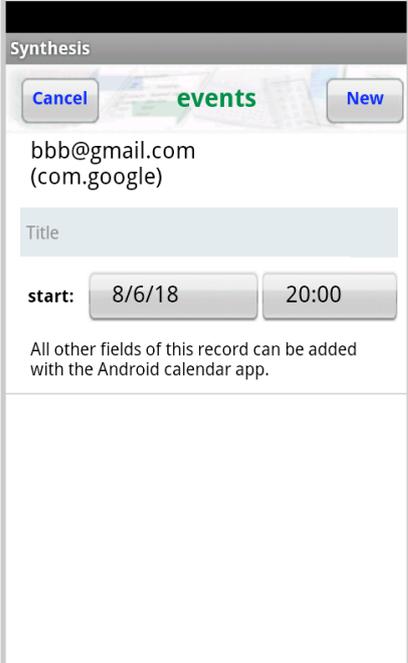


Picking a color can change the color of this calendar.

NOTE: Some Android devices will change back the color of gmail calendars back to its default, so picking a new color will not have a permanent influence.

A **new entry** (title and start time) can be created here. That's because some calendar apps do only allow to create entries at the gmail calendar. All other values can be added however afterwards within the calendar app.

All entries of this specific calendar can be deleted here permanently.



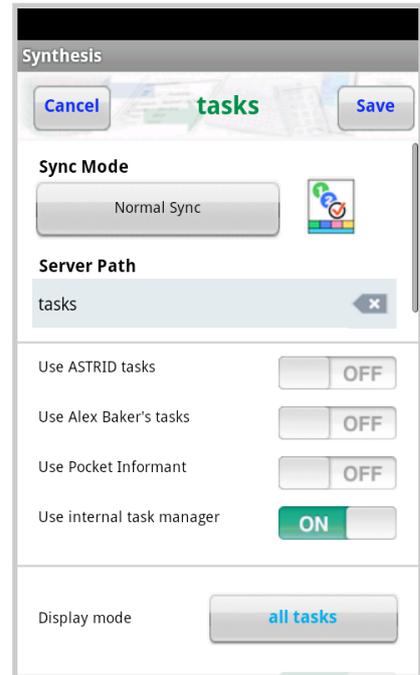
The screenshot shows the Synthesis app interface for creating a new calendar entry. At the top, there is a title bar with the word "Synthesis" and a "Cancel" button. Below the title bar, there is a "events" label in green and a "New" button. The main content area contains the email address "bbb@gmail.com (com.google)", a "Title" input field, and a "start:" label followed by two date and time input fields showing "8/6/18" and "20:00". At the bottom, there is a note: "All other fields of this record can be added with the Android calendar app."

10.5. Special **Tasks** options

Tasks will be syned to a database of the Synthesis app as Android is not providing a standardized tasks interface. Details for using ASTRID tasks can be found on the next but one page.

The group of tasks to be displayed can be configured:

- do not display
- all tasks
- not completed
- overdue tasks
- today / tomorrow
- repetitive
- future tasks

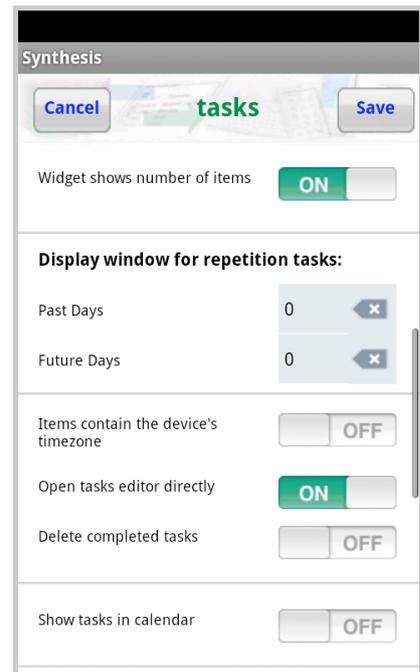


for the **STD** version this is the selection of displayed tasks

for the **PRO** version it results in the number displayed at the widget (with an according color). The selection can be activated as well with a switch at the tasks editor itself.

For **repetition tasks** the display window will be restricted to a maximum of 180 days into past and future.

Entries usually will be stored and sent to the sync server with its time zone info. Entries can also be sent with the **device's timezone**. For changing the UNIX based device timezone, a restart of the device is required.



If only tasks titles will be displayed (including priority and due date), but not the description, it can be decided whether to open this view first, or open the **tasks editor directly**.

On request, **completed tasks** can be deleted automatically (and irrevocably).

PRO Version ONLY:

- Show tasks in calendar: All **due dates** of the tasks can be written into the special „**Tasks**“ **Calendar** (in brown color) on request.

A **default reminder time** can be defined for all newly created tasks. The reminder can be set individually for each task however.

As for contacts and events, accounts can be grouped into several accounts. The group / categories system works identically as for the contacts. Sync and Visibility can be selected separately for each account.



New entries coming from the server side with non-matching categories will be assigned to one of the active accounts.

New accounts of type "com.sysync" can be **created** here. Such accounts can also be used for contacts then.

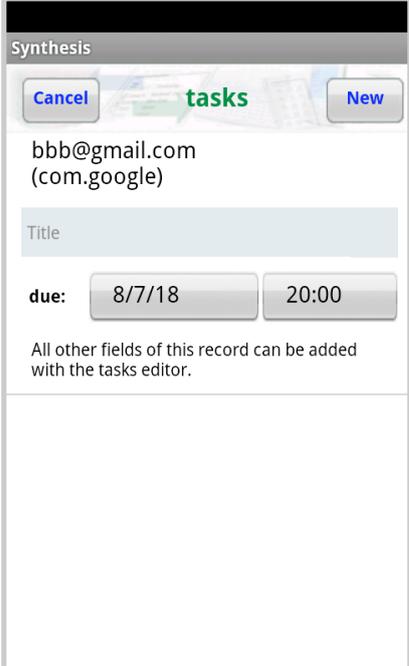
Accounts must be **removed** via the Android settings tool.

Long click touching of the the **name of an account** will open a menu with these operations:

- edit groups
- create new entry
- delete all entries

Title and start time can be entered for such a new entry at this **specific account**.

All other fields can be added with the **tasks editor**.



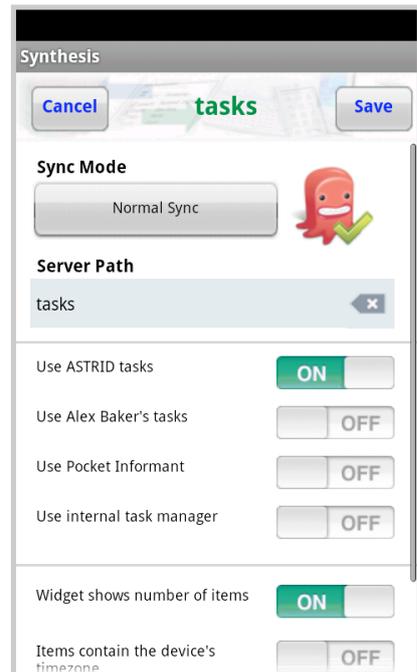
The screenshot shows a mobile application interface titled "Synthesis". At the top, there are three buttons: "Cancel" (blue), "tasks" (green), and "New" (blue). Below these buttons, the email address "bbb@gmail.com (com.google)" is displayed. A text input field labeled "Title" is present. Underneath, there are two date/time pickers: "due:" followed by "8/7/18" and "20:00". A note at the bottom of the form states: "All other fields of this record can be added with the tasks editor."



Alternatively the tasks can also be synced with the Android app „Astrid Tasks“ (<http://www.todoroo.com>) if installed. There is no further development on Astrid however.

- ⚠ On some Android devices Astrid tasks must be installed **BEFORE** installing the Synthesis app. If the switch for Astrid is not visible at the tasks settings, usually a de-installation and re-installation of the Synthesis app will help.
- ⚠ Synthesis App Version 2.2.20 and later supports Astrid lists as SyncML categories

The Astrid Tasks priorities (high/mid/low) can be assigned either to 1-2-3 or 1-5-9, to let them fit correctly to your sync server's values.



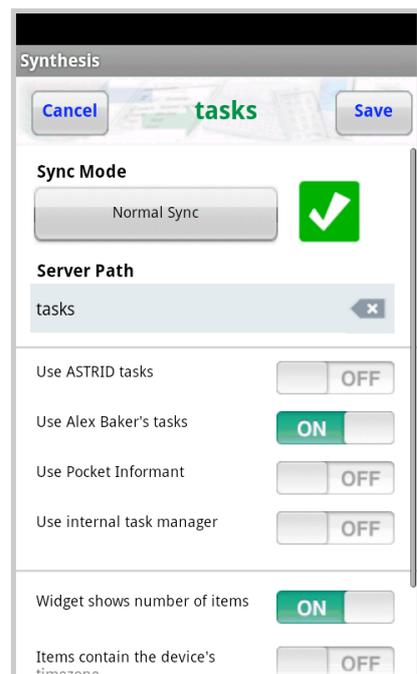
Alex Baker makes some further development on „Tasks“ which is based on „Astrid“.

The database of „Tasks“ can be synced with Synthesis App V2.9.0 and higher.

„Astrid“ and „Tasks“ can be installed both on the same device.

The Selection of the Task Manager can be done individually per profile.

NOTE: Tasks **V4.6.12** or higher should be installed on your device.





New with version V3.0.7
the tasks of WebIS' **Pocket
Informant** can be synced.

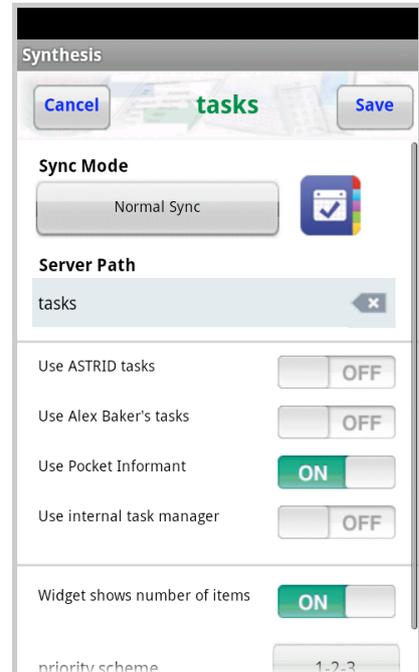
Demo and full version of Pocket
Informant are supported.

The calendar to be synced can be
selected (usually it's the first gmail
calendar).

Hierarchies with sub tasks can be
synced, if the sync server supports this
feature.

Categories and recurrence tasks are
supported.

Only one alarm time will be synced. If multiple alarm times are defined
at Pocket Informant, the next one in future or the last one in the past
will be chosen.

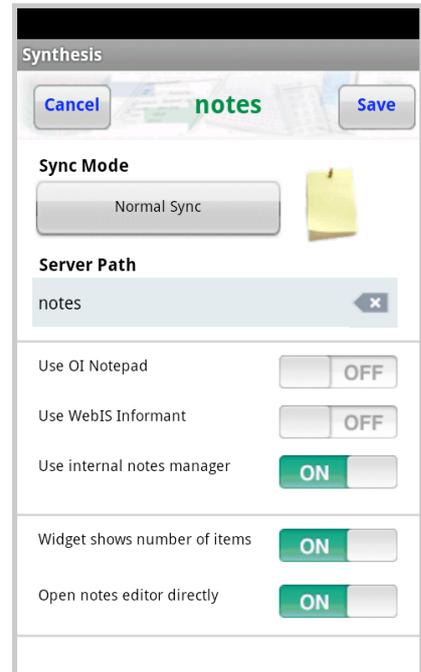


10.6. Special **Notes** options

(PRO Version ONLY)

The number of notes can be shown at the widget on request.

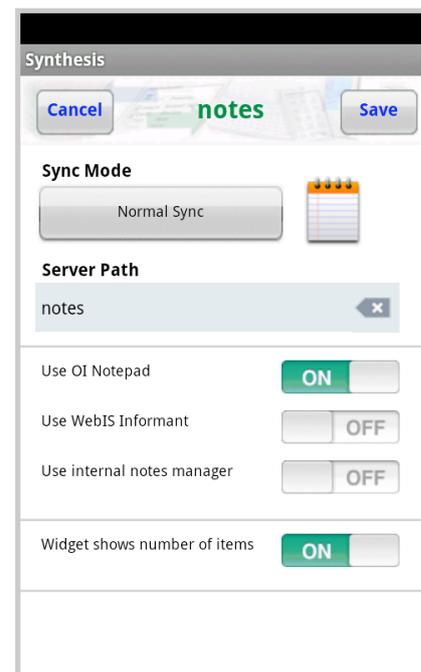
The notes editor can be opened directly, as supported for the tasks.



Alternatively the database of the app **OI Notes** can be synced.

The selection appears if OI Notes is installed on the device. Eventually a restart of the device is needed to make OI Notes visible at the Synthesis app.

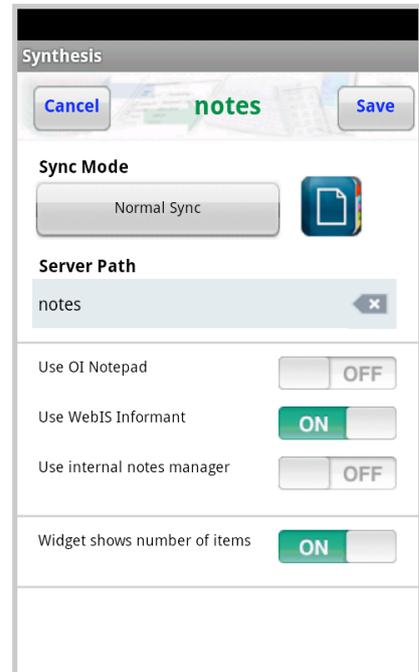
The Selection of the Notes Manager can be done individually per profile.



With Version V3.3.0 of the Synthesis App notes of Pocket Informant can be synced as well.

The selection appears if Pocket Informant is installed on the device. Eventually a restart of the device is needed.

It works with the P3Demo, as well as the full version of Pocket Informant.



10.7. Special **SMS** options

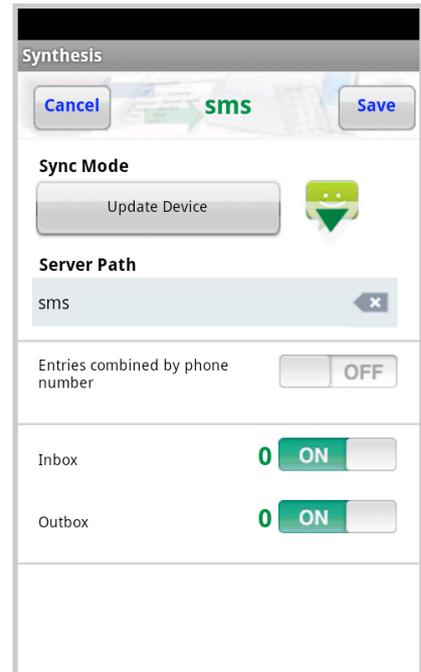
The device's SMS can also be synced. Usually a „**notes**“ datastore is the best choice (most SyncML servers provide such a datastore as text/plain).

SMS can be synced either individually or thread related („Entries combined by phone number“).

It is also possible to sync only the **Inbox** or only the **Outbox**.

For Android 4.4 (KitKat) and higher only one app can be the **Default SMS App**. Therefore the user will be asked to switch it accordingly.

(PRO Version ONLY)



10.8. Special **Documents** options (PRO Version ONLY)

Documents (such as files, pictures and videos) of any **path** of the Android device can be synced with **V2.2.20** and later.

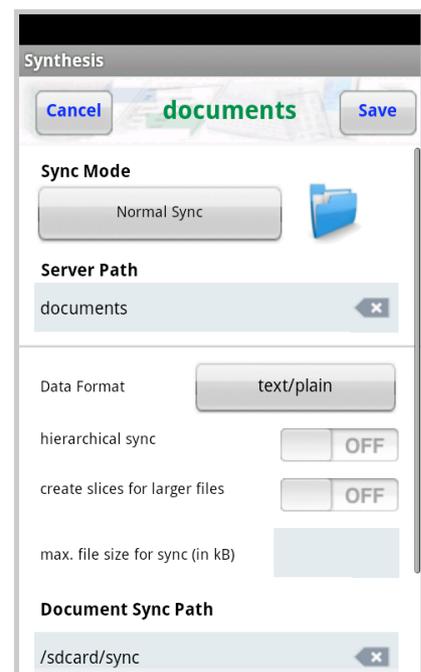
Preference is a datastore with vnd.omads-file+xml format on server side. But it's also possible to store the documents in a notes datastore (text/plain).

Hierarchical Sync is supported for **V2.7.0** and later, the maximum document size can be limited.

(Please note that some server have a limiting maximum size for such documents).

A document selection can be done (using wildcards):

e.g.: `*.jpg *.png` for pictures.



If syncing of larger files (**20 MB and larger**) is required, the memory limit of the device is often reached. It's there for recommend for such cases to transmit such files divided into several slices. A reasonable size for such slices is 2 MB (2048 kB). This also helps to work around the server's maximum file size limitation.

The mode for **slicing** can be chosen at the documents settings menu. Please note that this mode is a Synthesis specific extension of the standard, which is not supported by all sync servers. Syncing back and forth works in most cases (also to other devices). Merging the files on the server only works, if this mode is supported.

The file name of such slices is given in the form:

<fileName>:<n>:<nTot>:<fileSize>

Example: 2010-03-28 15.00.12.jpg:4:11:22252452

(4th of 11 slices with a total file size of 22'252'452 bytes)

10.9. Special **Call Log** options **(PRO Version ONLY)**

The Android device's call log can be synced with **V2.5.0** and later.

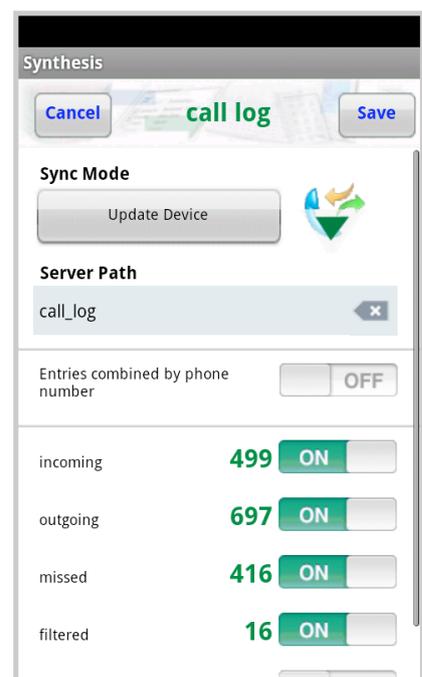
A datastore with text/plain format (notes datastore) on server side is requested.

NOTE: The call log datastore can currently only be synced direction app --> server.

2-way-sync is possible: Entries will be stored at the client side, but they are not displayed in the phone's call log however.

NOTE: Most Android devices have a maximum number of 500 call log entries. So the oldest entries will be overridden.

As for SMS, entries can be combined, and some specific modes can be selected for sync.



10.10. Special **Bookmarks** options (**PRO Version ONLY**)

The Android's call log can be synced with **V2.5.0** and later.

Preference is a datastore with text/x-vbookmarks format on server side. But it's also possible to store the documents in a notes datastore (text/plain).

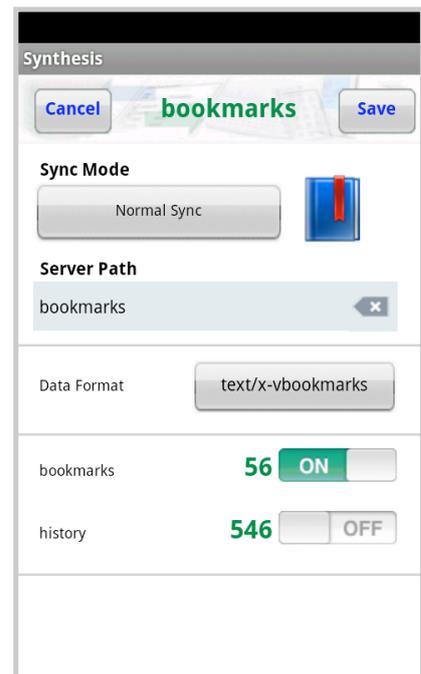
For app version V3.2.0 and newer, **Bookmarks** and **History** can be synced in both directions (device ↔ server). Two devices can be kept in sync concerning history this way.

Bookmarks ONLY or History ONLY can be synced on request.

Only the text/x-vbookmarks mode can assign the two databases correctly (using categories).

IMPORTANT: For Android 6.0 and later the system does not allow anymore to access the bookmarks or the history. An according error message will be generated, and the bookmarks on the server remain unchanged.

An exception is the browser of Samsung devices, which is still accessible.



11. Tasks Datastore

An **internal** datastore for tasks is available (for STD and PRO).

Android does not support a native tasks manager, therefore the Synthesis SyncML app now contains its own tasks editor, in a similar way as already available for the notes.

Expired events will be display in red, events with a due date today or tomorrow will be displayed yellow, events in future will be display green.

Canceled and completed events will be displayed in grey color.

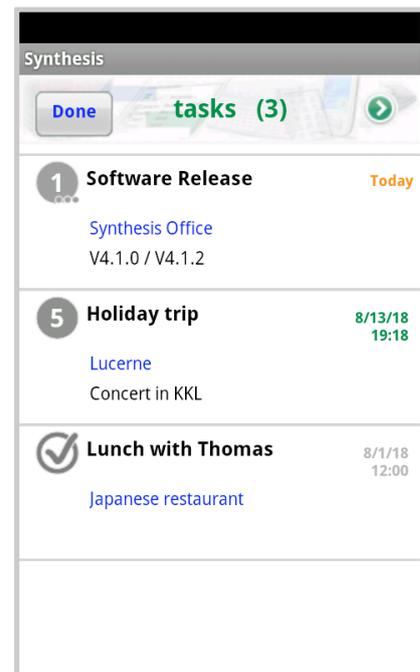
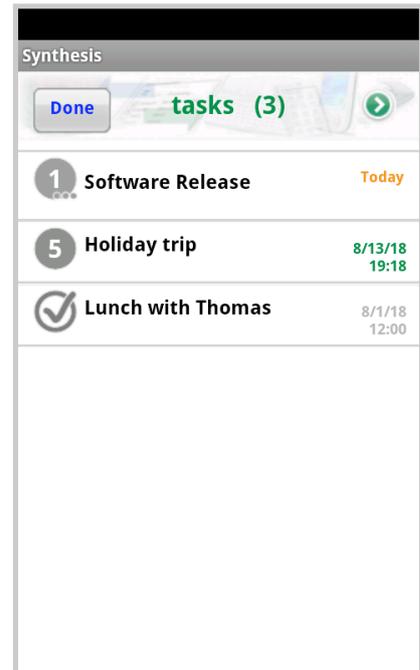
The settings menu can also be reached from here.

The display is either subjects/texts or subjects only.

The tasks can be ordered by

- priority (canceled and completed events will be displayed after events with priority 1..9)
- title (subjects alphabetically)
- due date (canceled and completed events will be displayed at the end of the list)

With the fast scroll mode the current value will be shown as black block in the middle of the screen.



New with version 2.4.12, texts (at title, location and description) of tasks can be **searched** (via the blue searching field).

Tasks with fitting search text will be selected and the found text will be displayed in yellow color.

Fitting locations and descriptions will be shown also in title-only mode.

The menu "delete all" allows to remove also the current selection only.

The tasks editor window allows to set subject, priority, status, due date, start date, classification (public, private, confidential), reminder, location and description.

Repetitive tasks can be also configured. They can be synced however only, **if the server supports the according RRULE field.**

An end date for each repetitive task can be defined.

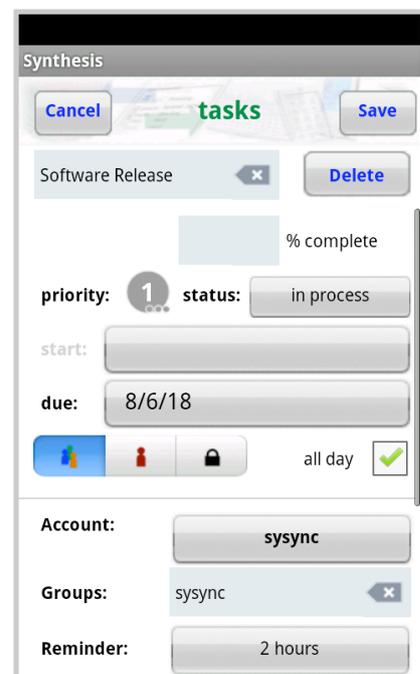
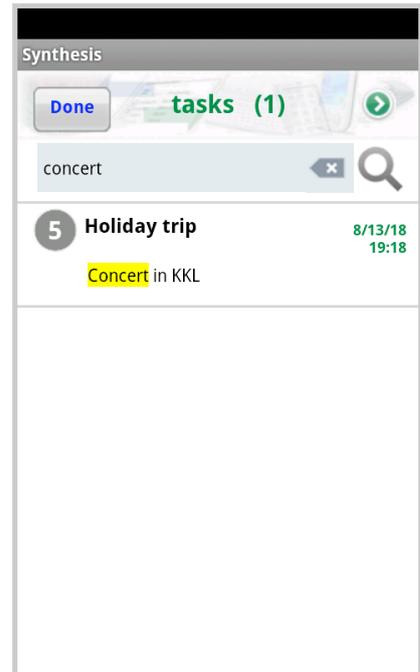
By default the first occurrence in future will be shown for recurrence events. It can be configured in the tasks settings for n days into past (maximum 180 days).

Recurrence exceptions can also be defined (either removed or changed).

Repeating Intervals larger than 1 can be defined with version V2.9.0 and higher. The edit field will be visible when a repetitive selection is active.

The default priority for new tasks will be set to "undefined" (0).

With version V2.2.20 and later, multiple tasks accounts are supported. Groups will be handled (as for contacts) as categories for sync. Allow-

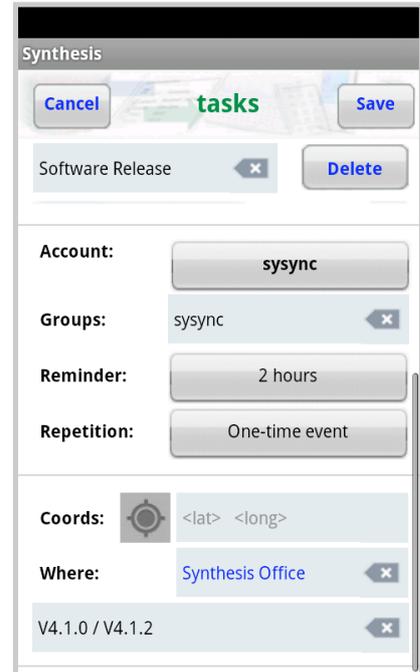


ing the assignment of items to accounts, depending on its groups. The **Title Color** of each entry corresponds with its assigned account color, which can be set at the tasks settings menu.

With version V2.9.0 and later, the current **GPS coordinates** (and also the city name, if available) can be stored in the GEO location fields. To save battery, the GPS system is only active during the task editor is opened.

To insert the current coordinates, the grey location icon must be touched. The city name will be inserted into the "where" field, if empty and available from the GPS system.

Touching the words "**Coords**" or "**Where**" will open **Google Maps** with according information.



With version 3.5.14 and later the account of an already existing task can be changed later. The default group of a new task is the account group. This can be changed again however.

12. Notes Datastore

(PRO Version ONLY)

A datastore for notes is available in the **PRO** version. The settings for the synchronisation will be done (as for the other datastores) via the „Settings“ menu.

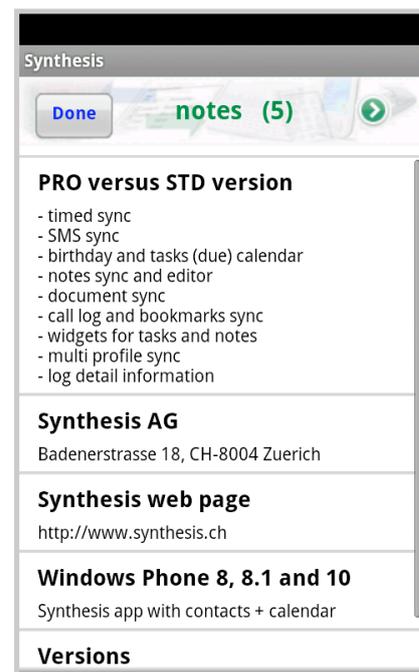
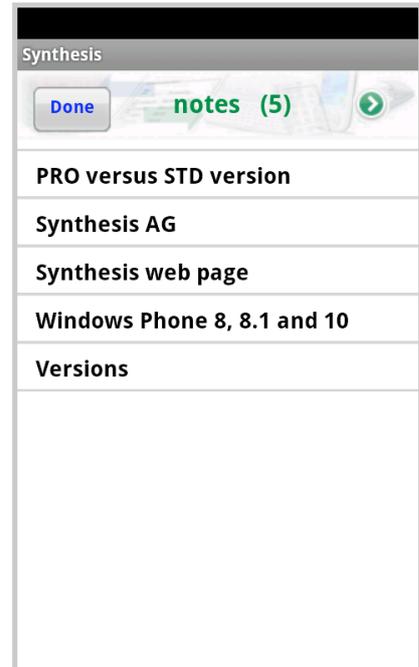
The default name for the server path is set to „notes“.

- ⚠ All notes data will get lost when deinstalling the Synthesis app (that's because the notes database is part of the application). If there has been done a synchronisation before, it can of course be restored from the server afterwards.

Android does not contain a notes database, that's why Synthesis has integrated it. The **notes editor** is therefore part of the application's code and can be reached via the notes field of the main menu.

The display is always ordered alphabetically according to the titles of the notes. It can be chosen whether the display shows title **and** texts, or titles **only**.

Via the menu new notes can be created or all notes can be deleted. Notes can be edited by clicking a specific one.



Version V3.3.0 and higher support the fast scroll mode where the first letter of the notes title will be shown as black block in the middle of the screen.

The settings menu for notes can be reached directly (via green arrow) from here.

New with version 2.4.12, texts (at title and description) can be **searched** (via the blue searching field).

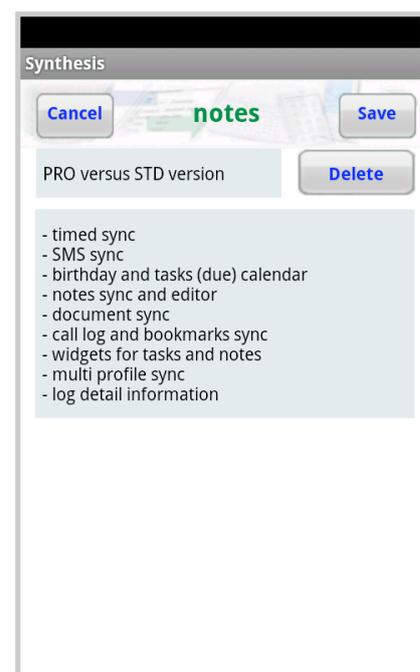
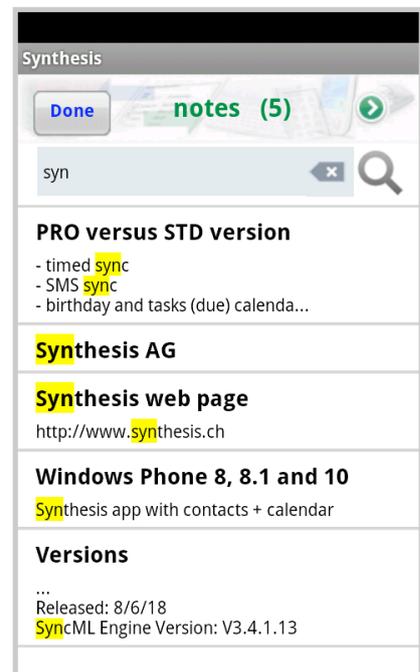
Notes with fitting search text will be selected and the found text will be displayed in yellow color.

Fitting descriptions will also be shown in title-only mode.

The notes editor allows to change title and text. Or the whole entry can be deleted.

Entries with a changed title will be automatically sorted alphabetically again.

The number of notes is not restricted (as long as the memory of the device is sufficient).



13. Timed Sync

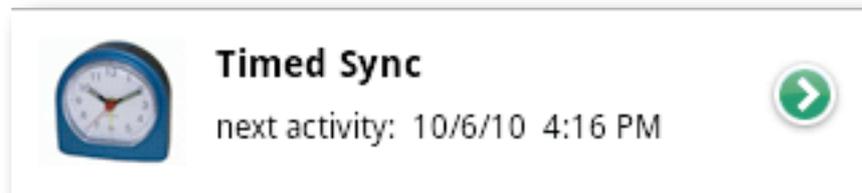
(PRO Version ONLY)

An **Android PRO (or CAL) license** is required to use this feature.

The Timed Sync can be activated for a repeating time interval.

The time of the last/next activity will be shown in the settings menu and at the Android widget.

By default the next sync time will be shown. The last sync time can be displayed on demand (when switching on „show last sync time“).



Timed Sync will be automatically restarted, even when stopping/killing the app or after rebooting the device.

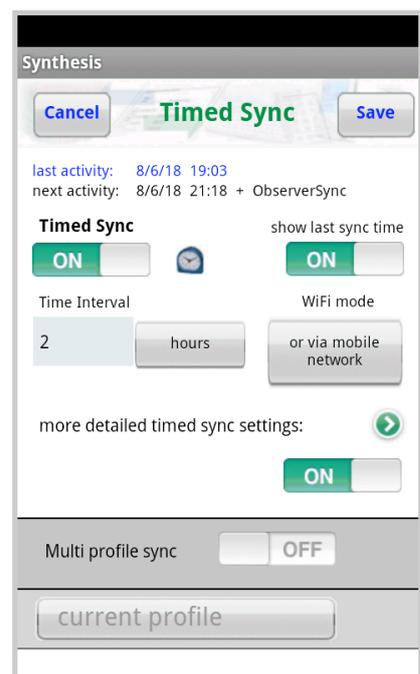
Most off the app menus will show the blue clock in the top right corner as long as timed sync is active. It is blinking in orange color during the sync sessions.

It can be chosen, whether sync will be done periodically

- independently whether there is WiFi or OTA access
- only if WiFi is active
- trying to enable the WiFi each time

The periodic sync time can be a floating point value. It will be rounded to the next minute value.

The value can be defined in minutes, hours or days.



For app version V2.1.1 and later, more detailed configuration can be done: weekdays and time during the time for syncing.

If the start time is later than the end time, timed sync is active during the night. If one (or both) of the time settings is off, time definition is from/to midnight.

⚠ The Timed Sync is blocked during several operations:

- during an already started sync session
- within datastore settings menus
- within registration / profile menu
- with the timed sync menu

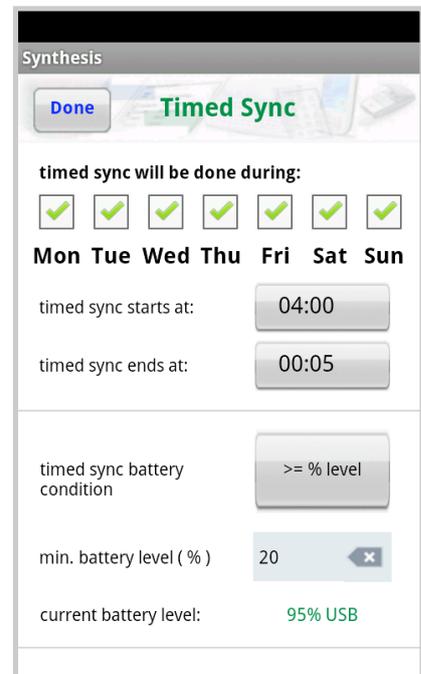
(Blocked means that timed sync will be **omitted** for such occurrences).

⚠ There is no warning dialog for „Reload device“ / „Reload server“ during timed sync.

New with version V3.2.0 the detailed timed sync settings allow to define a condition for the **minimum battery level**, e.g. 90 %. Timed Synchronization will be done only, if the battery level is equal or above this level, or it is connected to a charger. A percentage level can be chosen, or only with charger or always.

The current battery level will be shown. The color is red/green, dependent on the auto sync condition.

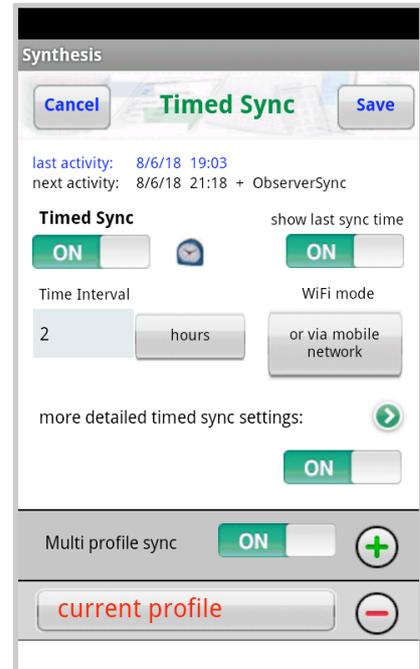
The batter level will be shown now in the log menu for every sync session as well.



For app version V2.0.16 and later,
multi profile sync can be activated:

This mode is useful when syncing with two or more different servers at the same time (e.g. private and for business), or if there are e.g. different calendars on the server (with different server paths). The number of profiles to be synced is not limited. Multi profile sync is always affecting timed sync **AND** manual sync.

Multi profile sync will be **executed in the given order**. Each profile (for detailed info about profiles see next chapter) sync will be executed as a separate sync session and displayed in the log menu.



The title bar of the 1st sync session will be shown there in normal blue, all subsequent sessions in light blue. The name of the profile is documented at the title bar of each session.

The choice is one of the existing profiles or the current profile (which will be displayed in red). If a profile will be removed, it will be displayed in light gray and no session will be started during sync.

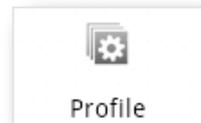
If an error occurs in at least one of the sync sessions, it will be stored in the log menu, but the flow will not be stopped. The first error will be shown on the main screen at the end of a multi profile session.

If a session will be **aborted** (by touching the start button twice), all subsequent sessions of this multi profile sync run will not be executed.

All operations at the settings menu are blocked during sync as changing the profile contents could cause strange side effects.

If the multi profile sync main switch is off, the whole multi profile sync configuration remains stored and can be re-activated at any time. The multi profile sync status however will not be preserved when de-installing the app.

14. Profiles



The Android SyncML Client supports **multiple profiles** for the STD and PRO version.

Profiles can be selected, created and deleted on the Profiles page. The most relevant information (URL, username) will be displayed here.

There is no limit for a maximum number of profiles.

The contents (including the name) must be changed in the server settings menu.

- ⚠ An list of the active SyncML contacts/calendars is available **for each** profile.
- ⚠ The license details are not part of the profile
- ⚠ Profile contents will survive a **deinstallation** of the Synthesis app, as long as the 3 files „sysnclib_prof.bfi“, „sysnclib_targ.bfi“ and „sysnclib_sav.txt“ at the SDcard's "download" directory will not be removed.



If more than one profile is defined, the current sync at the main menu can be executed with a long click. Then a selection list pops up, which allows to sync this session **with any profile**. The current profile can be executed with logs as well this way.

PROVISIONING:

If the files prof/targ/sav mentioned above will be packed into a zip archive called "**sysnclib_settings.zip**", another device can be configured when copied to the "download" folder (or downloading it to there). **sus** (server username), **spw** (server password) and other values can be configured individually at the sav.txt file.

Profiles can be provisioned directly via the Android Intent/Provider system. **Please contact Synthesis to get more detailed documentation.**

15. Synchronizing

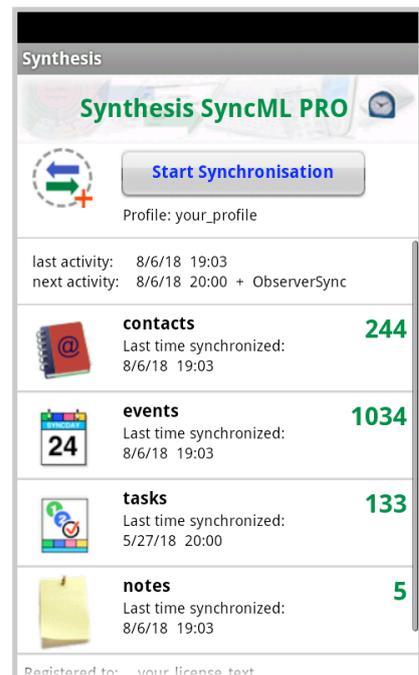
When setup is complete, return to the "synchronize" screen and press the "Start Synchronization" button. This will start a synchronization with the SyncML server as configured:



- The device will open a connection to communicate with the SyncML server. It uses the system wide network settings (WiFi, EDGE, 3G or LTE).

⚠ If you get the "connection error" message, this means that the client cannot connect to the server. Please make sure you have network connectivity (WiFi hotspot or cellular network coverage).

⚠ If you get the message "No SyncML Response", 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 are sent and received.
 - ⚠ For each data type, synchronization starts with a „reading“ and „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 „reading“ and „checking“ phase, no data is transferred to the server. So even if the "checking" count might be high and take some time - „reading“ and „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.
- After a completed (or failed) synchronization, you can view its statistics by switching to the „Log“ screen. This will show the 30 most recent log entries, newest at the top. Using the „Delete“ button, you can delete all log entries.

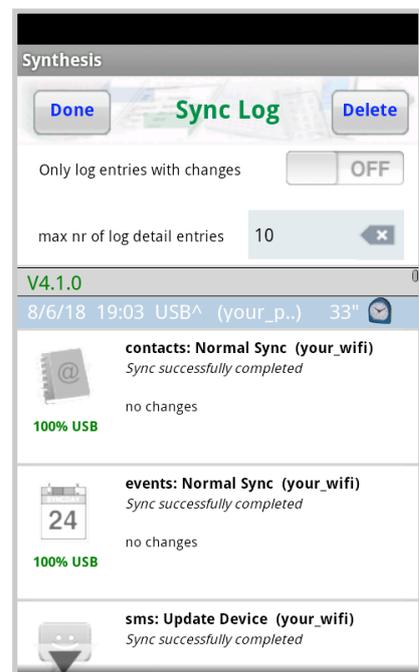
16. Log Info

The log screen shows a separate entry for each data type synchronized. So if you have enabled sync for "Contacts" and "Events" in the settings and start a sync, you will get 2 new entries in the log.



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

⚠ The "Rejected" counts show how many records that were sent to the server or received by the client were rejected due to an error. Usually, these should be zero. In some cases, a server might not be able to store certain records, for example due to some particular properties like a large note or photo, and therefore will reject the item. The client will try re-sending the item in the next sync.



For Synthesis App version V3.2.0 and newer unchanged datastores will be shown with a black & white icon. For errors it will be shown in red.

PRO Version Only:

If the field "max nr. of log entries" will be extended with M (or m), the display is in multi mode: all icons of the same sync session will be shown on one line.

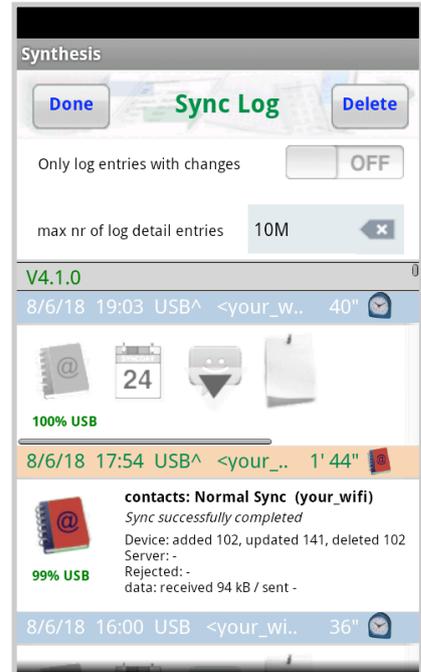
With R (or r) also unchanged entries will be shown.

With O (or o) the oldest entries will be shown first.

With T (or t) only titles will be shown.

All options M,R,O,T can be combined freely.

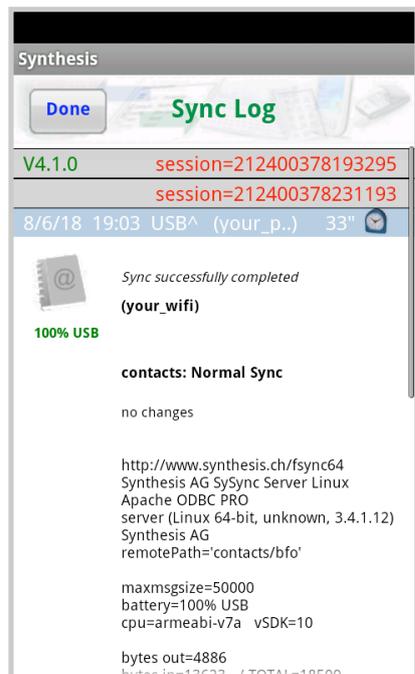
For just one datastore per sync session, the additional information will still be shown. For more than one datastore only the icons will be shown.



PRO Version Only:

Additional information about a specific sync will be shown by tapping to the according session display.

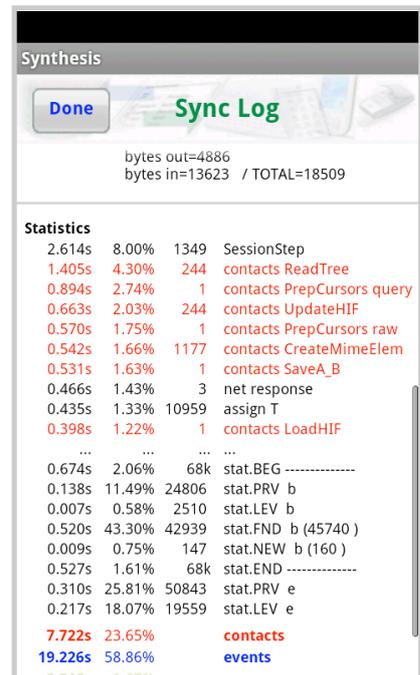
General information about this session and the sync server. as well as **changes** (with display of title, start time at calendar, and type of operation) and detailed **statistics** about the flow of the session will be shown. The statistics shows how long it takes for a specific operation, and often it has been executed. The entries will be sorted by the amount of used time, so they give prioritised information about the used time of this sync session.



Colored entries are assigned to the specific datastore. The black entries are from the common part of the session, as network communication. "net response" for example is the summarised time of the server until the response is sent after each request.

The **number of displayed changes** per mode can be configured at the logs of this app. Default are 10 entries. If an "R" will be added to this field (e.g. "10R"), also unchanged entries (= "read") will be shown.

Entries can be deleted (irrevocably) with a long click to an entry.



17. Sending debug log files

There is another type of logs, the technical SyncML log files that can be useful to diagnose problems. When a sync is performed with either a **long click** on the sync button (and second line chosen), or "**Log next sync**" switch on in the server settings (the Synthesis logo arrow will change its color from green to red), the Synthesis SyncML engine will produce extended logs during sync and will offer to send these to the web server of Synthesis AG. You have to inform Synthesis by email afterwards about the **problem**, the **server URL**, the server **user name** and the **sync time** that the according log file can be found by Synthesis.

Alternatively log files can be sent as zipped attachment in an email. The default address is support@synthesis.ch. This address can be changed at the server settings.

You can also use an Android html viewer to inspect the log file: Just choose "Keep for later" instead of "Yes, send logs". In this mode the log file (in HTML format) will be copied to the SD card's download/log directory. There are several Android utilities to pick the log file up there and display it, or send it as email attachment to your desktop computer for inspection.

18. Suspend & Resume

A synchronization 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 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 where 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 WiFi coverage with a device while it is in the middle of a sync), press the "Suspend Sync" button **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 takes some time until the sync actually stops. During this time, the button text changes to "Abort Sync".



⚠ If you now press the button a **second time**, this will cause a "hard" suspend to occur - 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, or the SyncML application is terminated by pressing the home button. 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.

19. Licensing

Licenses for the Synthesis SyncML Client for Android can be purchased via the Synthesis Web site (on kagi.com) or via your Synthesis Reseller.



The license information can be entered on the registration screen.

License text and code must be entered exactly as given: The license text usually contains the user name **AND** his/her email address.

The user name (without email address) will be visible on the sync screen as license information.

Before purchasing you can apply for a **free** temporary license for **30 days** at the Registration menu. Internet connection to the Synthesis web server is required for this.

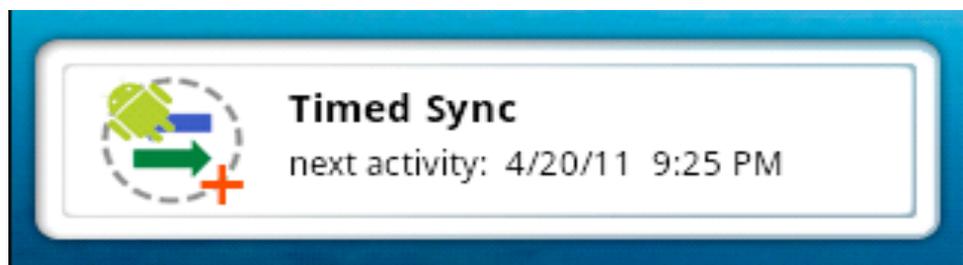
A screenshot of the Synthesis app's registration screen. At the top, there's a title bar with "Synthesis" and a "Registration" button in green. Below the title bar are "Cancel" and "Save" buttons. The main content area has a label "Name and e-mail address:" followed by a text input field containing "your_license_text" and a clear button (X). Below that is a label "Registration code:" followed by an empty text input field. At the bottom, there's a blue button labeled "Apply for a temporary license" with the text "(contact the license server via internet)" underneath it.

The PRO version can be evaluated **again** for a trial period of 30 days.

- ⚠ The version the **Google Play Store** (former **Android Market**) does not contain this menu, as the license will be given directly from Google to the app. An evaluation 30 days for free is not possible with the Google Play Store version. Additionally a later upgrade to the STD or PRO version isn't possible with the Google Play Store version.

20. Widgets

Synthesis Client Version V2.0.7 and higher support Android widgets. They can be placed on the home screen using the widget manager. The size is one row with a width of 4 icons:



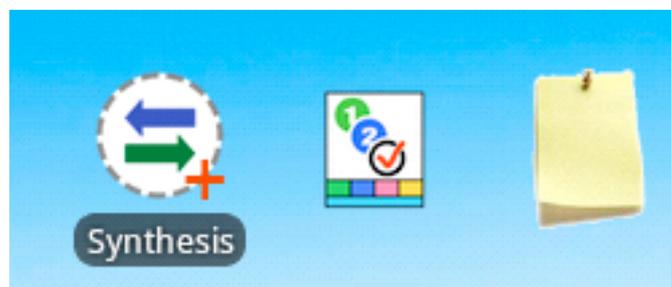
This widget is available for the STD and PRO version.

The STD version shows the last sync time and can **start a sync session** when pressing the Synthesis icon.

Touching the title will open the „About“ menu of the application. Other menus of the app can be reached from there.

During the sync operation the title will be red. Errors will be displayed instead of the title line.

The PRO version shows next time sync or last time sync, dependent on the timed sync settings. **Manual sync or timed sync** activities will be shown. The PRO widget will open the timed sync menu when touching the next activity / last activity line.



The PRO Version provides two additional widgets which allow to start the **tasks editor** and the **notes editor** directly from the home screen. The **number of tasks** (with some selection criteria) and **notes** will be shown at the widget.

21. Hidden Options

The Synthesis Client for Android contains several hidden options which can be activated on request. These settings aren't available as normal switches at the user interface, as unneeded confusion should be avoided.

Switching on these options is always done the same way: At the end of the server's username (or the license text) a string of the form " :ABCD" (space colon ABCD) can be added. Multiple options can be added. Their ordering has no effect. These options are existing just once (not per profile), they will be shown at the end of the registration info of the main menu for reference.

For these options no support or additional documentation will be provided. Therefore they must be used with great care.

```
:OLDC // use old 1.X contacts datastore
:SHOT // screen shot mode is active
:RHOT // screen shot mode with red title

:CA10 // use VCALENDAR 1.0 only (switch it off in the config)
:CA20 // use VCALENDAR 2.0 only
:CO21 // use VCARD 2.1 only (switch it off in the config)
:CO30 // use VCARD 3.0 only

:CVIS // calendar visible at settings (used when creating screen
      // shots on emulator)
:BETA // check for beta updates
:BETA2 // " " " " (alternate)

:SMST // SMS time in readable format
:SMSN // SMS with name info
:XML // use XML encoding for messages
:ACFU // always check for updates
:ACGP // always check Google Play
:ADBG // additional debug info
:CDBG // additional debug info: console
:STEP // additional debug info: time steps
:DBAE // debug all events
:CTPW // cleartext password (not recommended)
:MD5A // ask for auth-md5 mode
:MD5D // display MD5 auth switch
:FILT // summary filter

:FEXD // force exdates
:IEXD // don't force exdates (is stronger than FEXD)

:FBRK1 // forced break testing
:FBRK2 // forced break testing
:CERT // check Synthesis certificate
:ASSL // use alternative Synthesis SSL server
:ALTA // use alternative deviceID
:BEEH // the beehive flags for on (weaker than off)
```

```
:NBEE // the beehive flags for off (also if in url)
:LITE // LITE identifies as LITE (default STD)
:STD // PRO identifies as STD (default PRO)
:ANDI // identifies as Android (also on WP8)

:PROV // provisioning debug info
:DUEX // delete unused exdates

:NCOL // no button color, just grey
:SESC // slash escaping for document sync
:EDSP // disp ds with editors on main screen
:FGS // SET/GET info
:HASH // store hash data
:SDIR // show internal directory contents
:LOGO // show different logo
:DEXD // display exdate information for each UpdateField with
:EVTE // event test module
:TATE // tasks test module
:R404 // recall at 404 error

// datastore adapters
:VRAW // include raw device adapter
:VFIL // include files adapter
:VEXP // include example adapter
:USR1 // include user defined adapters
:USR2
:USR3
:USR4
:VALL // switch on all additional adapters
:VDSP // display all additional adapters

:NUAG // no user agent
:JAZO // java timezone
:N999 // virtual 999 display (for checking disp sizes)
:MTOK // market token mode
:SAVD // *sav.txt display mode

:STAT // show statistics info at adb logcat
:STDS // per datastore statistics
:SPRO // pro statistics (at PRO log submenu)
:SESS // only whole session

:SSRC // sync source disp
:NCOH // no contacts hash
:NCO1 // no contacts oneHash
:NCAH // no calendar hash
:NHDU // don't handle duplicates
:RHDU // reduced timeout time for handling duplicates
:SYAC // write to sync account vars
:WDUR // activate duration
:TRYU // try update
:NWAR // no WiFi acquire/release
:ALTU // use alternate URL
:SLIC // slice support for documents
:ROSA // tsync purple bar info
:SIMP // simple config setting
:INTC // internal calendar creation (WP8)
:DSDS // display all datastore
:NSCR // no horizontal scroll at log menu
:BATT // battery info at files
```

```
:NMLZ // no megabyte file log zip
:PTCI // use PI tasks calID
:RART // make r_a_r tests
:BSLT // make bsl tests
:EDBG // display equals debug info
:ADUT // allDay events, if 0:00 - 0:00 UTC
:AD24 // allDay events, if multiple of 24h
:DSTD // std dialog theme
:CESU // std dialog theme
:UTFS // surrogate excaping
:UTFE // escaping for all chars >0x7f

:NGCM // no attendee guest modification
:NATD // no attendee deletetion
:CHGI // display changed info in alertbox
:ORGA // add ORG always
:NHID // don't display hidden opts
:DSCO // duplicate suppression for contacts: subsets only
:PROA // show all profiles (also multiPath sub profiles)
:WLAN // activate specific WLAN choice by name
:FPUP // force provisioning update
:DILN // display last/next on main screen
:ERNR // emulator with random serial number
:AAFT // alarms after start are allowed
:RUDI // remove username from deviceID
:ADBN // adb logcat -> none
:ADBF // adb logcat -> file
:ADBB // adb logcat -> both (file and direct)
:AAFP // allow to add provisioned profile copies
:TCMP // syTime compare
:VLOG // syTime v logging
:HLOG // syTime h logging
:FARD // fast reload device
:CUMO // current event c.mode disp
:EMWA // email workaround
:REND // rend test (allday with time)
:DSL1 // don't store log info
:DFSZ // display font size
:ARIC // no arrow icons

// SyncML fields
:NCOC // no contacts categories (switch on categories field in
contacts settings)
:NCAC // no calendar categories (switch off categories field in
calendar settings)
:PHOT // no PHOTO field
:NOTE // no NOTES field
:TRNS // no TRANSP field
:ALRM // no ALARM field

// Logging
:LALL // log all, don't ask
:LASK // log all and ask
:LOG // same as LASK
:LOGM // plus message logs
:LOGG // create global logs
:ACCO // create account with type com.sysync(2)
```

```
:CONF // use external config file
:PUSH // allow pushalerter
:OBSV // allow observersync
:TLOG // log display "t"
:MLOG // log display "m"
:ESDO // sync events from server to device only
:PKIL // return 30500 intentionally
:MOLO // keep more log entries
:SBFI // send bfi files with log
```

22. Troubleshooting

This section gives some information about common problems that might occur with SyncML synchronization. In addition, especially for more specific problems like compatibility with certain environments etc., **please always consult first 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.
- **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.

- **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 used server. It's also possible that other apps are hampering the Synthesis app. E.g. it's known that „Smooth Calendar“ is reducing the performance of the Synthesis app strongly as it accesses the calendar extensively.

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 lose either modification, the server has kept 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 used server. 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 like iTunes and MobileMe, 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 simple 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.

Known restrictions:

- only one birthday field is supported
- only the first alarm time of the Android calendar will be synced
- Android 1.5 / 1.6: contact addresses only as LABEL field
- The Synthesis app can't be moved to the SD card.
That's because of Android bugs: Widgets can't be activated, timed sync will not start after reboot and with the Synthesis app created addressbooks/calendars might be removed at reboot.

Error messages and error codes:

Configuration missing or no datastore enabled

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 which is not available on the device (for example, corrupted contacts or calendar database on the device)

License or demo period expired

This means that the free trial or preview period of the software is over. Please check on our web page if there is an update for the software.

License not valid

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 that the license is already in use by more devices than allowed (e.g. a 5 user license being used on 7 devices).

Network error - please check internet connection

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.

If this error occurs in the middle of a synchronization, this is most likely an intermittent problem.

Invalid data from server (wrong URL?)

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

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).

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.

Server database not found

A database (contacts, events, tasks...) was not found on the server.

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

Local Database 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 synchronization 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 / too many sessions
- 301 Moved permanently
- 302 Moved temporarily (e.g. for mobile networks with login)
- 400 Bad request (usually a server compatibility problem)
- 405 Command not allowed (compatibility problem)
- 407 Authentication required (no credentials found)
- 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 - retrying 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 Synchronization 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. **Example:** 10400 is a bad request locally.

- 20001 Bad or unknown transport protocol
- 20002 Fatal problem with SyncML encoder/decoder
- 20003 Cannot open communication
- 20004 Cannot send data
- 20005 Cannot receive data
- 20006 Bad content type (message received with an unknown MIME-type)
- 20007 Error processing incoming SyncML message (for example invalid XML or WBXML formatting)
- 20008 Cannot close communication
- 20009 Transport layer authorisation (e.g. HTTP auth) failed
- 20010 Error parsing XML config file
- 20011 Error reading config file
- 20012 No configuration found at all, or not enough for requested operation (client) - you might have forgotten to enter user-name or password.
- 20013 Config file could not be found
- 20014 License expired or no license found
- 20015 Internal fatal error
- 20016 Bad handle
- 20017 Session aborted by user
- 20018 Invalid license

- 20019 Limited trial version
- 20020 Connection timeout
- 20021 Connection SSL certificate expired
- 20022 Connection SSL certificate invalid
- 20023 incomplete sync session (some datastores failed, some completed)
- 20025 Out of memory
- 20026 Connection impossible (e.g. no network available)
- 20027 Establishing connection failed (e.g. network layer login failed)
- 20028 element is already installed
- 20029 this build is too new for this license (need upgrading license)
- 20030 function not implemented
- 20031 license code is valid, but not for this product (e.g. STD license used in PRO product, or client license in server product)
- 20032 Explicitly suspended by user
- 20033 this build is too old for this SDK/plugin
- 20034 unknown subsystem
- 20036 local datastore not ready
- 20037 session should be restarted from scratch
- 20038 internal pipe communication problem
- 20039 buffer too small for requested value
- 20040 value truncated to fit into field
- 20041 bad parameter
- 20042 out of range
- 20043 external transport failure (no details known in engine)
- 20044 class not registered
- 20045 interface not registered
- 20046 bad URL
- 20047 server not found
- 20048 flag the current ds as bad w/o aborting the whole session
- 20049 empty answer received
- 20050 synthesis server not reachable
- 20051 no wifi available
- 20052 license during verification
- 20053 PRO license required
- 20054 deleted account
- 20055 forced slowsync rejected

- 20056 not DefaultSMSApp
- 20057 low battery
- 20058 system time seems to be outdated
- 20059 no active account for sync
- 20060 SSL: hostname was not verified
- 20061 SSL: CA trust anchor not found
- 20062 SSL: Certificate isecure hash function
- 20063 no multiPath account
- 20064 no wifi password available
- 20065 wifi password length shorter than 8 chars
- 20066 bookmarks not accessible with >= Android 6.0
- 20070 no local items would remove all server items

20500..20599 These represent SIG_xxx codes in Linux and Mac OS X versions of the SyncML engine. Unexpected SIG_xxx will generate an error code of 20500+signal_code.

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

20999 Undefined internal error

21000...21999 Database plugin module specific error codes

23. Android Access Rights

We're asked often asked, why the Synthesis App needs some specific access rights.

Here is the overview with some remarks:

Synthesis Sync Lite

Your personal information:

Access to all the addressbooks of the device (read and write):

[READ_CONTACTS](#), [WRITE_CONTACTS](#),

Network communication:

Full internet access is needed for the data exchange with the sync server. The device will kept alive during the sync session:

[INTERNET](#), [WAKE_LOCK](#),
[ACCESS_WIFI_STATE](#), [ACCESS_NETWORK_STATE](#)

Your accounts:

Access to all the addressbook accounts and creation of new addressbooks:

[GET_ACCOUNTS](#), [MANAGE_ACCOUNTS](#),
[AUTHENTICATE_ACCOUNTS](#), [USE_CREDENTIALS](#),
[READ_OWNER_DATA](#), [WRITE_OWNER_DATA](#)

Storage:

Store settings which can survive a deinstallation of the app. Temporary storage for log files:

[READ_EXTERNAL_STORAGE](#)
[WRITE_EXTERNAL_STORAGE](#)

Phone calls:

Read unique device/phone identification for communication with the sync server: [READ_PHONE_STATE](#)

System tools:

Access to the Sync Adapter Interface of the device:

[READ_SYNC_SETTINGS](#), [WRITE_SYNC_SETTINGS](#),
[READ_SYNC_STATS](#), [REQUEST_INSTALL_PACKAGES](#)
[REQUEST_IGNORE_BATTERY_OPTIMIZATIONS](#)

additionally for **Synthesis Sync STD**

Your personal information:

Access to all calendars of the device (read and write), including the ability to send emails to all attendees of events.

[READ_CALENDAR](#), [WRITE_CALENDAR](#)

Your location:

Fine (GPS) location for setting the GEO location of the internal task manager: [ACCESS_FINE_LOCATION](#)

The mode is only active as long as the task editor is opened.

Default:

Access to the databases of the Apps "Astrid" and "Tasks"

[com.todoo.astrid.READ](#) / [.WRITE](#)

[org.tasks.READ](#) / [.WRITE](#)

Access to the database of the App "Pocket Informant"

[net.webis.pi3demo.data.READ](#) / [.WRITE](#)

[net.webis.pi3.data.READ](#) / [.WRITE](#)

additionally for **Synthesis Sync PRO**

Your personal information:

Access the bookmarks and history of your browser:

[READ_HISTORY_BOOKMARKS](#), [WRITE_HISTORY_BOOKMARKS](#)

Your messages:

Access to all stored SMS on your device (read and write):

[READ_SMS](#), [WRITE_SMS](#)

[BROADCAST_SMS](#), [BROADCAST_WAP_PUSH](#)

System tools:

Timed Sync access to the system:

[RECEIVE_BOOT_COMPLETED](#), [CHANGE_WIFI_STATE](#)

Your personal information:

Access to the database of the App "OI Notes":

[org.openitents.notepad.READ_PERMISSION](#)

[org.openitents.notepad.WRITE_PERMISSION](#)

24. How to report 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 V4.1.2)
- **Version of the Operating System** (e.g. V8.1 Oreo)
- **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!

