



Address Book and Calendar Server

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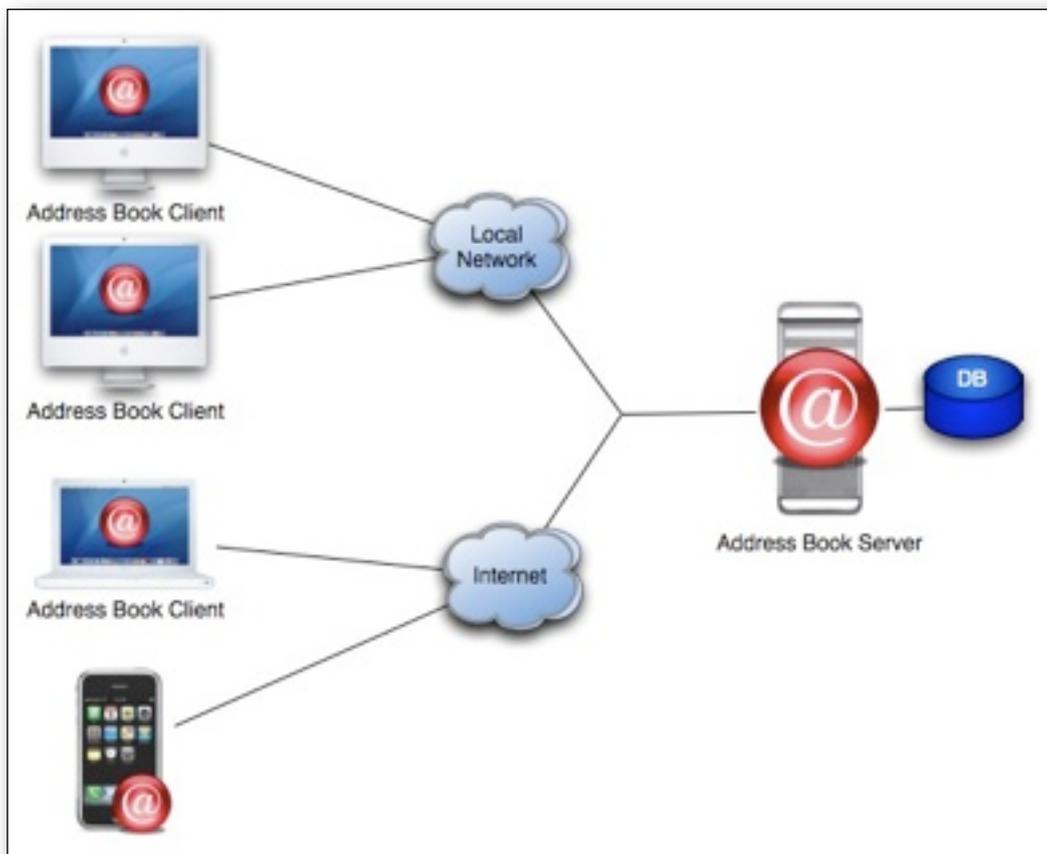
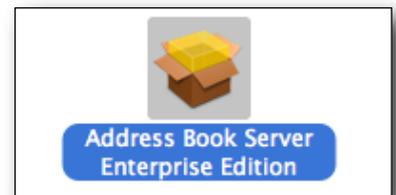
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Address Book Server

Overview

Address Book Server addresses the need to share contacts between a number of users. It allows each participant to contribute contacts to a shared pool, as well as access already shared ones.

- Bi-directional sync to keep your Address Books up to date.
- Bi-directional synchronisation of events and tasks with iCal
- iSync integration to transfer contact information transparently in real time
- Network discovery of Address Book Server via Bonjour
- Standalone server implemented in Java for cross platform compatibility
- Web interface to access contact details when on the road
- iPhone support via ABCMobile



Installation

Address Book Server consists of two components, one server and a client. The server should be installed on a centrally accessible computer, which is kept online and available most of the time. The client is installed on each contributing computer.

As the server publishes its presence on the network via Bonjour, you should only install it on one computer. Having multiple instances of the server running on the same network could cause undesirable effects and potential loss of information.

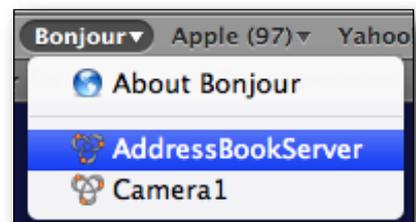
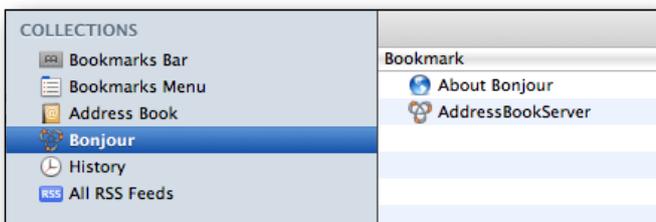
Open the Address Book Server Package

During the installation process the server registers as a start-up service and will start automatically after a reboot.

Server Installation

Install ABS server package on a machine with a static IP address. Please ensure that port 8080 is accessible from the machines running ABS clients.

License Server via the Web Interface. The server publishes the web interface and adds a entry in the Bonjour section in the Bookmarks in Safari.



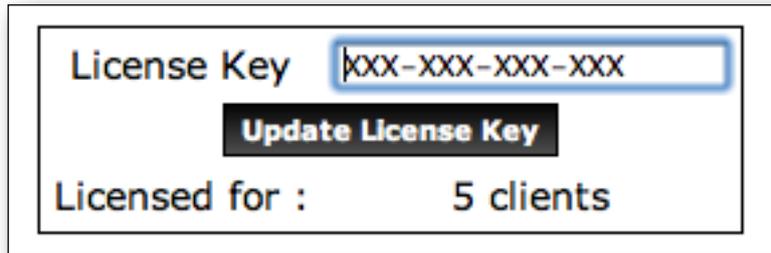
After the selecting the bookmark, the log-in page is presented. The default log-in credentials after the installation are :

User Name	Password
absadmin	shareme
absuser	shareme
absread	shareme

Additional users can be created by accessing the web interface using the absadmin user.

Go to the **Admin** tab enter the license key sent to you via email. After correctly entering the license key the number of licensed clients is shown. Verify that it matches to those ordered.





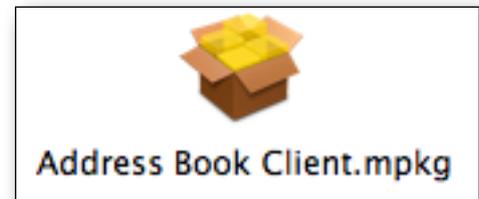
At this point your server should be up and running and licensed. The clients can now be configured and synchronised with the server.

Client Installation

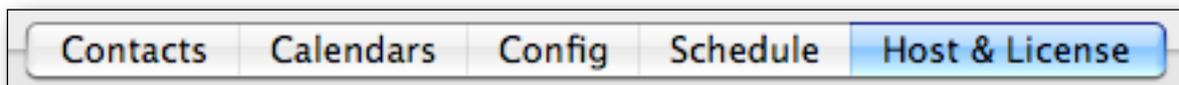
Backup your Address Book and your Calendars

Before commencing the installation, it is a good idea to take a backup of your current Address Book and Calendars.

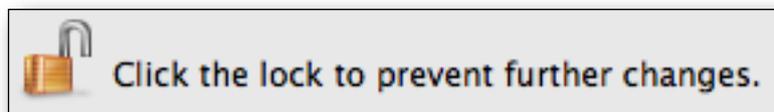
1. Install the Address Book Client package on the machines which are going to be sharing contact details from their Address Book. During the installation process the 3 components of the clients will be installed on your system. They include a shared framework, a system preferences panel and some command line tools.



After installing the ABS client open the Address Book Client panel in System Preferences and proceed to the **Host & License** tab



After accessing the client panel you can make changes to the configuration only after unlocking the panel. This will require Administration rights on the system.



The clients needs the address of the server. As the service publishes it's presence on the network, you can use Bonjour to discover it. Press the discover to fill in the servers address in the host field. If the button is greyed out, please disable the client. Enter the same license key you used when you licensed the server. Each clients requires the same license key as installed on the server for it to be able to synchronise. This is a security mechanism to prevent un-authorized clients from synchronising with your server.

Check the servers license. You should see 0/2 with the evaluation license. After licensing both the server and the client you can now proceed to the Contacts tab

Register the Address Book Client with iSync



After having disabled and re-enabled the client your groups and contacts are listed twice. Since the record id on the client was regenerated by Sync Services it no longer matches the record on the server.

Name	No. of Members	Direction	Shared
Customers	17	➔	<input type="checkbox"/>
Customers		➔	<input type="checkbox"/>

To combine the local (Client) and server (Server) records into one, select both rows as shown.

Name	No. of Members	Direction	Shared
Customers	17	➔	<input checked="" type="checkbox"/>
Customers		➔	<input checked="" type="checkbox"/>

After synchronising the records will be combined and synchronised in both directions, between the client and the server.

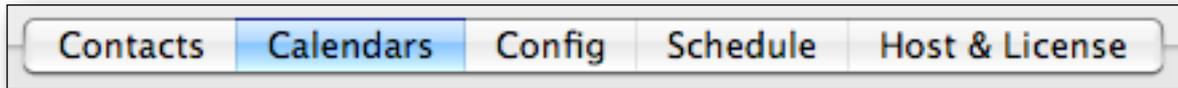
Name	No. of Members	Direction	Shared
Customers	17	↔	<input checked="" type="checkbox"/>

Select your Sync Mode as either “**Complete**” or “**Changes**”. Complete takes longer, but ensures all contacts are compared every time you synchronise. Changes only compares the modifications since the previous synchronisation. Select either "All Contacts" or the groups you would like to share. Also select the calendar you would like to share on the Calendar tab.

Select Contact Group to publish / subscribe. You can either publish all local contacts or a selection of Groups. If you choose to select "All Contacts" your entire Address Book will be published to the server. By selecting individual groups you can keep contacts in other groups, and contacts which are not linked to any group private.



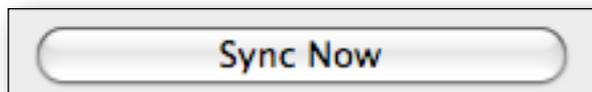
Select Calendars to publish / subscribe. Calendars work very similar to Contact Groups. You can select local calendars to publish to the server and subscribe to calendars already present on the server.



Unlike other solutions which only allow a single person to update events on published calendars, all participants have the ability to create and update events and tasks on shared calendars. This allows you to create calendars based on functions rather than by ownership. For example it is better to setup one shared calendar for vacations, and include the persons name in the event, rather than have several calendars each containing each individuals vacation. This is an important aspects to consider when deciding which calendars to publish.

Name	Direction	Shared
Business		<input checked="" type="checkbox"/>
Home		<input type="checkbox"/>
Shared		<input checked="" type="checkbox"/>
Work		<input type="checkbox"/>

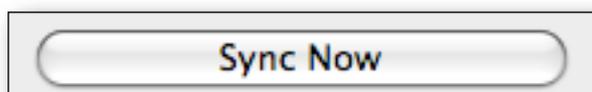
Synchronise your contacts



At this stage the contacts from your local Address Book have been transferred to the Address Book Server.

Enable your other clients by repeating these steps

Synchronise the other clients via the Manual Sync button



During the synchronisation process the contacts are fetched from the server, compared with those already present in the local Address Book. Any differences will be written back to the server.

The contacts on the client will only be updated during synchronisation, which can be triggered in three ways.

- 1.) Manually via System Preference
- 2.) By changing details in Address Book
- 3.) Automated on schedule

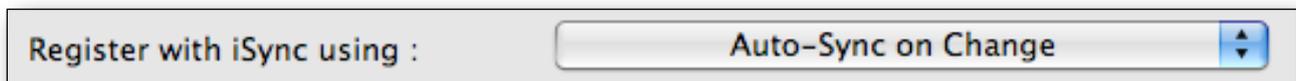
So if a change is made in the Address Book of Mac A, it will automatically sync with the server. For Mac B to fetch the change to their local Address Book, they would need to trigger a sync.

To automate the process and get each client to synchronise at a given interval the schedule option can be enabled.

Installation scripts for both Tiger, Leopard and Snow Leopard are included in the Schedule folder of the disk image. The default installation will synchronise every 30 minutes. Details on further configuration can be found in the manual.

You can install the Address Book Client on as many clients as you have licenses for. The usage of licenses is monitored by the server, by verifying the number of clients participating.

You can enable the client to synchronise automatically as and when changes are made to either Address Book or iCal. If you don't want to sync automatically and control when your client synchronises with your server you can select manual synchronisation. It is advisable to disable the schedule sync option when using manual sync.



Important Aspects to consider

Changing Group or Calendar Selections after the initial sync

To share a new group after already having synchronised with the server you :

1. Switch from Changes to Complete Mode
2. Sync
3. Select the local / server group in the shared column. You should see an arrow pointing to the right in the direction column
4. Sync
5. The arrow should now be bi-directional
6. Switch back to Changes

If you already are using Complete you only need to select the local group in the shared column and



Unsubscribing from shared Groups and Calendars

To unsubscribe from an already shared group you need to :

1. Disable / de - register the client
2. Re-enable / register the client
3. Select the groups and calendars. Groups and Calendars will appear as duplicates in both local and server side records. Select both the local and server side record in the shared column. Don't the select the group or calendar you want to unsubscribe from.
4. Sync

De-selecting the shared column without resetting the iSync registration will result in the local record being deleted if you are in Complete mode. It can happen that the record is also deleted from the server during subsequent synchronisation. In Changes there should be little adverse effect



Resetting the client registration:

After resetting the clients iSync registration shows the selected groups and calendars in separate rows. The Client and Server column indicate the location of the records. To combine the local (Client) and server (Server) records into one, select both rows as shown.

Name	No. of Members	Direction	Shared
Customers	17	→	<input type="checkbox"/>
Customers		←	<input type="checkbox"/>



Product Overview and Description

Details about the client package.

During the installation process, the client registers with the iSync engine, and is notified on every change made to the Address Book. The client will try to update its Address Book Server. After the installation process is completed, you need to configure the client using System Preferences

Client Configuration

Using System Preferences, the Address Book Client can be enabled or disabled. It also allows for the selection of individual groups and calendars.

The first step should be the discovery of the Address Book Server via the Host & License tab. If you are on the same network as the server, and your network allows Bonjour traffic, you should be able to discover the server. After pressing the Discover button, you should see the servers address (URL) in the host field.

If you not able to discover the server you can enter the address manually. The address should follow the pattern :



```
http://server.local.:8080/AddressBookService
```

This is followed by the licensing of the client. Each client must have the same license key as the server configured to prevent un-authorized clients from accessing contact details on the server. Details on the licensing process are covered in the next section.

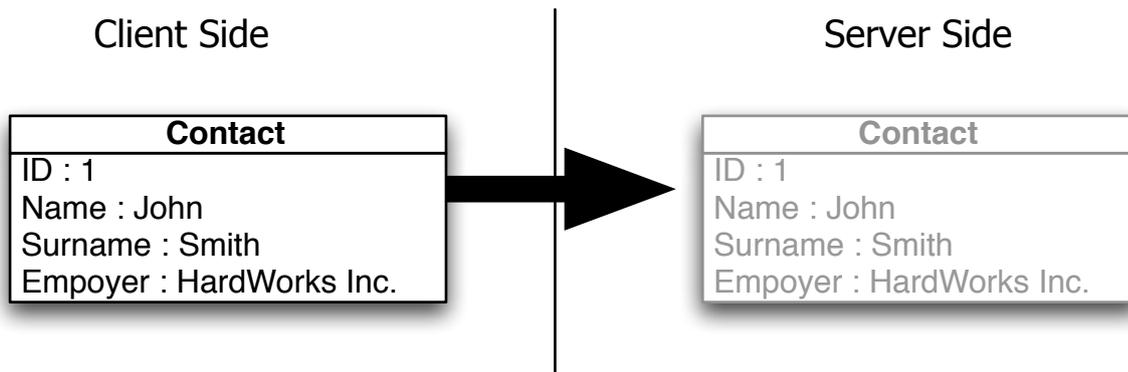
There are several configuration parameters which affect the behaviour during synchronisation, such as synchronisation mode, the handling of deleted contacts as well as the contacts or groups to be synchronised.

How Synchronisation works

During synchronisation the records are fetched from the server, then compared with those already present on the client, and any differences are written back. It is important to note that the server does not do any merging of records.

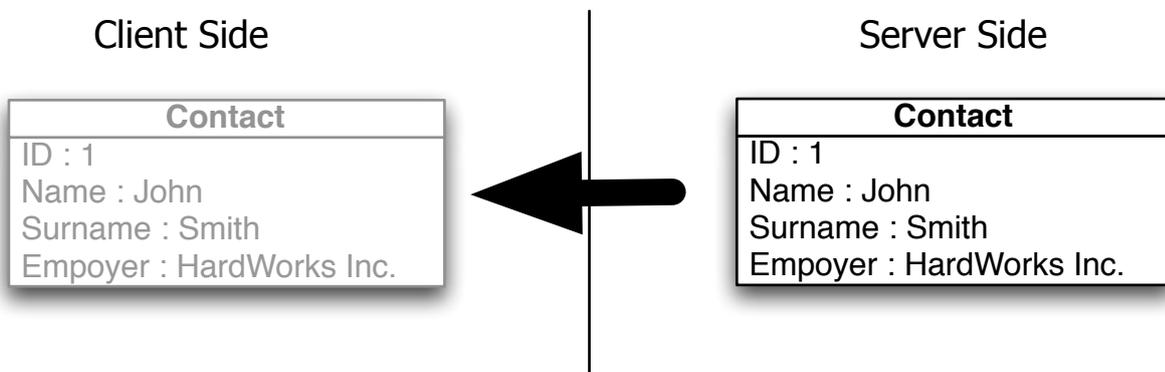
Record exists on the client only

As the record does not exist on the server already it is created on the server side.



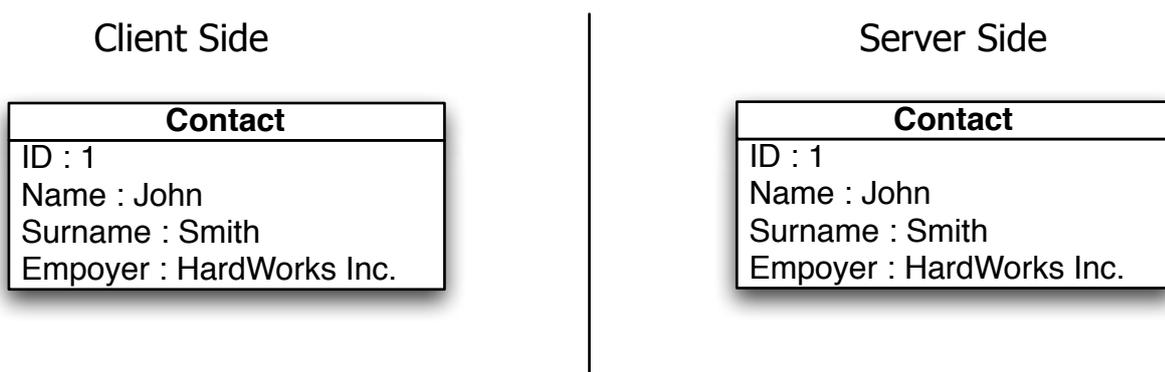
Record exists on the server only

The record is fetched from the server and created locally on the client side



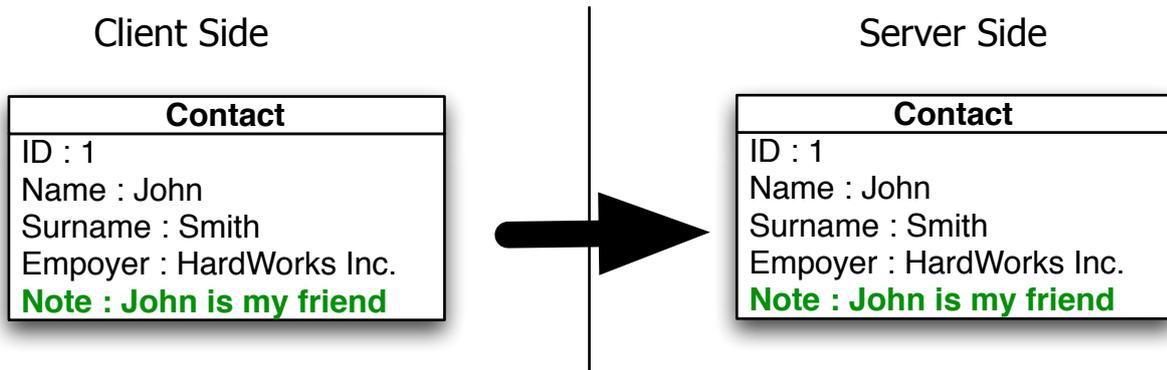
Same record exists on both client and server

When using the "Complete" mode records are still fetched, however as the records are identical, no changes are made on the client.



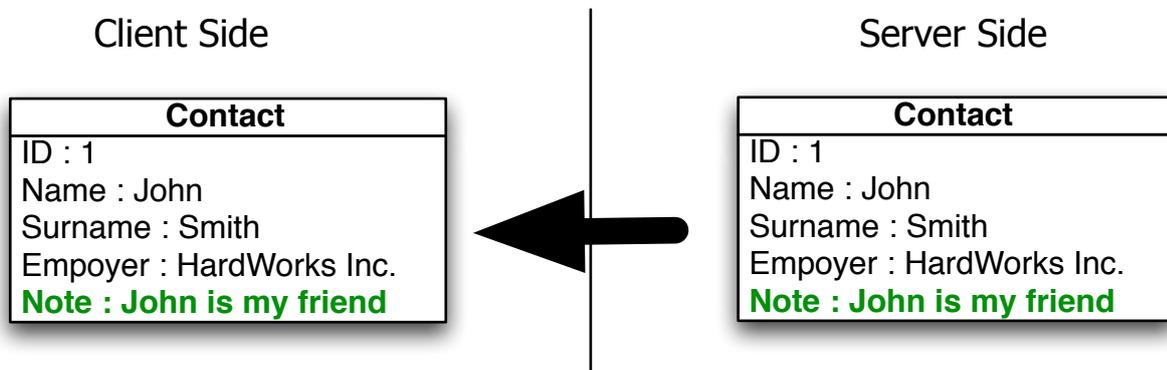
Change on client is made

Local change is made to records which exists on both client and server. In the example the Note field has been updated on the server



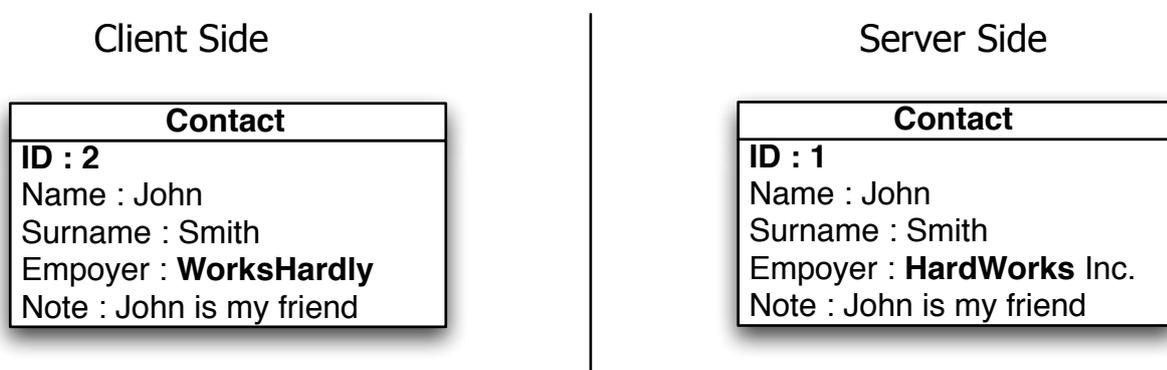
Fetching changes from the server

The change is then distributed to the other clients during their next synchronisation with the server



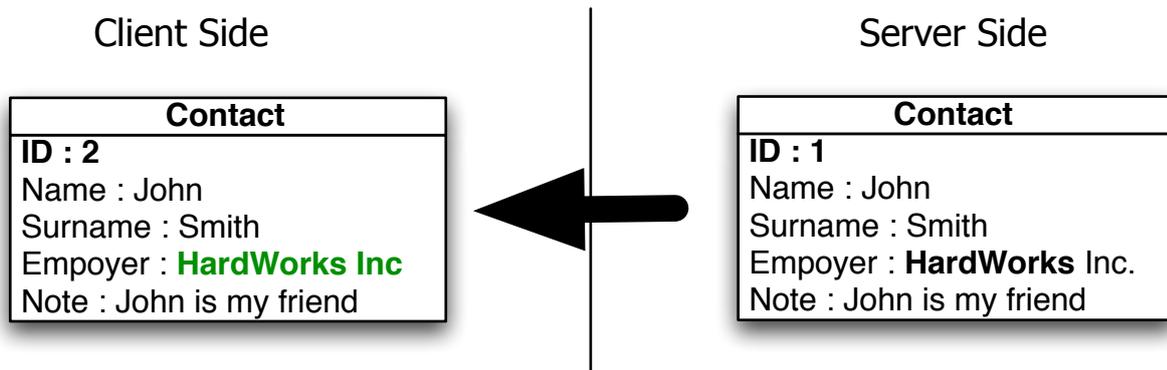
Starting out with similar records on your clients

In most environments where Address Book Server is deployed, similar, if not the same contacts are already distributed between the clients. If identical record details are present on several clients, they should be merged during synchronisation, however if some clients have similar yet not identical, one of two things can happen. Either the records will be merged, or they will exist side by side.



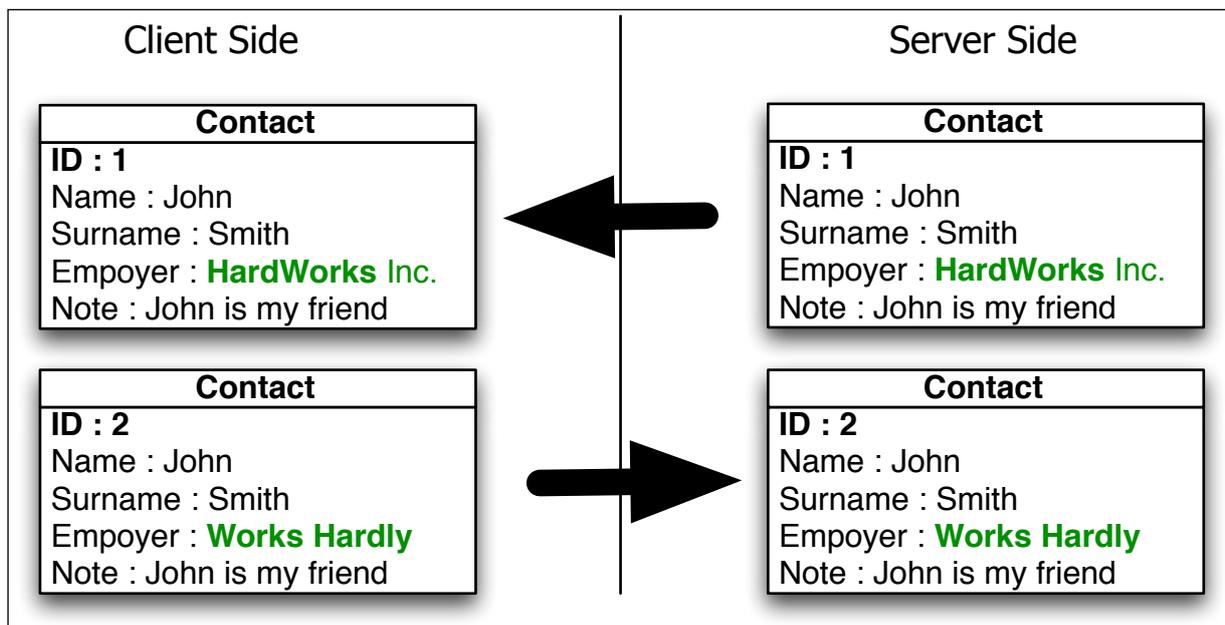
Matching Records

During synchronisation the records are merged / updated if they are found to be sufficiently similar.



Mismatched Records

However no match is made between the records they seem to be “duplicated”. This is one area which frequently causes confusion, as we would consider the record to be referring to the same person, however the matching algorithm is not always able to determine matching correctly. The “Look for duplicates” feature in Address Book can be used to merge these records at a later stage.



It is important to note that just because the data looks similar to us, it is not treated the same. However once the clients have been synchronised, the record ID will be used to allow better matching of the same record. Unfortunately the record ID is regenerated every time the client is enabled or registered.

Additional Notes on synchronisation

During the merging process iSync will try to match similar records, however it is not always able to do establish correct matches. These findings below might be helpful in understanding it's behaviour.

- If the records are similar enough iSync will merge them
- If the records are sufficiently different iSync will treat them as different
- iSync seems to match certain records, such as calendars, on their content rather than simply using their name. This is both a good and a bad thing. However it would be equally problematic if it merged all events from a calendar simply because it's name matched an existing one on a different client.
- Once records are distributed to all clients and in-sync the ID is used to establish the matching criteria
- A record on one client is not considered the same as a similar record on other clients. Only if the record identifier (ID) match, will they be treated always as the same record. If the record content is similar enough the records will be merged, however if iSync is not able to establish a match both records will exist side by side. This can lead to duplications.

Suggestions to avoid duplications

Option 1 : Repopulate from scratch

Once you have the correct records on one client, delete the server and the other clients and then re-populate the server and the clients from good data.

Option 2 : Pre-populate the clients with good data up-front

By distributing clean data before enabling the client will allow iSync to merge the local records from iCal with those held on the server.

Option 3 : Start with no client records

Prior to using Address Book Server set up different calendars for different purposes, such as Home, Office, Clients, Kids, School etc. Each purpose was managed by a specific person and distributed via WebDAV. This system worked, but I could not make changes to these calendars, as I had to contact the person publishing the changes. This worked, but had it's problems. Since ABS has had iCal support added, I collapsed the calendars into a smaller number. As each client is able to update events and tasks, there it no longer a need or so many different calendars. So now I have one calendar for general shared events and task which affect all client and another one for business. I still have my own private calendar of course allowing me to manage my own events and tasks. So maybe it could work to setup a number of empty shared calendars, and then let each client add the event to the shared pool as they require.

Address Book contacts are affected by a similar problem, however it is relatively easy in resolving this in Address Book by moving contacts between groups and identifying duplicates. With iCal it is quite hard to move larger number of events between calendars and duplicates are also quite hard to isolate.

Other options to make the merging of calendar events easier between calendars are still being investigated further. However given the situation where most clients have similar, but not equal, calendars distributed on multiple clients, it is rather complex. I am assuming that in your environment most events are present on most clients, but that each client invariably has made local changes. It would be possible for me to merge events and tasks on calendars with the same name, but this would duplicate most events as they were present on each of the clients local iCal.

Option 4: Overwrite client with records form the server

Since the late July releases a new “Overwrite Client” feature has been added to the client. Using the feature on the on the Config tab in System Preferences allows you to replace any records currently present on the client with the records from the server. Using this feature triggers a synchronisation running in the background. It’s best to show the iSync status icon in the menu bar to monitor the progress. Also any private record which are not present on the server will be deleted.

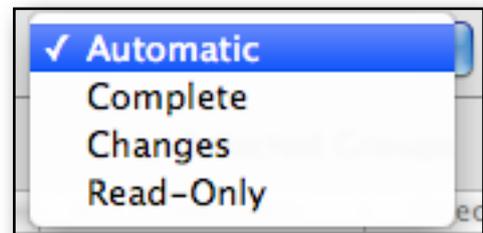
This overwrites your clients Address Book and iCal records with those present on the server. This will also affect other applications such as MobileMe, Google Contacts etc. Please backup your clients before using this feature.

Overwrite Client

Synchronisation Modes

There are currently 3 synchronisation modes supported

- **Automatic:** The default sync mode is Automatic, which performs a “Complete” mode every 10th time the client synchronises, and a “Changes” mode all other times. This ensures the data is fully compared with the server from time to time as well as offering the performance of having to compare and process less records offered by the “Changes” mode.
- **Complete:** This mode causes all contacts to be fetched from the server during every synchronisation. The fetched contacts are compared against the local Address Book, and any differences are written back to the server.
- **Changes:** Only the changes since the last successful synchronisation are fetched from the server. Any changes in the Address Book are written back to the server. **If you selected “Changes” as your sync mode, don’t change the group or calendar selection. If you want to change the selection, unregister the client and then re-register. You will have to select the groups and calendars again.**
- **Read-Only:** Contacts are only fetched from the server, and never written back to the server. To refresh your local Address Book completely from the server, the Address Book Client needs to be reset.

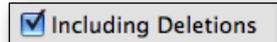


This can be automated via the following bash script / commands.

```
wolf:~ alex$ cd /Library/Application\ Support/AddressBookClient/  
wolf:AddressBookClient alex$ ./UnregisterAddressBookClient  
wolf:AddressBookClient alex$ ./RegisterAddressBookClient  
wolf:AddressBookClient alex$ ./AddressBookClientTool
```

Including deletions

By default, deletions are also distributed to the server and other clients. If you would like to exclude deletions from being synchronised, then deselect this option.

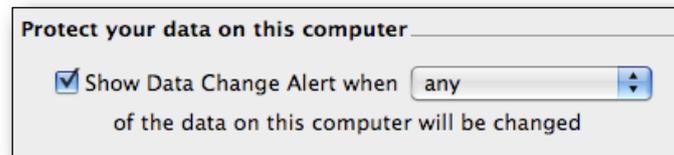


Notification on synchronisation

You can trigger a synchronisation manually by opening System Preferences, but Address Book Client also synchronises in the background automatically. Every-time a change is made to a contact in the Address Book, and focus is directed to another application or the Finder, a synchronisation is triggered. It is a good idea to enable the iSync status icon in the menu bar. To do this open **iSync > Preferences > Show status in Menu bar**.

Conflict resolution

The default threshold for iSync to alert the user of a potential problem is 5%. This refers to the amount of records being altered during synchronisation. The threshold can be adjusted in iSync's Preferences. It can be useful to set this threshold to any, as it gives you the opportunity to review any changes made during synchronisation and back-out before any damage is done to your local records.



Dealing with duplicates

Frequently the same, or similar contact details are present on multiple clients before synchronisation. This can lead to the creation of duplicates, as the system is not able to distinguish between John Smith on one client and either the same or another John Smith on another client.

It is left up to the user to decide which ones are duplicates and which ones are separate individuals. The Address Book, however, has a nifty feature to assist you doing this. Under the Card Menu you will find the "Look for Duplicates" feature which merges similar contacts. In addition to this feature, there is also the option to "Merge Selected Cards" which lets you manually merge a number of selected contact details into one combined contact record.



The merged details are then synchronised to the Address Book Server during the first sync after the merge.

Server side installation

Connecting over the internet

Connections from a remote location will not be able to use the discovery mechanism, however, you can still enter the address of the server manually.

The format of the server address is :

http://[IP ADDRESS OR HOSTNAME]:8080/AddressBookService

for example:

http://192.168.0.5:8080/AddressBookService

Once the connection to the server has been configured, please verify the server license status. This is done on the Tools tab.

Firewall configuration

Should your server be protected by a firewall, or you would like to access the server over the internet, you will need to open port 8080. Should port 8080 already be in use refer to the appendix for instruction on configuring the server to use a different port.

Installing a license

Obtain a license key from www.addressbookserver.com or via email to sales@addressbookserver.com. After purchasing your license key, update the server and clients with it, to enable synchronisation.

This has to be done on each participating client and is used as a measure to prevent unauthorised parties from synchronising your Address Book. You should use the same license key on each client. The server will keep track of the number of participants. Should you reach the limit of participants provided by your license additional license keys can be purchased or contact support for assistance with cleaning out unused client seats.

Once the server is licensed and the client is installed, you can synchronise each participating client by using the previous tab. This will transfer the contacts from your Address Book to the server, as well as fetch already shared ones from it.

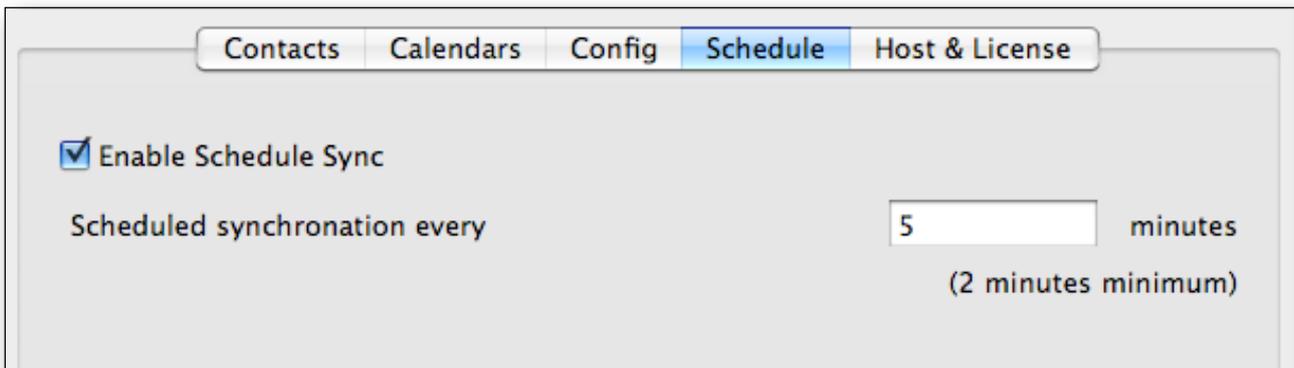
Upgrading a License Key

If you are upgrading a client or server from a trial license key to one that you have purchased, please upgrade the server's key first. Once the server has been updated, the client's key may be updated. Subsequent clients will only need the client key updated.

Instructions on how to recover if you have lost your server's license key can be found in appendix.

Scheduling automatic synchronisations

Changes made to the Address Book are automatically synchronised with the server as soon as the Address Book loses focus. Changes made by other clients are also downloaded during this process. If you want to automatically synchronise the client without making a change, or performing a Manual Sync via System Preferences, you can schedule it via the Schedule Tab in System Preferences.



Backups and Restore

You can backup the records on the Address Book Server database to a compressed archive file via the Tools tab on the web interface. This will generate a new backup archive in the directory specified in the setenv.sh file. This option is only available if you are using the H2 database.

Automatic scheduled backup

In the schedule folder of the DMG you will find the installation script to automate the backup process. This will take a backup daily automatically. To deploy this feature you should install the client on the server computer and configure the host address. It's best to install this on the server computer, but it can also be deployed on any one of the connected client. However for this to work, both the client and the server would have to be powered up and running, so it's easier to install the client component on the server. You only need to configure the server address and the license key, but there is no requirement to enable the client on the server, as this would use up a licensed unit.

After configuring the host and license key, Run the "Install Auto Backup on Leopard" script to automate the schedule backup feature. This will now take a backup every day at the same time you ran the install script.

Identifying potential port conflicts

Port 8080,8005, 48081 and 48082 are the default ports used by the Address Book Server to listen for incoming connections. If you encounter problems with either Address Book Server or other services not starting, you can identify the problems via the following commands

List all the processes listening on TCP/IP connections as shown here using netstat.

```
Wolf:~ alex$ netstat -a |grep LISTEN
tcp4      0      0 *.49205          *.*              LISTEN
tcp46    0      0 *.8080           *.*              LISTEN
tcp46    0      0 *.48082          *.*              LISTEN
tcp46    0      0 *.48081          *.*              LISTEN
tcp4      0      0 *.ldaps          *.*              LISTEN
tcp6      0      0 *.ldaps          *.*              LISTEN
tcp4      0      0 *.ldap           *.*              LISTEN
tcp6      0      0 *.ldap           *.*              LISTEN
tcp4      0      0 *.ssh            *.*              LISTEN
tcp6      0      0 *.ssh            *.*              LISTEN
tcp4      0      0 localhost.ipp    *.*              LISTEN
tcp6      0      0 localhost.ipp    *.*              LISTEN
Wolf:~ alex$
```

To identify which process is listening on a particular port, you can use the lsof command. Please note the lsof command should be used from a root shell. The example below shows typical output expected for Address Book Server.

```
Wolf:~ alex$ sudo bash
Password:
bash-3.2# lsof -i :8080
COMMAND PID USER  FD  TYPE   DEVICE  SIZE/OFF  NODE NAME
java    64  root  12u  IPv6  0x4554f38      0t0  TCP *:8080 (LISTEN)
bash-3.2# lsof -i :48081
COMMAND PID USER  FD  TYPE   DEVICE  SIZE/OFF  NODE NAME
java    64  root   8u  IPv6  0x45558c8      0t0  TCP *:48081 (LISTEN)
bash-3.2# lsof -i :48082
COMMAND PID USER  FD  TYPE   DEVICE  SIZE/OFF  NODE NAME
java    64  root  11u  IPv6  0x4555664      0t0  TCP *:48082 (LISTEN)
bash-3.2#
```

The same commands can be used to identify processes which are using the same ports as Address Book Server. In this case, Address Book Server should be reconfigured to use alternate ports.

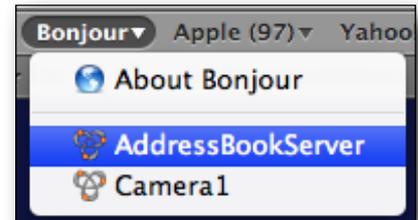
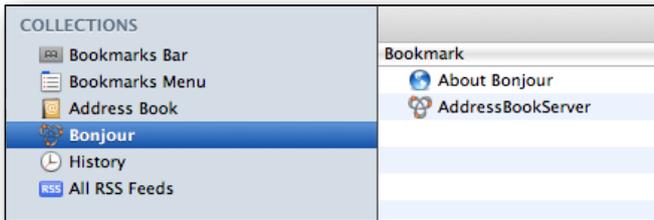
Web Interface

Overview

The web interface provides you access to your contacts and event records as well as administration functions.

Bonjour Bookmarks

The server should publish it's presence on the network. This adds a bookmark to the Bonjour Section of your browsers bookmarks. Currently only Safari and Internet Explorer support this feature.



Default Login Credentials

At the login page use the default credentials to gain access. Once logged in you should change these to prevent un-authorized access by third parties.

User Name	Password
absadmin	shareme
absuser	shareme
absread	shareme

Address Book Server uses 3 different roles to provide different access levels to the web interface. The most basic access level is "ABSREAD" which provides read-only access without any administrative privileges. "ABSUSES" allows you to make changes to the contact details. "ABSADMIN" gives full access to all features.

Web interface Feature Overview

Address Book

Access your contacts online or from a PC. On the contact details pane you can click on email addresses as well as phone number. For phone number the number is displayed in large to make it easier to see when you away from your computer. The online status for AOL is also shown using a red and green icon to represent offline and online status respectively.

Calendar

Events and tasks can be accessed via this tab. You can specify a date range for events to narrow down the results shown. Currently only read access is available and changes have to be made via iCal on the clients.

Reports

The reports tab contains many interesting and useful reports, ranging from phone lists to anniversary reminders as well as a fun GoogleEarth report which puts all your contacts on a map for you. A deletion report provides details on deleted records and allows you to recover and correct any mistakes.

Config

On the config tab you can set the sort criteria for the contacts page. The configuration also affect ABCMobile.

Help & Support

Links to online help and iChat support

Users

Administration of web interface users.

Admin

View client sync report and license server

Tools

Backup and Restore as well as ability to recover or remove any deletions made. This allows you to remove any out-dated records for good.

Advanced Topics

Bad Request Error during Synchronisation - Stripping Characters

Several users have reported a “BAD REQUEST” error during synchronisation. This error is caused by invalid / unsupported characters in the local Address Book. The Console log contains further information to identify additional problematic characters, as shown in this example.

```
14/03/2008 14:12:01 System Preferences[979] SUSPECT CHAR (29) at position 8
14/03/2008 14:12:01 System Preferences[979] Dirty      : 123 456 7890
14/03/2008 14:12:01 System Preferences[979] Cleaned   : 123 456 7890
```

Character 29 has been found at the 8th position in the string and removed. Character 29 is a non-printable character and does not affect the content. The Console provides a nifty feature to filter the log messages by entering SUSPECT CHAR in the search field on the top right. Only the potential problematic characters will be listed.

Should the console output be too much for the Console application to show the entire output, you can also trigger a sync session in Terminal via the following command:

```
/Library/Application\ Support/AddressBookClient/AddressBookClientTool 2>&1 |grep "SUS\|TIME"
```

The invalid characters are configured in:

/Library/Application Support/AddressBookClient/InvalidCharacters

An advance editor, like VI, can be used to configure this file. Please report any changes to this file for inclusion in future builds. When using VI, be careful to enable the *noendofline* feature which prevents VI from placing a carriage return on the end of the file. If you have a carriage return included in this file, it will be stripped during synchronisation

```
:set binary noendofline
```

To enter additional characters using VI, you need to use the CTRL+V followed by the ASCII code of the character.

Additional information on using VI can be found here :

<http://www.bo.infn.it/alice/alice-doc/ml-l-doc/linux/vi-ex/node15.html>

All characters with ASCII values below 32 are stripped, excluding

```
CHAR 8  : BS      Back Space
CHAR 9  : TAB     Horizontal Tab
CHAR 10 : LF      Linefeed
```

For additional information on these characters please refer to :

[ASCII Table - ASCII character codes and html, octal, hex and ...](#)

No Active Transaction Error

The “No Active Transaction Error” can occur when the Address Book Server is not able to store the data in the database. When this happens please consult the server log. Towards the end of the log file you should see the error message similar to the one shown here:

```
2008-May-23 14:00:34 [Log4JLogger - WARN] SQL Error: 90005, SQLState: 90005
2008-May-23 14:00:34 [Log4JLogger - ERROR] Value too long for column COMPANYNAME [90005-65]
2008-May-23 14:00:34 [Log4JLogger - WARN] SQL Error: 90005, SQLState: 90005
2008-May-23 14:00:34 [Log4JLogger - ERROR] Value too long for column COMPANYNAME [90005-65]
2008-May-23 14:00:34 [Log4JLogger - ERROR] Could not synchronize database state with session

org.hibernate.exception.GenericJDBCException: could not insert:
[com.j2anywhere.addressbookserver.entities.Contact]
    at org.hibernate.exception.SQLStateConverter.handledNonSpecificException(SQLStateConverter.java:103)
    at org.hibernate.exception.SQLStateConverter.convert(SQLStateConverter.java:91)
    at org.hibernate.exception.JDBCExceptionHelper.convert(JDBCExceptionHelper.java:43)
```

In this case the error was encountered on the **COMPANYNAME** column of the **Contact** table. The error indicated that the value submitted was too long for the column. By default the columns are 255 characters long, which should cater for most cases. However you can modify the size of the column to suit your needs using SQL. For example

```
ALTER TABLE CONTACTS ALTER COLUMN COMPANYNAME VARCHAR(1024);
```

would increase the size of the column to 1024 characters. After changing the database you should try to synchronise again on the client.

Recovering deleted contacts and calendar events

As deletions are automatically transferred to the server, it may be necessary to recover deleted records. Using the “Restore Deleted Contacts” feature on the Admin tab of the web interface, all previously deleted records will be restored. Alternatively, change the Change-Type to 0 in the database interface

Removing all contacts and calendar events

All records can be removed using the “Remove All Contacts” feature on the Tools tab. The following script can alternatively be used:

After deleting all records from the database, it is important to reset the client by disabling Address Book Client, waiting 20 seconds and then re-enabling it. Resetting the client is necessary to prevent the record on the client from being deleted. As there are no records on the server, any subsequent synchronisation without resetting will lead the client to believe that all records were deleted.

Using an existing relational database

Instructions on using a third party database are available at

<http://trac.addressbookserver.com>

Removing Unused Clients to free up Licenses

The number of clients allowed to participate is defined in your license key. Each user account / machine combination is allocated as one licensed unit. You can view and remove registered clients via the Client tab in the web interface.

Uninstall Address Book Server & Client

Uninstall Address Book Client

- 1.) Disable Address Book Client using System Preferences
- 2.) Remove the Address Book Client System Preferences (Right Click in System Preferences)
- 3.) Delete folder /Library/Framework/Framework13
- 4.) Delete folder /Library/Application Support/AddressBookClient
- 5.) Remove the client preferences by deleting
~/Library/Preferences/com.j2anywhere.addressBookClient.plist

Uninstall Address Book Server

Using Uninstall script / command

A script to stop and uninstall the server is included with the disk image. The script resides in the un-install folder of the download. Simply double click the script and Apple Script will open. Then press the run button to execute the script. During the execution you will be prompted for your Admin password. After the execution completes you can close down Apple Script.

Manual removal

To manually uninstall you can follow the instructions below.

- 1.) Switch to root / sudo
- 2.) Disable the launch service via

```
wolf:~ alex$ launchctl unload /Library/LaunchDaemons/com.j2anywhere.addressBookServer.xml
```

- 3.) Identify the current process using PS as follows

```
wolf:~ alex$ ps -ax |grep java
3447 ?? S      1:47.36 java -Dfile.encoding=UTF8 -Djava.library.path=/usr/li
6034 p1 R+    0:00.01 grep java
wolf:~ alex$
```

- 4.) The server can be stopped from the client via the **ShutdownAddressBookServer** tool.

```
wolf:~ alex$ cd /Library/Application\ Support/AddressBookClient/
wolf:~ alex$ ./ShutdownAddressBookServer
```

Alternatively, you may stop the current process. The process id (3447) is obtained from the output of PS.

```
wolf:~ alex$ kill 3447
```

After stopping the service, go back to 3 to verify that it is no longer running.

5.) Delete /Library/LaunchDaemons/com.j2anywhere.addressBookServer.xml

6.) Delete /usr/share/addressBookServer/. To access this folder via the Finder, you will need to use the **Go To Folder** feature under the **Go** menu.

Appendix A

Known issues and problems

The following issues are known. Suggested work-a-rounds are provided on some of them.

Merging contacts in Address Book results in data loss

Merging contacts in Address Book can lead to data loss. This issue has so far only been observed on 10.5.7 and 10.5.8 however could be present in earlier releases. **It has not been observed in 10.6 so far.** The following scenario describes the problem in detail.

Creating two contacts with the same name (e.g.: Frank Smith) and different email details (frank@home.com, frank@work.com). After synchronising both appear on the Address Book Server web interface. Now merge the contacts using Address Book via the menu (Card > Merge Selected Cards). Initially the records associated with both contacts is correctly merged into a single contact record. However after synchronising with the server one of the email addresses is lost.

What seems to happen that the initial merge correctly combines the records of both contacts. However after synchronising via sync services with other applications such as Address Book Server or MobileMe the resulting record does not contain the combined details. This issue has been reported to Apple under bug report number : 7114140

Synchronising Calendar events

Synchronising Calendar event between private and shared calendars. This problem occurs is when one client adds a event record to the shared calendar which is similar enough to an existing event in a non-shared calendar on another client. During synchronisation the event is moved from the non-shared calendar to the shared calendar and removed from the private calendar. **It has not been observed in 10.6 so far.**

The following scenario describes the problem in detail.

Environment Setup:

- client A with Calendar "A" + "B"
- client B with Calendar "B" + "A" + "C"

Calendars "A" and "B" are synchronised on both clients.

In calendar "C" an event is added on client B. On client A a similar event is added to calendar "A". After synchronisation the original event in calendar "C" on client "B" has moved from calendar "C" to calendar "A". The original event is no more in calendar "C". A bug report has been raised with Apple for this issue. Bug Report number : 7111460

This issue can be acknowledged as a known issue by Apple under Bug ID# 6009783

Public / Private contacts in overlapping groups

There is one further problem that was referred to Apple for comment. When contacts belong to both shared and private groups, it can happen that the contact is removed from the private group. The problem is less apparent in "Change" mode, however does still happen. The next major stable release is currently on hold waiting for a solution for this problem. This problem has also been reported to Apple, who identified it as a bug in 10.5 and most likely 10.4. (Bugs ID# 6634631 and 5978011). **This should be resolved in 10.6 when it is released later this year.**

The latest release of Address Book Server (March 23rd onwards) has a fix for this issue implemented. If you are upgrading from a release prior to this ensure you disable and re-enable the clients in System Preferences. This is a critical step required to prevent loss of data.

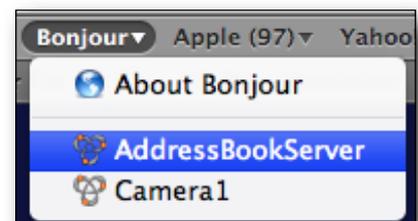
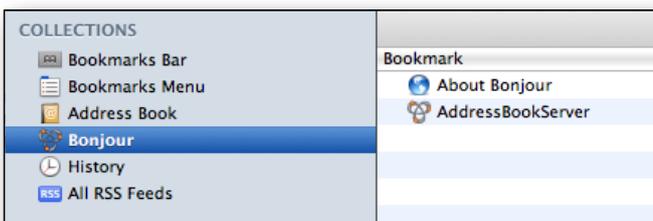
Recover from lost license key

Suggested Solution

- 1.Delete the old License key (Optional):
 - 1.Open Terminal
 - 2.Execute the commands as shown here :

```
Last login: Thu Feb 14 00:13:18 on tty??
Wolf:~ alex$ sudo bash
Password:
Wolf:~ root# cd /usr/share/addressBookServerEnterpriseEdition/apache-tomcat-6.0.18/bin/
Wolf:addressBookServer root# rm Licensekey.license
```

2.) License Server via the Web Interface. The server publishes the web interface and adds a entry in the Bonjour section in the Bookmarks in Safari.



3.) After the selecting the bookmark, the log-in page is presented. The default log-in credentials after the installation are :

User Name	Password
absadmin	shareme
absuser	shareme
absread	shareme

4.) Go to the **Admin** tab enter the license key sent to you via email. After correctly entering the license key the number of licensed clients is shown. Verify that it matches to those ordered.



License Key

Update License Key

Licensed for : 5 clients

At this point your server should be up and running and licensed. The clients can now be configured and synchronised with the server.

Appendix B

Useful SQL queries and commands

The database back-end can be accessed from the server only. The following address provides access to the database.

<http://localhost:48082>

This will present the login page. Ensure the JDBC URL is set to the following address :

`jdbc:h2:../db/AddressBookDB`

English Preferences Help

Login

Saved Settings: Generic H2

Setting Name: Generic H2 Save Remove

Driver Class: org.h2.Driver

JDBC URL: jdbc:h2:../db/AddressBookDB

User Name: sa

Password:

Connect Test Connection

Show the number of contacts shared

```
SELECT COUNT(CONTACTS.IDENTIFIER) FROM CONTACTS
```

and

```
SELECT CHANGETYPE,COUNT(CHANGETYPE) FROM CONTACTS GROUP BY CHANGETYPE
```

List the last 10 updated contacts in the order they were updated

```
SELECT IDENTIFIER, FIRSTNAME, LASTNAME, COMPANYNAME, CHANGETYPE, UPDATEDON FROM CONTACTS  
ORDER BY UPDATEDON DESC LIMIT 10
```

Show the number of contacts per shared Group

```
SELECT GROUPS.NAME , COUNT(GROUPS_CONTACTS.MEMBERS_IDENTIFIER)  
FROM GROUPS  
LEFT JOIN GROUPS_CONTACTS ON GROUPS_CONTACTS.GROUPS_IDENTIFIER = GROUPS.IDENTIFIER  
GROUP BY GROUPS.NAME  
ORDER BY GROUPS.NAME
```

Contacts ordered by the group they associated with

```
SELECT GROUPS.NAME, CONTACTS.FIRSTNAME, CONTACTS.LASTNAME, CONTACTS.COMPANYNAME,  
CONTACTS.CHANGETYPE, CONTACTS.UPDATEDON FROM GROUPS  
JOIN GROUPS_CONTACTS ON GROUPS_CONTACTS.GROUPS_IDENTIFIER = GROUPS.IDENTIFIER  
JOIN CONTACTS ON CONTACTS.IDENTIFIER = GROUPS_CONTACTS.MEMBERS_IDENTIFIER  
ORDER BY GROUPS.NAME, CONTACTS.FIRSTNAME, CONTACTS.LASTNAME
```

Alternatively

```
SELECT GROUPS.NAME AS GROUPNAME, CONTACTS.FIRSTNAME, CONTACTS.LASTNAME,  
CONTACTS.COMPANYNAME, CONTACTS.CHANGETYPE, CONTACTS.UPDATEDON FROM CONTACTS  
LEFT OUTER JOIN GROUPS_CONTACTS ON GROUPS_CONTACTS.MEMBERS_IDENTIFIER =  
CONTACTS.IDENTIFIER  
LEFT OUTER JOIN GROUPS ON GROUPS.IDENTIFIER = GROUPS_CONTACTS.GROUPS_IDENTIFIER  
ORDER BY GROUPS.NAME, CONTACTS.FIRSTNAME, CONTACTS.LASTNAME
```

Change the datatype / length of a column

```
ALTER TABLE CONTACTS ALTER COMPANYNAME COLUMN COMPANYNAME VARCHAR(1024);
```

List all contacts in date order

```
SELECT UPDATEDON, FIRSTNAME, LASTNAME, COMPANYNAME, CHANGETYPE FROM CONTACTS ORDER BY  
UPDATEDON DESC
```

Backup the server

```
BACKUP TO 'backup.zip'
```

List the status of the connected clients in order of last time they synchronised. With

```
SELECT * FROM CLIENTIDENTIFIER ORDER BY LASTSUCCESSFULLYSYNC DESC
```

List memberships by group and change type / status

```
SELECT GROUPS_IDENTIFIER, GROUPS.NAME ,CONTACTS.CHANGETYPE AS STATUS
,COUNT(CONTACTS.CHANGETYPE) AS COUNT FROM GROUPS_CONTACTS
JOIN GROUPS ON GROUPS.IDENTIFIER = GROUPS_CONTACTS.GROUPS_IDENTIFIER
JOIN CONTACTS ON CONTACTS. IDENTIFIER = GROUPS_CONTACTS. MEMBERS_IDENTIFIER
GROUP BY GROUPS_IDENTIFIER,GROUPS.NAME, CONTACTS.CHANGETYPE
ORDER BY 1
```

Appendix C

Changing Default TCP Port

The default port for Address Book Server to listen on is 8080. The server configuration file resides in the :

```
/usr/share/addressBookServerEnterpriseEdition/apache-tomcat-6.0.18/conf
```

folder.

The server.xml file

The port is defined in the Connector section within this file. Change the port attribute to an available port on your system, should the default port be already in used by an existing application.

Port 8005 is used by Tomcat to listen for shutdown requests. It might be necessary to change this port as well.

```
...  
<Connector port="8080" protocol="HTTP/1.1"  
           connectionTimeout="20000"  
           redirectPort="8443" URIEncoding="UTF-8" />  
...
```

SSL Support (Optional)

Make new directories

```
mkdir /usr/share/addressBookServerEnterpriseEdition/apache-tomcat-6.0.18/ssl
```

Generate a certificate

SSL requires a certificate, which can either be obtained from a public certificate authority, but you can also use your own self signed certificate. I am going to cover the steps to generate a self signed certificate here.

Use the keytool as shown in the example below. When asked for the first and last name you have to enter the fully qualified hostname of your server. This name will be placed inside the certificate and verified against the hostname of the server. Also the password used for the generated keystore should be “changeit”. If you like you can use a different password, but then you will also need to modify the server.xml file to match. Also the path in which the keystore will be created should point to the ssl directory created in the previous step.

The firstname and last name field should contain the fully qualified hostname name which the clients are going to use to connect to the server. This is a critical part of the certificate and is used to verify that the client is connecting to the server with a matching certificate.

```
wolf:ssl alex$ keytool -genkey -validity 365 -alias tomcat -keyalg RSA -keystore
/usr/share/addressBookServerEnterpriseEdition/apache-tomcat-6.0.18/ssl/keystore
Enter keystore password:  changeit
What is your first and last name?
  [Unknown]:  wolf.home.j2anywhere.com [ENTER YOUR HOSTNAME HERE]
What is the name of your organizational unit?
  [Unknown]:  Contacts Division
What is the name of your organization?
  [Unknown]:  j2anywhere.com
What is the name of your City or Locality?
  [Unknown]:  London
What is the name of your State or Province?
  [Unknown]:  Bedfordshire
What is the two-letter country code for this unit?
  [Unknown]:  GB
Is CN=wolf.home.j2anywhere.com, OU= Contacts Division, O=j2anywhere.com, L=London, ST=Be-
dfordshire, C=GB correct?
  [no]:  yes
Enter key password for <tomcat>
  (RETURN if same as keystore password):
```

Modify ./conf/server.xml

Uncomment the SSL connector. The keystoreFile and the keystorePass need to be adjusted to match those shown below. The keystorePass must match the password used while generating the certificate.

```
<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true"
    maxThreads="150" scheme="https" secure="true"
    keystoreFile="{catalina.home}/ssl/keystore" keystorePass="changeit"
    clientAuth="false" sslProtocol="TLS" />
```

After making all these configuration changes the server needs to be restarted for the changes to take effect.

Clients Truststore

The truststore contains a list of certificates and certificate authorities which are trusted. To extract the certificate from the server and add it to each of the clients trust chain you can export the certificate using the command below.

```
openssl s_client -connect localhost:8443 -showcerts >cacerts.pem
```

Place the resulting trust store (cacerts.pem) in /Library/Application Support/AddressBookClient on each client. The client is using a fairly low level API which doesn't support the key chain.