BluePosition CCDB – 3.0.0

Installation and User Guide

Contents

Introduction

The BluePosition CCDB is a server application designed to import appointments from Exchange calendars or a third part web service to the CCDB database. By doing so the BluePosition products will have a central place to get data to the client applications.

The CCDB is also designed to serve as a phonebook server by using the AD information available, but also allowing an administrator to edit the phonebook manually.

# How it works

Windows environment:

To be able to import calendars from the Exchange server the CCDB needs to know which accounts to import. These accounts are selected from the Active directory. It is also possible to select AD groups. When the AD accounts are selected the account information is stored in the CCDB database and the calendar importer will use this information to import calendars from the Exchange server.

To be able to read calendars from the Exchange server the CCDB uses an Exchange account with rights to read the calendars for the selected users.

The CCDB can import calendars appointments by running in a given interval or by subscribing to push updates from the Exchange server.

Architecture (Windows)

The following diagram illustrates the dataflow of BluePosition CCDB.
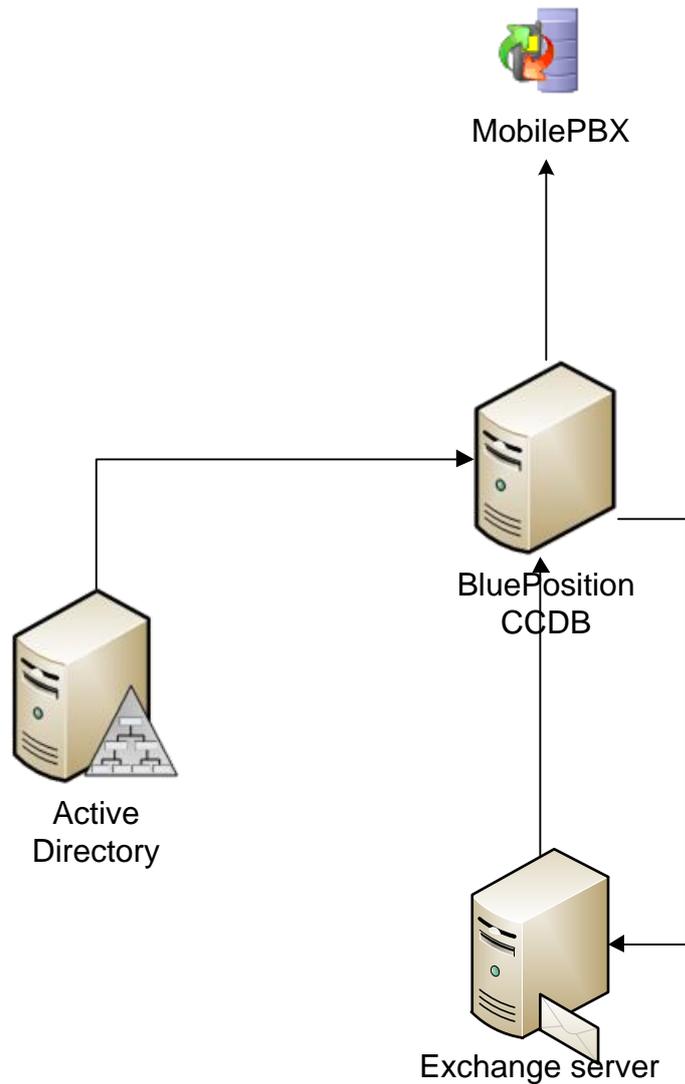
The BluePosition CCDB software works in conjunction with Active Directory and Microsoft Exchange. It communicates with Active Directory to get contact information, and retrieves distribution list membership and user information, as well as calendar information from Microsoft Exchange. The data is stored in a Microsoft SQL server.

System requirements

Installation requirements

The Active Directory[1], Exchange[1], and SQL Server must be installed and configured prior to installing BluePosition CCDB.

Software pre-requisites

- Active Directory
    - A Windows 2003 (or later) Active Directory
- Microsoft Exchange
    - Exchange Server 2007
    - Exchange Server 2010
- Microsoft SQL Server
    - SQL Server 2008 (or newer) or SQL Server 2008 Express (or newer)
- BluePosition CCDB Server
    - Windows Server 2008 or Windows Server 2008 R2 (not Core editions)
    - Microsoft .NET 4.5
    - 2 GB RAM
    - 60 GB hard disk space
    - Domain member

In addition the above listed software pre-requisites, the BluePosition CCDB software requires specific user rights to both the Exchange Server databases as well as the Microsoft SQL Server database. The required permissions are described in the following chapters.

SQL Server

A database is needed for the BluePosition CCDB service. The database must be created manually.

The BluePosition CCDB configuration program can automatically create the necessary database tables etc. during the initial configuration process. Creating the database structure requires ownership permission on the SQL server database.

During normal operation of the software, the account which BluePosition CCDB uses to connect to the SQL server database only requires write permissions.

The account may be a SQL server user account or a domain account. If it is a domain account, you must configure BluePosition CCDB to use "Integrated Authentication", and configure the BluePosition CCDB Windows Service to log in as that domain account. In that case, the domain account must be granted the "Log on as a service" right on the server.

Other users of the database, such as MobilePBX™ users, must be granted at least read permissions to the database. This can be granted either using SQL server user accounts, or domain accounts. It is also possible to grant a domain group account read permission. This will ease the necessary configuration on the client.

SQL Express editions

If using an Express edition of Microsoft SQL Server the tcp protocol must be enabled in the configuration manager. The SQL Browser service must also be started.

The tcp protocol and the SQL Browser service are disabled by default on Express editions.

Database Role	SQL permission
CCDB installation	db_owner
CCDB operation (service)	db_datawriter
CCDB user (e.g. MobilePBX™ user)	db_datareader

Access rights for calendar import

If you configure the BluePosition CCDB software to synchronize Exchange calendars with the database, the BluePosition CCDB will use the Exchange Server's Outlook Web Access facility or Exchange Web Services. Whether BluePosition CCDB can use Outlook Web Access or Exchange Web Services depends on your company's Exchange Server version.

Either way, the BluePosition CCDB must be configured with a valid Exchange server username and password. This account must be mail-enabled (i.e. have an Exchange Server mailbox), and there must be some specific permissions configured, so the BluePosition CCDB can use this account to retrieve calendar appointments for the synchronized users from the Exchange Server.

For all Exchange server versions, the user should be configured as such:

- The user account must be a member of the Domain Users group
- The account should have the option "Password never expires" set
- The account must have an Exchange mailbox, and the mailbox must not be hidden from the Exchange Global Address list
- The account must have the permissions in the Exchange mailbox database(s) as described below

Exchange 2007 (no service packs)
Exchange 2007 doesn't have a graphical user interface for setting the required permissions.

Instead, use the Exchange Management Shell to perform the commands:

```
Add-ADPermission -Identity "Database name" -User "ccdbuser" –AccessRights
"GenericAll"
Add-ADPermission -Identity "Database name" -User "ccdbuser" -ExtendedRights
"Receive-As"
Add-ADPermission -Identity "Database name" -User "ccdbuser" -ExtendedRights
"Administer Information Store"
```

Replace *Database name* in the commands with the name of the mailbox database, and replace *cccpuser* with the username of the account which will be configured for use by the BluePosition CCDB.

Repeat the command for all mailbox databases.

If the Exchange organization has many mailbox databases, the properties can be applied to them all at once using PowerShell's built-in piping capability. For example for the "Receive As" permission use this command:

```
Get-MailboxDatabase | Add-ADPermission -User "ccdbuser" -ExtendedRights
"Receive-As"
```

Note that the permissions are cached by the Exchange server, and may not be reloaded by the Exchange server immediately. To force the Exchange server to update the permissions, restart the "Microsoft Exchange Server Information Store" service.

Exchange 2007 SP1 and up and Exchange 2010
The BluePosition CCDB will use Exchange Web Services to retrieve calendar information from Microsoft Exchange Server 2007 Service Pack 1 and up, and from Exchange Server 2010.

The permission checks performed by the Exchange Server when using Exchange Web services are different from previous versions, and the permissions which the BluePosition CCDB require are different.

To read calendar information from these Exchange Server versions, the account used by the BluePosition CCDB requires Exchange Impersonation permissions. To grant these permissions run the following commands from the Exchange Management Shell.

As for Exchange 2007 without service packs, the Exchange server may cache the permissions. The changes below may not take effect immediately. To force the Exchange server to update the permissions, restart the "Microsoft Exchange Server Information Store" service.

Exchange 2007 SP1 and up

Granting impersonation permissions involves granting the right to impersonate on Exchange Server level, and to grant the "may-impersonate" right on mailbox databases. This can be done by running these two commands:

```
Get-ExchangeServer | Where {$_.IsClientAccessServer -eq $TRUE} | Add-
ADPermission
     -User "ccdbuser"  -extendedRight ms-Exch-EPI-Impersonation
Get-MailboxDatabase | Add-ADPermission -User "ccdbuser"
     -extendedRight ms-Exch-EPI-May-Impersonate
```

Exchange 2010

Microsoft Exchange Server 2010 uses Role Based Access control. Granting the necessary impersonation permissions only involves assigning the correct management role to the user account used by the BluePosition CCDB:

```
New-ManagementRoleAssignment –Name:BluePositionCCDB
     –Role:ApplicationImpersonation –User "ccdbuser"
```

Firewall configuration

Before BluePosition CCDB can successfully synchronize appointments, the following firewall configurations must be made.

Host names	Direction from BluePosition CCDB server	TCP Port	Notes
Exchange server	Outgoing	80 or 443	Used to access Outlook Web Access URL. Port number depends on Exchange server configuration.
Exchange server	Incoming	45874	Used for Exchange Web Services Push updates (only Exchange 2007 SP1, SP2, and Exchange 2010). Port can be configured.
SMTP server	Outgoing	25	For sending alerts and synchronization results via e-mail.

Installation of pre-requisites

The plug-in requires the .NET 4.5 framework to be installed. For manual installation of the framework please go to http://www.microsoft.com/en-US/download/details.aspx?id=30653 and follow the installation instructions.

Installation

Before installing BluePosition CCDB, please ensure that the minimum system requirements and other pre-requisites are met. To install BluePosition CCDB, simply run the BluePosition CCDB Setup.exe.
This install program will install the BluePosition CCDB service with the following options:

- **Startup type**: Automatic
- **Service status**: Stopped
- **Log on as**: Local System account
- **Recovery (all options)**: Restart the Service

All of the above can be changed in the service properties.
The installer will furthermore install the BluePosition CCDB Configuration application. The configuration program is used to configure the service behavior. All the configuration options available will be explained in details in the *Configuration* chapter of this guide.

Updating

To update BluePosition CCDB, simply run the new installer. The installation routine should handle uninstalling previous versions.
Note: Settings from previous version will not be deleted unless explicitly stated in the new installer.

Uninstallation

To uninstall BluePosition CCDB, simply use Windows Add/Remove programs and features.

Installation process

The installer requires administrator rights. If User Account Control prompts you to grant the installer access to make changes, choose Yes, follow the installation wizard and wait for the installer to finish.

First run

To run BluePosition CCDB Configuration, please click the shortcut:

Start Menu → All Programs → BluePosition CCDB → BluePosition CCDB Configuration

Configuration details

General settings

This tab allows you to set general options for the CCDB service (what to import, whether to log events, whether to send e-mail reports, start/stop the service.

Enable logging

Whether to enable logging of code events. This may be useful for determining error sources. The log can be opened with SmartInspect Console.

Send email reports and warnings section

Fill in these fields in order to receive an e-mail report when an error occurs. Only one e-mail is sent per unique error.

Service

Allows you to control the status of the CCDB service. Once you've specified all required information in the following tabs, please return to this tab and enable the service.

Important: When changes are made to the CCDB configuration, the service must be restarted for these changes to take effect.

Note that the service subsequently starts automatically on Windows boot even if no user is logged in.

Contacts tab

This tab allows you to configure how contacts are imported.
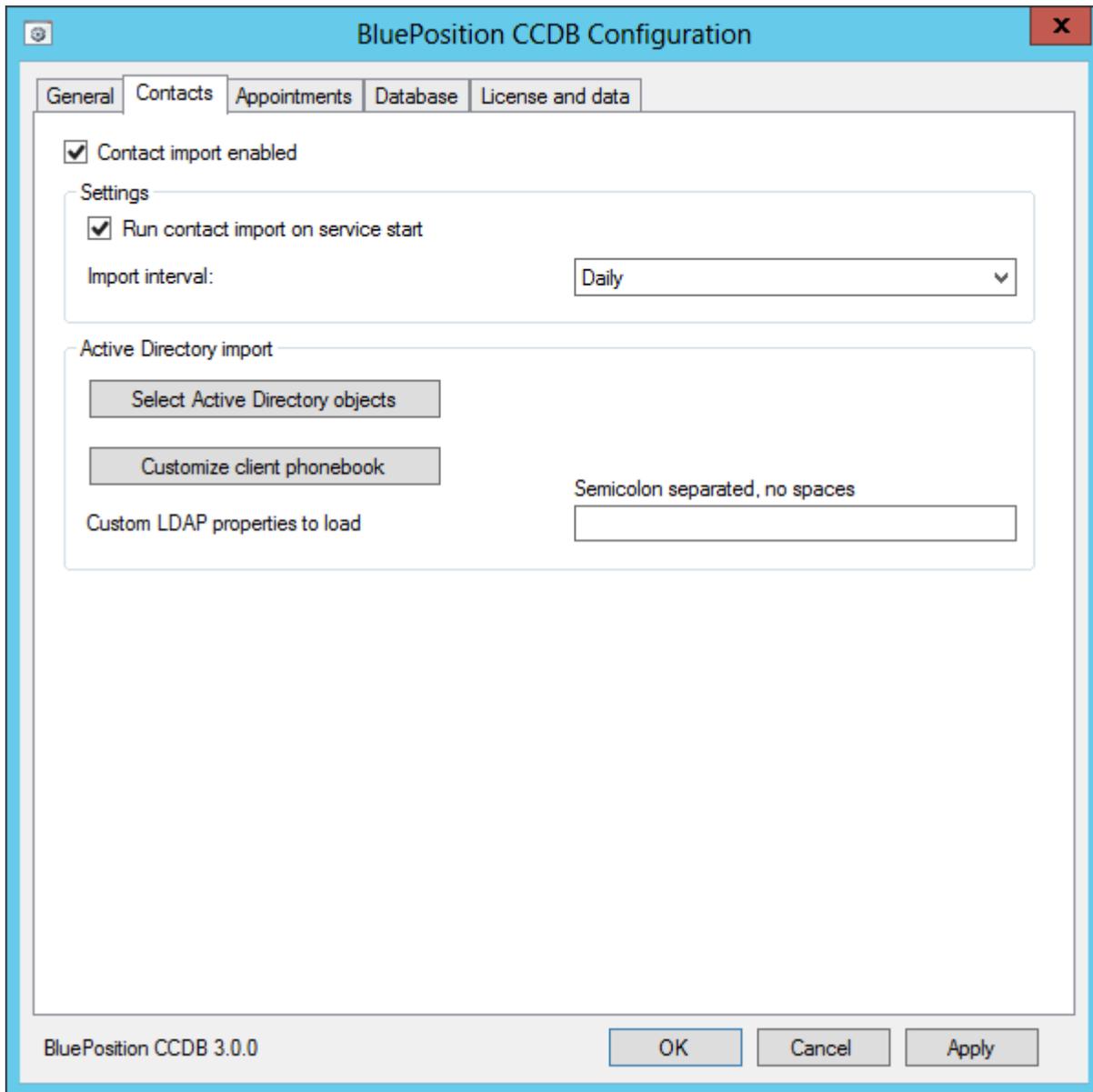
Settings

If checked, the service will import contact data from the AD each time the service is started. The interval for when AD import will occur can be configured using the drop down box.

Active Directory import

Select the AD objects that the service shall import data from. The button will open a window with a tree view of the AD. When selecting a node in the tree, all underlying OUs, groups and user will be imported.

Customize client phonebook

This button opens an editor where it is possible to configure how the client phonebook will be created (when using BluePosition CCDB Client Sync).

The columns generated for the client phonebook are named according to the display name entered. There are some required display names and a table for custom display names.

It is possible to tell the phonebook generator which AD fields it shall use to fill data in the phonebook.

Custom LDAP properties

If using non standard LDAP properties, uset his textbox to enter the names of those if the service shall import data from these properties.

Appointments

This tab allows you to set information needed to connect to Exchange, whether to use Push updates, and the frequency of calendar updates.

Exchange settings

Enter your Exchange web access URL and other information required to access your Exchange server. Note that the credentials provided must have read access to the calendars to import. You may test your settings using the 'Test connection' button.

If the mailbox used to read calendars has the impersonation rights of the other mailboxes to read, check the 'Use impersonation' box.

If 'Privacy enabled' is checked, appointments will be imported with only the time and busy state – the subject of the appointment and other sensitive information will be ignored.

Push listener enabled

This allows the service to be notified as soon as calendar updates occur.The push listner will keep an idle connection open to Exchange at all times. However, it will not consume a noticeable amount of extra bandwidth. (It is the same method that Outlook uses).

Import time span

Configure how many days in the past/future the service will import appointments for.
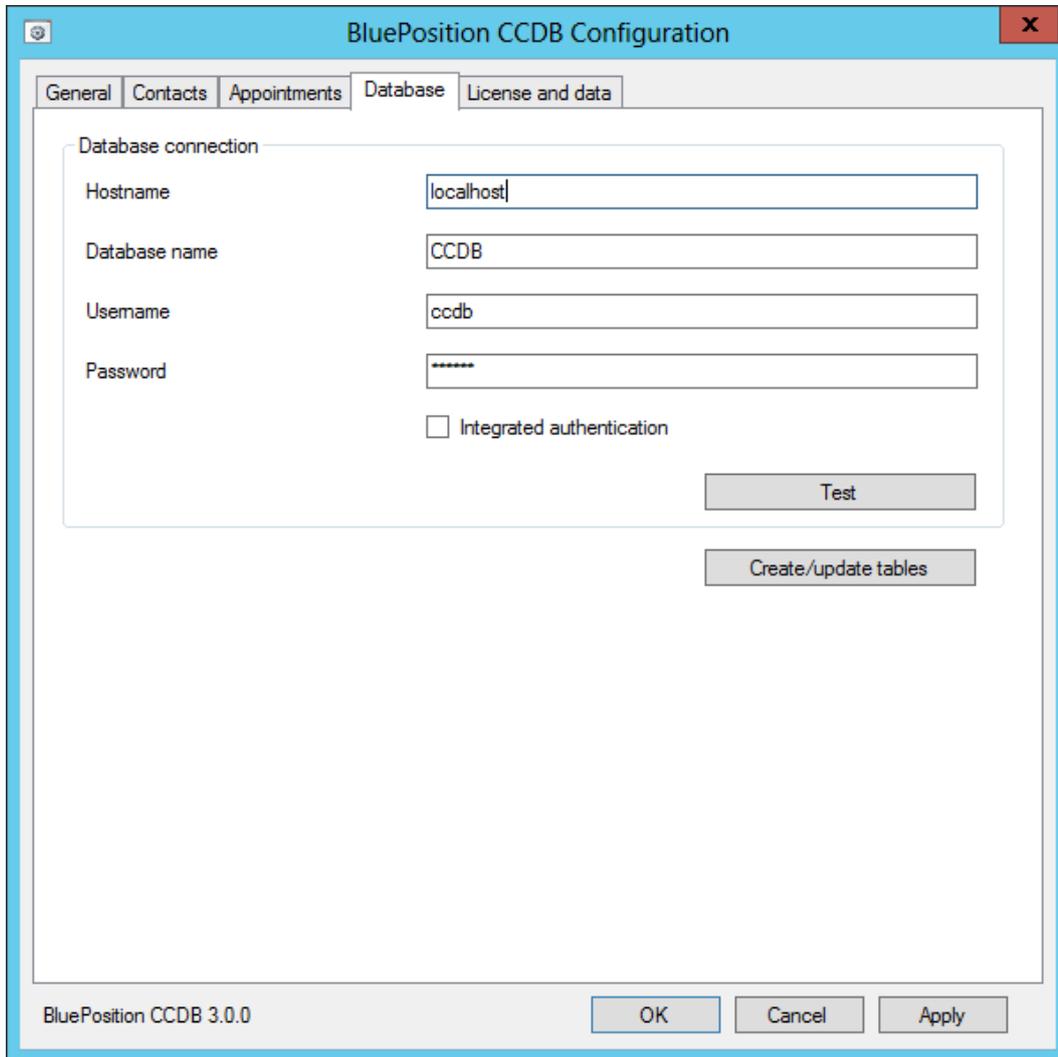
Disable import between

Use this option to disable calendar polling between the specified times.

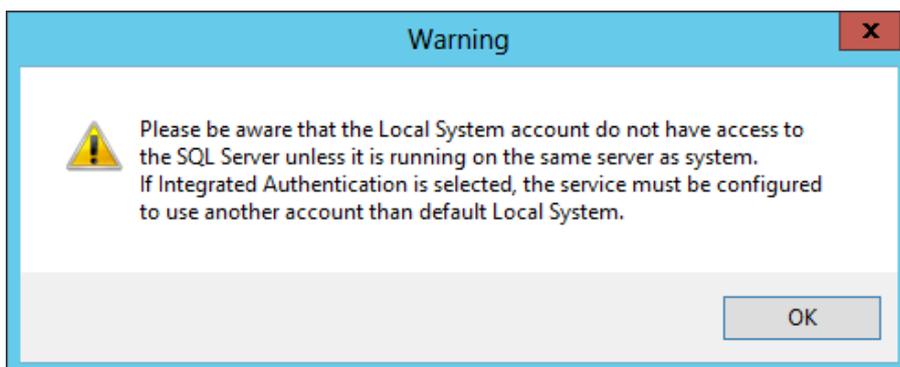Please note that Push, if enabled, will remain active at all times regardless of this setting.

Database tab

This tab allows you to specify the information required for the CCDB service to connect to the SQL Server where it will keep its database.

Enter the required information and test the connection using the 'Test' button. If the test is successful, you may tell CCDB to generate the tables required for the CCDB service to function.

NOTE: Using integrated authentication

License and data

To be able to use the CCDB a license key is required.

Enter the company name and the license key <u>exactly</u> as they appear in the email from BluePosition.

Please remember to click the Apply button, before starting/restarting the BluePosition CCDB service.

Show imported data

This button will generate a summary of the contacts and appointments currently in the database.

Please allow some minutes (5-10 in large organizations) from the service has been started until the data will be visible by showing the imported data.

When all settings has been applied, please go to the General tab to start the service for then changes to take effect.