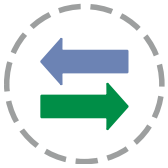

Synthesis SyncML Client
for PalmOS based PDAs and Smartphones

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2. Introduction

Synthesis SyncML Client for PalmOS allows using PalmOS based PDAs and Smartphones synchronize with servers that support the platform and vendor independent synchronization protocol SyncML (also known as OMA DS).

This manual describes the use of both **STD** and **PRO** variants of the PalmOS client, differences are marked with appropriate **labels** - see next chapter for a summary of differences between the variants.

3. Product Variants

Synthesis SyncML Client is available for different mobile platforms and in two different basic variants, STD and PRO. The following matrix shows the differences:

	PocketPC		Smartphone		PalmOS		Symbian	
Feature	**STD**	**PRO**	**STD**	**PRO**	**STD**	**PRO**	**STD**	**PRO**
Contacts Sync	✓	✓	✓	✓	✓	✓	✓	✓
Events/Tasks Sync	✓	✓	✓	✓	✓	✓	✓	✓
Email Sync		✓		✓		✓		✓
Notes Sync					✓	✓		
w/Attachments		✓		✓				✓
Secure HTTP (SSL)	✓	✓	✓	✓	✓	✓	✓	✓
AutoSync/PUSH/DMU		✓		✓				✓
gzip compression		✓		✓				✓

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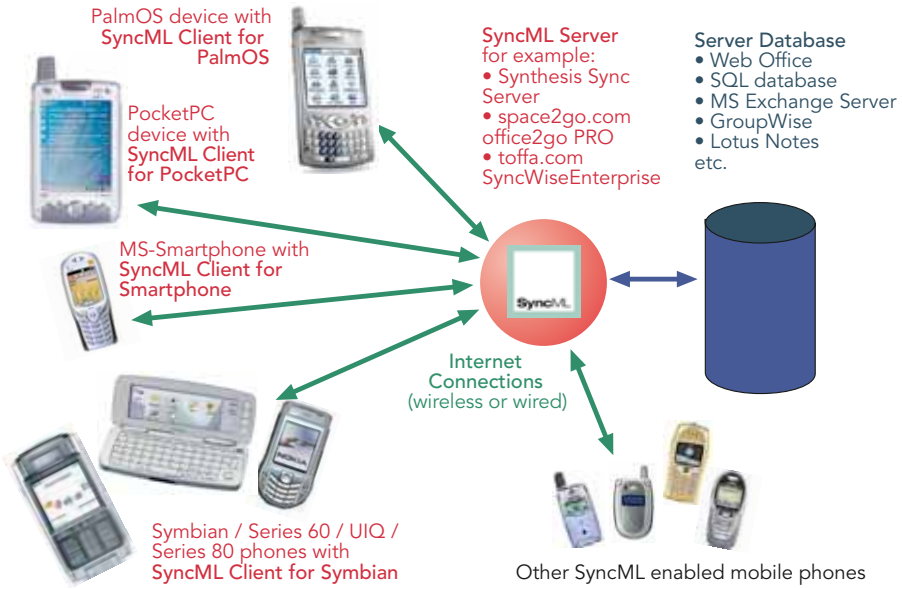
4. SyncML Synchronization Overview

With Synthesis SyncML Clients you can synchronize the contacts, events and tasks stored on your mobile devices with any SyncML compliant server - over the internet.

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



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5. How to get the PalmOS Client Software

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

Please download the latest version from our website at http://www.synthesis.ch.

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

You can download the software (including the latest version of this documentation) for free. It will run in evaluation mode for 30 days (counting from the date you first use it). After this free evaluation period, in order to continue using the software, you need to buy a license. You can do so on-line (see "buy at Kagi now" links on our website). After buying a license, you will receive a registration code by email. Entering this code will remove the 30 day limit from the software.

See paragraph on "registering the software" below for details.

6. How to get a SyncML Server account

In order to sync via SyncML, you need to have an account with a SyncML compliant server. Most mobile office services (web offices) will offer SyncML in the near future, and some do already. For enterprises, solutions exist to bring Exchange or Lotus Notes hosted data on-line with SyncML. A few examples:

- Our strategic partner space2go.com (http://www.space2go.com) provides the office2go PRO service for only EUR 32/year including full SyncML synchronization (contacts, events, tasks and - **PRO only** - emails).
  space2go.com also provides a solution called enterprise2go which makes data on Exchange and Lotus Notes available for SyncML clients (as well as for WWW and WAP browsers).
- Toffa (http://www.toffa.com) provides a solution called SyncWiseEnterprise which makes GroupWise data available for SyncML clients.
- The Oracle Collaboration Suite (OCS) from Oracle (http://www.oracle.com/collabsuite) provides SyncML synchronization.
- If you have a custom application based on a SQL database, you can also install Synthesis SyncML Server (fully functional demo can be downloaded at http://www.synthesis.ch) at your site.

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Note that any of the solutions above also allow syncing with many other SyncML enabled devices, such as Siemens S55, S65, SX1; SonyEricsson T39m, T68i, T615, T610, T630, P800, P900, P910; Nokia 9300, 9500, 9210, 7650, 7250, 6600 6800, 3650, 3300 and many others!

7. Requirements

To use SyncML client for PalmOS you need the following:

- A user account in a SyncML Server (see 3. above)
- A handheld computer or smart phone based on PalmOS v3.5 up to v5.x.
- A means to connect the device to the internet. PalmOS based smartphones like the Treo series have built-in wireless access to the internet. For PDAs without built-in phone, connection to the internet might be possible using WLAN or a wireless mobile phone connected via Bluetooth. Another possibility is using the serial or USB connection to the desktop computer for establishing a connection to the internet. For example, the SoftIck PPP software makes this possible via USB, Bluetooth or Serial (see http://www.softick.com/ppp/)

8. Installation

Installation is very easy. Simply use the Palm Installer tool to install the "syncml_client_std.prc" (for **STD**) or " syncml_client_pro.prc" (for **PRO**) application file in your PalmOS device. After successful installation, the home screen of the PalmOS device will show a new Application named "SyncML" having an icon like shown on the right.

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9. Basic Setup

Start the "Synthesis SyncML" application by selecting it from the home screen.

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

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

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

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

To to that, select "Profile Settings..." (**PRO**) / “Settings...” (**STD**) from the menu.

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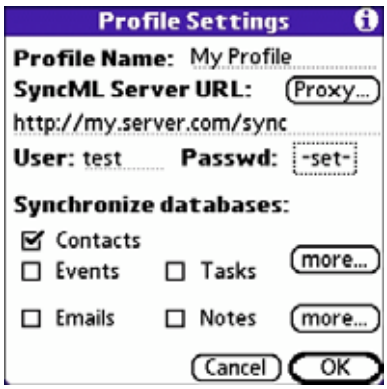
This will open the settings screen.

Please provide the following values:



- **PRO only: Profile name**: You can give the profile (especially if you have multiple profiles) a meaningful name.
- **SyncML Server URL**: This is the internet address of your SyncML service. Your SyncML service 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 it's URL here.
  Note that since Version 2.5 both STD and PRO support secure connections with SSL/HTTPS (before 2.5, only PRO supported SSL) - simply use https:// instead of http:// to start the Server URL.
- **User and Password**: This is how you login to the SyncML service. Normally, SyncML user and passwords are the same as for accessing the service via the web (for the Synthesis Demo Server user and password are both "test").

Under "Synchronize databases" box, you can quickly select or deselect the data you want to be synchronized. Please note that before syncing the first time, you should also consult the detail settings using the "more..." buttons.

To change detail settings for contacts, events and tasks, please tap on the upper "more..." button.

A dialog appears with the following settings for each of the three organizer data types that can be synchronized:

- **Sync Mode**: This is mostly automatic, you seldom need to change this setting. For initial sync with a server, a "slow sync" automatically occurs. For subsequent syncs with the same server, "normal sync" mode will be used. 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. Thus, in an ideal world, there would be no need for further slow syncs. However, as mobile internet connections are not ideal, that is, they sometimes are interrupted in mid-sync, slow sync is also used to re-synchronize after a failed synchronization. Note that this happens automatically, so you don't need to change the mode to slow sync yourselves.

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In addition to "normal" and "slow" as described above a few extra sync modes are supported:

- **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 NOT be changed at all.
- **Reload Device**: This is a special "slow" sync as follows: First, all data on the device will be erased, then, all data from the server will be copied to the device. This is a good mode to restore a device which has accidentally modified or deleted data on it. As this involves loosing all data that was not previously saved on the server, a warning message will be shown when you start syncing in this mode.
- **Update Server**: This is like "normal" sync, but only changes made on the device will be sent to the server. The data on the device will NOT be changed at all. Note that this mode does not work with all SyncML servers (server must support "one way sync from client mode")
- **Reload Server**: This is the opposite of "reload device" and works as a special "slow" sync as follows: First, all data on the server will be erased, then, all data from the device will be copied to the server. Note that this mode does not work with all SyncML servers (server must support "refresh from client mode")

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

- **Server Path**: This is how the database is called at the server's end. Synthesis SyncML client for PalmOS shows default values here ("contacts", "events", "tasks" and - **for PRO only** "emails") which are widely used for SyncML servers, so in many cases you don't need to change these.
  However, some servers need different names here - please refer to setup instructions from your SyncML provider. 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.

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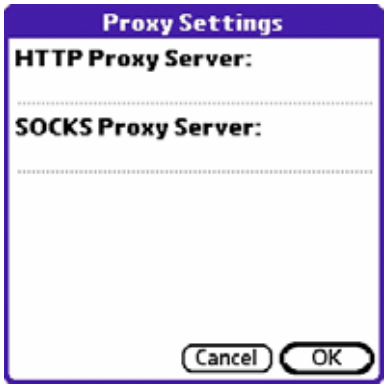
The second "more..." button opens a similar dialog for setting the same parameters for email (**PRO only**) and Notes.

PRO only: Note that e-mail sync is not supported by many servers yet, and if it is supported, most probably the advanced settings for limiting email size will not work except with servers from Synthesis AG (space2go, ONE, sunrise OfficeSync, my-siemens). If you have problems synchronizing email, try syncing with the "fetch" set to "full message" and "Only last" unchecked.

Note that email sync only supports the old standard Mail app from PalmOS 4.x. This application may not be installed by default on most PalmOS 5.x devices, but can be separately installed (Mail.prc, see link on our website)

10. Proxy Settings



In most cases nowadays, direct connection to the internet is possible from a mobile device, and proxy servers, if any, are made transparent (invisible to the end user).

However, in case your environment requires that a proxy server is used to access the SyncML server, check the proxy settings (tap the "Proxy..." button next to the Server URL in the settings dialog:

- **HTTP Proxy server:** This is the IP address or name of the HTTP proxy server, followed by a colon, followed by the port number, such as 123.45.67.89:8080
- **SOCKS Proxy server:** This is the IP address or name of the proxy server, followed by a colon, followed by the port number, such as 123.45.67.89:3701. Leave it empty if you do not have a SOCKS proxy server that must be used to reach the HTTP proxy.

11. Synchronizing

When setup is complete, you can select the data to be synchronized using the checkboxes and start synchronization simply by tapping onto the icon with the two arrows in the middle.

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

- The Palm will open a connection to the internet to communicate with the SyncML server. It uses the Palm's network and connection settings

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as set in the PalmOS Prefs screens. So if the connection fails, review your network and connection settings and refer to your mobile internet provider's information about details.

- Data will be synchronized. The main screen will show some progress information, such as how many items (contacts, events, tasks, notes, and - **PRO only** - emails) are sent and received.
- Finally, the screen should read "successfully completed" and "Last Sync" will show the current date and time.

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12. Registration

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

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

For immediate on-line purchase of licenses (for other possibilities to obtain a license see note below) we provide a web store at Kagi, which is linked from our website or can be directly reached at the following URL:

http://order.kagi.com?L3U.

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

In the Kagi online store, please make sure you order a registration code for the correct product:

Synthesis SyncML Client **STD** or **PRO** for **PalmOS**

(as the same page also offers codes for other products of Synthesis AG).

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

Please start SyncML Client on your Palm, choose "Registration..." from the menu and enter the information given in the email (your name, your email address and a code looking like AH6T-5GHU-MZ5O-L2RU).

Notes:

- Enter your name and email as one line of text **exactly as shown in the registration email, including character case**. You may enter extra spaces, but no other extra characters.
- Note that an O in the code is always the character "O" (Oh) and never the digit "0" (zero). Make also sure that you don't mix digit "1" and letter "i" or "L".

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

If the registration information is rejected, please check

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- Is the name and email address entered exactly as shown, including character case, on a single line?
- Is the code entered correctly?
- Was the license purchased for the right platform (**PalmOS**) and the right version (**PRO** codes will work with **STD** version software, but **STD** code only works with the **STD** version software)

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

The registration will remain valid for future updates for the same version of the software.

Please note: some of our partners and re-sellers are selling these license codes under their own terms, for example bundled with server software or services. Some organizations or companies may also have negotiated special conditions for buying license codes.

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

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13. Troubleshooting

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.
- **Registration does not work:** Please make sure that…
  - name and email address is entered exactly as shown, including character case, on a single line.
  - the code is entered correctly ("O" is always letter "o" and not digit zero; also make sure not to mix up digit one "1", letter "L" and letter "i".
  - the license purchased is for the right platform (**PalmOS**) and for the right version (**PRO** codes will work with **STD** version software, but **STD** code only works with the **STD** version software).
- **Strange behavior in general**: If it seems to you that your data is not synchronized as it should, it is a good thing to make a fresh start. SyncML is an incremental method - which means that the things that happened in the past synchronizations influence what will happen in future synchronizations. This is a good thing (saves a lot of time) under normal circumstances, but sometimes this dependency on the past sometimes 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 server used. If you need to report the problem to the SyncML service provider, please include date and exact time of the failing sync attempt(s), username, and also the error message displayed at the end of the synchronization in your report. Without this information, it is difficult for the service provider to track down the problem.
- **Duplicates**: In some cases you might notice that some of your data gets duplicated. If this happens only for a few contacts, this is perfectly normal, it shows that a record has been modified on your device and on the server in parallel. In order not to loose either modification, the server has decided to keep both versions of the record so you can decide which version is the "right" one. Just delete the version that is obsolete on the device or on the server.
  If you encounter a lot of duplicates without having modified anything, this indicates a compatibility problem with the server used.
  Please note that if you cannot successfully complete a synchroniza-

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tion, the probability of getting duplicates is slightly higher as there might have been problems in the previous synchronization.

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

Please note: In most cases, the problems are specific to the 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 SyncML client..." from the main menu to find out the exact version number, such as 2.5.0.20)
- 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. Suggestions or ideas for enhancing the product are also welcome!

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14. Error messages and error codes

Config incomplete/bad

This message is shown when trying to start a sync session while missing configuration information or when databases your are trying to sync are not present on the device.

The most common reason for this message is when using a brand new PalmOS device or shortly after a complete hard reset. In that case, the databases to be synchronized do not exist yet at all. **Simply open each application to which you want to synchronize data once from the Palm's home screen** (usually: Contacts/Addresses, DateBook/Calendar, eventually Memos, ToDos and, **for PRO only**, Mail. Note that you need to have the old standard Mail application installed (simply called "Mail", not "VersaMail"). In case this application is not available on your device, you can download it from our website.

Another reason for this message could be missing server URL, missing server paths of the individual data stores or no database selected for sync at all.

Demo/License Expired

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

License not valid here

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

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

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

Connection error

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

If this error occurs right after starting the synchronization, either the URL entered for the server is wrong or there's usually a basic networking problem. Note that if you can reach the internet only via a proxy server, your proxy settings must be configured correctly. To test the connection, try to browse a web site if you have a browser installed (for example "Blazer").

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

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Sending error
Receiving error

Most problems with aborted synchronization are caused by unstable data connections. If you are repeatedly experiencing aborted sync sessions with GPRS, try using GSM Data (CSD) - it is slower but generally more stable (where available at all any more).

No response (timeout)

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

This also indicates a network problem, such as a connection interruption (e.g. when loosing GPRS coverage).

Invalid data

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

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

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

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

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)

Sync mode not supp.

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

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

Aborted by user

The synchronization was manually aborted by the user.

Database not found

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

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Usually, this means that the database does not exist on the server side or has a different name than what was entered as server path in the settings.

This message can also mean that the database does not exist or is not accessible on the device itself due to corrupted database structures or similar problems.

Device 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.

In rare cases, this message can also appear when the real problem is not really in the server, but in the client database (corrupted data).

Error Code=<number>

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

Some codes you might encounter are:

101	Server is busy
400	Bad request (usually a server compatibility problem)
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).
500	Command failed (usually a server malfunction of some kind or a SyncML compatibility problem)
511	Server error (some general server error)
520	Server database full (the server has no room to store more data)
20998	Internal exception (client encountered an internal exception - a possible reason could be extreme shortage of memory in the device)

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