

BluePosition Mediation Server Installation and User Guide

Version 2.1

BLUEPOSITION®

www.blueposition.com



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Introduction

The BluePosition Mediation Server is server based software which acts as an intermediary between operator telephony services and local services provided by other BluePosition software.

The Mediation Server contacts the operator services using customer specific credentials and is able to subscribe to the customer's user call status, queue lengths, and more.

This document describes how the BluePosition Mediation Server is installed, and how settings are configured.

Settings are configured by the BluePosition Mediation Server Configuration application and used by the BluePosition Mediation Server service and the BluePosition Status Server service which subscribe to events from the operator, and provide the call status information to client software such as BluePosition OCS MobileStatus, Voquant and MobilePBX switchboards, and more.

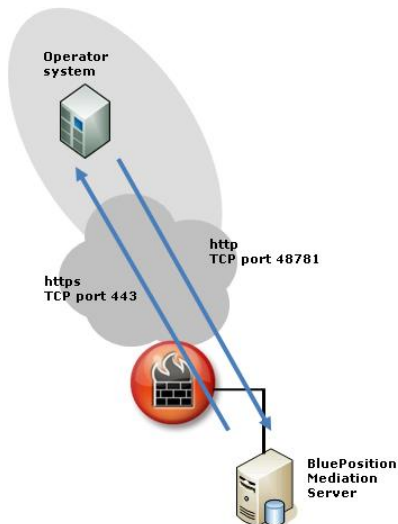
Communication

The following describes how the BluePosition Mediation Server operates with regards to contacting the telephone operator, and how it provides the call status information to client software.

The exact communication method depends on the configured operator and their call status protocol.

TDC Scale

When configured for TDC Scale, the BluePosition Mediation Server communicates with the telephone operator to subscribe to call events, and the telephone operator's systems will push events back to the Mediation Server.



The BluePosition Mediation server initiates communication with the operator's service using https.

The operator systems will call back to the Mediation Server on port 48781 (default) using http. The data that is transmitted back consists of call state information.

Client software which only subscribes to status updates such as the OCS MobileStatus server will contact the Mediation Server on TCP port 42331.

The Voquant switchboard client which also performs call control commands will in addition to TCP port 42331 also communicate with the Mediation Server on TCP port 14134.

Telenor Denmark Statusplan v2

When configured for the Statusplan v2 / Multiplan Gateway service provided by Telenor Denmark, the BluePosition Mediation Server communicates with Telenor systems to subscribe to call events and polling for events. Communication with the Telenor service is always initiated by the Mediation Server and occurs using https on TCP port 443.

Deploying BluePosition Mediation Server

The deployment of the BluePosition Mediation Server application requires these steps:

1. Installation of the pre-requisites
2. Installation of the program files
3. Configuring the program

The steps are outlined in the following chapters. The final chapter covers troubleshooting in case of problems. Before installing the BluePosition Mediation Server, please verify that the intended installation platform fulfills the following system requirements.

System requirements

These system requirements must be fulfilled for the BluePosition Mediation Server to function correctly.

- 2.0 GHz CPU or greater
- Windows Server 2008 R2 (Server Core Role is not supported) or
- Windows Server 2012 or Windows Server 2012 R2
- 64 bit CPU and operating system
- 1 GB available RAM for each 2000 users
- 1 GB available disk space

Installation of pre-requisites

These pre-requisite software packages need to be installed before the BluePosition Mediation Server can run.

- .NET Framework 4.0

The Mediation Server installation program will install the Microsoft .NET Framework 4.0 if it is not already installed on the server.

Firewall configuration

Before the BluePosition Mediation Server can successfully contact the telephone operator systems, and before it can receive call status events from the operator and pass them on to clients, the following firewall configurations must be made.

System	Direction from BluePosition Mediation Server	TCP Port	Notes
Operator web service	Outgoing	443	Used to authenticate with operator
Status clients	Incoming	42331	Clients (such as OCS MobileStatus) connect to the Mediation Server's Status Server component on this port. Port cannot be configured.
SMTP server	Outgoing	25	For sending alerts and synchronization results via e-mail.
secure.mobileservices.dk	Outgoing	443	License verification system.
Operator specific	The ports below depend on your operator		
TDC Scale	Incoming	48781	Call status events from TDC Scale

Note that the source ports in all above cases may vary; the ports in the list specify only destination ports.

During Mediation Server startup, the software will test receiving events from TDC Scale. If no events are received, the service will terminate and an error is logged to the Windows Event log.

Installation of the program files

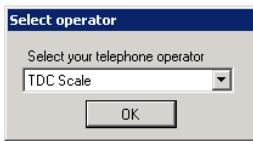
BluePosition Mediation Server is installed using its installation program. The installation program will also check for necessary pre-requisites, and will install the Microsoft .NET Framework 4 if it is not already present on the server.

After the installation program has finished copying files, it is possible to start the BluePosition Mediation Server Configuration program.

It is recommended that you start the Configuration program to configure the Mediation Server settings. The Mediation Server will not function unless configured correctly.

BluePosition Mediation Server Configuration

When starting the Mediation Server Configuration program the first time, you must select your telephone operator from a list of supported operators.



Once you have selected your operator the main window will be displayed with configuration settings which apply to your operator.

General use

Menu

The menu makes it possible to configure advanced settings and control the BluePosition Mediation Server Windows Server. It is necessary to restart the service after making changes to the configuration.



General Buttons

General buttons for all tabs are placed at the bottom of the main form. The buttons are *Save* and *Reset*.



Save button

The Save button will save the current settings.

Reset button

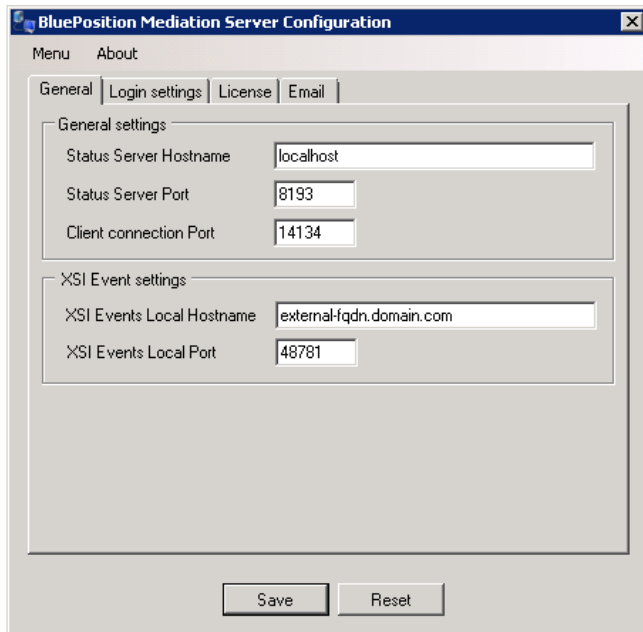
The Reset button will revert the configuration to the previously saved settings.

Application Tabs

Tabs are used for grouping related settings on the main form. The available tabs are *General*, *Login settings*, *License*, and *Email*.

General tab

The General tab contains settings regarding the local computer. What is the hostname to use when subscribing to call events with the operator system, which port should be used, etc. The exact settings displayed depend on your operator.



Status Server Hostname

The hostname of the status server which clients should connect to, and which the Mediation Server should pass events from the telephone operator on to. The status server is normally located on the same server as the Mediation Server, and the default setting is "localhost". This setting should only be changed if you are not using the Status Server which was installed as part of the BluePosition Mediation Server installation process.

Status Server Port

The port on which the status server listens. The status server will normally use port 8193. This setting should only be changed if you are not using the Status Server which was installed as part of the BluePosition Mediation Server installation process, and then only if you have changed the default configuration of that status server.

Client connection port

The port which switchboard clients (BluePosition MobilePBX and Voquant) should connect to the Mediation Server on. Unless you have a specific requirement, it is highly recommended to keep the default of 14134.

XSI Events Local Hostname

The XSI Events Local Hostname is used when subscribing to call events with the operator system. It should be a fully qualified domain name or IP address which is externally accessible. The telephone operator will contact this hostname or IP address when pushing call status events.

If this hostname or IP address is on a firewall, the firewall must be configured to allow the traffic from the operator on the port configured using the XSI Events Local Port parameter.

This setting does not apply to Telenor Denmark Statusplan v2.

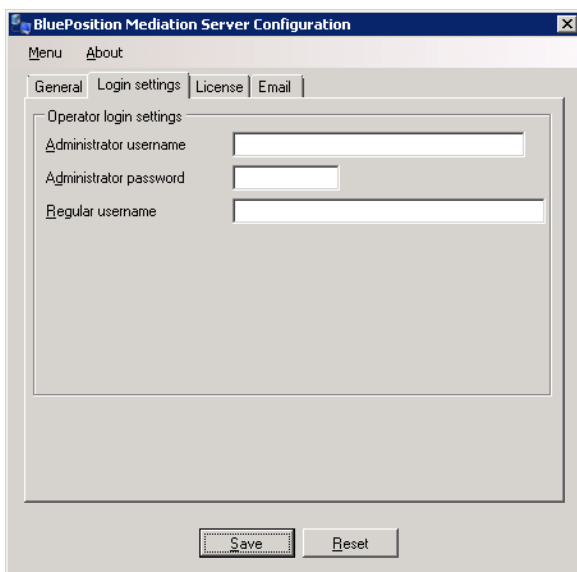
XSI Events Local Port

The XSI Events Local Port is the port number on which the BluePosition Mediation Server should listen to events. The default is 48781. This should only be changed if your telephone operator requires it.

This setting does not apply to Telenor Denmark Statusplan v2.

Login settings tab

The settings located in the Login settings tab are related to your telephone operator's systems. Your telephone operator will provide you with login credentials to their call status event subscription system. These credentials should be entered here.



Administrator username

The administrator username is the username of the user which has privileges to subscribe to call events for your enterprise on the operator system. This is sometimes called a Group Administrator when communicating with the telephone operator's staff.

The username is normally in a format similar to an e-mail address.

Administrator password

The password of the administrator user.

Regular username

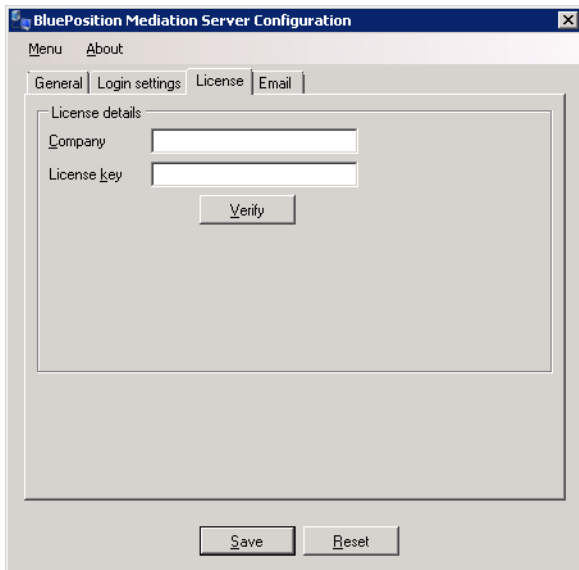
The regular username is the username of a non-administrator user in your enterprise on the operator system. The regular username is used by the BluePosition Mediation Server when it is necessary to impersonate a real-world user on the operator system.

The username is normally in a format similar to an e-mail address.

This setting does not apply to Telenor Denmark Statusplan v2.

License tab

The configuration settings on the license tab should be completed with your BluePosition Mediation Server license information.



Company

Enter the company name exactly as provided with your license information. If the license information includes “bV”, “GmbH”, “Inc.” or similar, you must also include it in the company name field.

License key

Enter the license key exactly as provided with your license information.

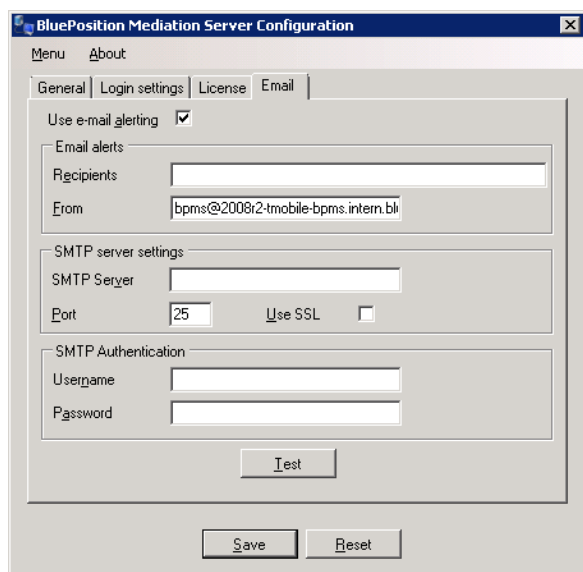
Verify

Press the Verify button to validate the entered license information.

Email tab

In case of problems, the BluePosition Mediation Server can send an alert e-mail to a system administrator.

The settings on the Email tab are related to your company's mail server.



Use e-mail alerting

When checked, the Mediation Server will send e-mail alerts using the settings configured on this tab in the configuration program.

Email alerts group box

Recipients

The e-mail address of the people who should receive alerts. Separate multiple e-mail addresses with commas.

From

The sending e-mail address.

SMTP server settings

SMTP Server

The IP address or hostname of the SMTP server to use.

Port

The port to connect to on the SMTP Server. Default is 25, for SSL based sending the default port is normally 587.

Use SSL

Use SSL when sending e-mail.

SMTP Authentication group box

Username

The user name for authentication of E-mail sender address. If a username is configured, the BluePosition Mediation Server will attempt to authenticate with the SMTP server when it sends an e-mail message.

Password

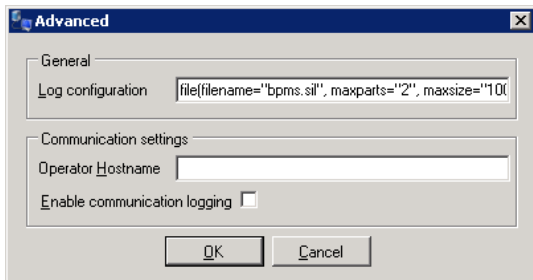
The password for authentication of the E-mail sender address.

Test button

Press the Test button to send a test message using the configured settings.

Advanced settings

The Advanced settings window can be accessed from the menu in the configuration program.

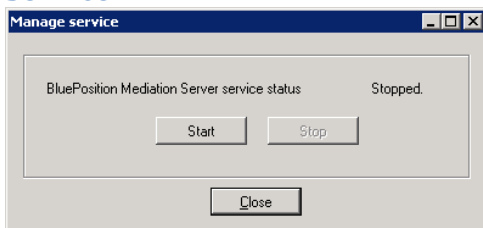


Advanced settings include the log configuration which is described in an appendix to this document.

The hostname of the telephone operator's call status event subscription system can be changed, but this should only be done if you are instructed to do so by BluePosition or telephone operator staff.

It is also possible to enable logging of communication with the telephone operator system as well as the status server. This option will create a large amount of log information, and it should only be enabled in case of problems.

Service



When you have made changes to the BluePosition Mediation Server configuration settings, you must restart the Mediation Server service. This can be done using the Service window which is accessible from the menu in the configuration program. You may also restart the service using the Services applet in the Windows Server manager, or using other tools.

If the service starts and then stops immediately afterwards, you should check the login credentials to TDC Scale or Telenor MPGW, or the Windows firewall configuration; for TDC Scale, the service startup process will test whether it receives events and will terminate in case it does not.

Appendix – Log configuration

By default the BluePosition Mediation Server will log to a binary log file in the installation folder. The log file will rotate once when it reaches a size of 20 MB. This means that no more than 40 MB of log files will be stored.

The log file is useful for product support in case of problems, but during normal operation it is not necessary to analyze the log file.

The log file size and format as well as rotation can be configured. Since this is an advanced trouble-shooting step, there is no configuration for the log file options. However, it is possible to change the settings using the Windows Registry Editor.

The logging configuration is read by Telenor Microsoft Synkroniser Client from the key called LogConfiguration in the registry key HKEY_LOCAL_MACHINE\Software\BluePosition\Mediation Server

The default setting, which is used if the setting is not present, is:

```
file(append="true", filename="bpms.sil", maxparts="2", maxsize="20000")
```

The log file can be sent to BluePosition Support for analysis in case of problems.

The table below specifies the possible parameter options, their default values and descriptions.

Option	Default Value	Description
append	true	Specifies if new log messages should be appended to the log file instead of overwriting the file first.
buffer	0	Specifies the I/O buffer size in kilobytes. It is possible to specify size units like this: "1 MB". Supported units are "KB", "MB" and "GB". A value of 0 disables this feature. Enabling the I/O buffering greatly improves the logging performance but has the disadvantage that log messages are temporarily stored in memory and are not immediately written to disk.
filename	bpms.sil	Specifies the filename of the log file.
indent	false	Indicates if the logging output should automatically be indented.
maxparts	2	Specifies the maximum amount of log files at any given time when log rotating is enabled or the maxsize option is set. Specify 0 for no limit. See below for information on the default value for this option.
maxsize	20000	Specifies the maximum size of a log file in kilobytes. When this size is reached, a backup of the log file is created and the original file is reset. It is possible to specify size units like this: "1 MB". Supported units are "KB", "MB" and "GB". A value of 0 disables this feature.
rotate	None	Specifies the rotate mode for log files. Please see below for a list of available values. A value of "none" disables this feature.

The append option specifies if new log messages should be appended to the destination file instead of overwriting the file. The default value of this option is "true".

The rotate option specifies the date log rotate mode. When this option is used, the filename of the resulting log consists of the value of the filename option and an appended time stamp (the used time stamp format thereby is "yyyy-MM-dd-HH-mm-ss"). To avoid problems with daylight saving time or time zone changes, the

time stamp is always in UTC (Coordinated Universal Time). The following table lists the available rotate modes together with a short description.

Rotate Mode	Description
None	Rotating is disabled
Hourly	Rotate hourly
Daily	Rotate daily
Weekly	Rotate weekly
Monthly	Rotate monthly

Appendix – Troubleshooting

Installation

Logging

If the installer does not work as expected, you can enable logging of the installation procedure. To do so, run the installation program from a command line like this:

```
“BluePosition Mediation Server Setup.exe” /l=”<complete path to log file>”
```

Replace <complete path to log file> with the path and filename of the file you want the installer to log to.

.NET installation

If you encounter an error such as “An error occurred while initializing fusion” during the installation procedure, please install the Microsoft .NET Framework 4 manually before running the BluePosition Mediation Server installation program.

Operation

Logging

The Mediation Server service will log all operations during normal service. The log file is located in the installation folder, and is called *bpms-date.sil*. With the default logging configuration, two log files will be stored. Their maximum size will be 20 MB each. In case of problems with BluePosition Mediation Server, please send the log files along with any messages from BluePosition Mediation Server in the Windows Application Event log to the product support technician.

Firewall configuration

When using TDC Scale, the telephony operator cannot send data to BluePosition Mediation Server if the firewall on the computer running BluePosition Mediation Server is not configured to allow traffic to TCP 48781. In addition, any firewalls between the server running the Mediation Server software must also allow this traffic through, and must route this traffic to the mediation server.

If TCP port 48781 is not opened, no call status events will be received. If no events are received during the startup process, the Mediation Server service will shut down and log an error to the Windows Event log.

In addition, the firewall on the server running BluePosition Mediation Server must allow connections on TCP port 42331 to allow clients to receive status updates from the Mediation Server.