

BACnet Server for FIAS Service Hotel booking system

The BACnet Server Service allows BACnet Client systems to communicate with the FIAS Hotel Booking System over TCP.

With the fully featured driver all relevant data regarding the room status, equipment and guest information can be shared between the building automation Client system and the hotel booking system. The software driver comes complete with a logging facility, monitoring window overview page and engineering guidelines.



ENGINEERING GUIDELINES

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Product ordering codes

FIAS BACnet Server

BAC-FIAS-TCP

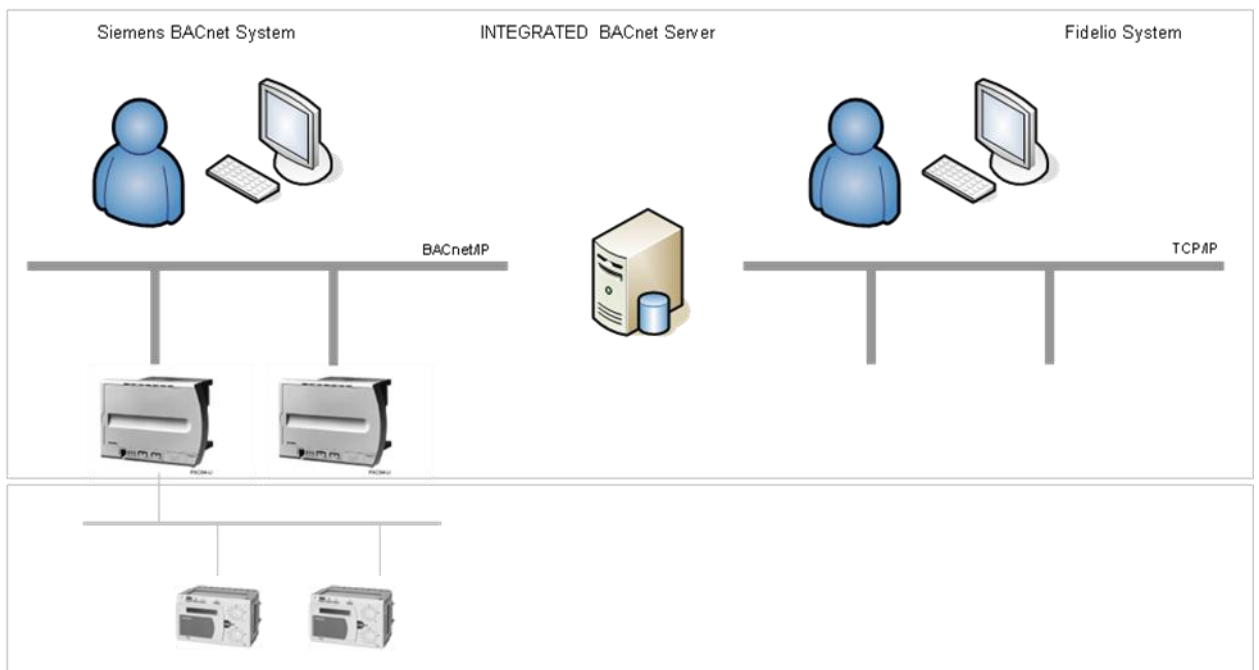
1 Introduction

The BACnet Server Service for Fidelio software enables communications between the Clients and the MICROS Fidelio Hotel Booking System over TCP. This documentation is provided to customers as a guideline for engineering the interface, detailing the required data points and mapping information.

2 System Topology Configurations

The MICROS Fidelio Hotel Booking system software runs on a PC and is connected to the BACnet Server and in turn the Building management system via the TCP Network.

2.1 BACnet Client and Server



3 Functionality Overview

The Software Server Service from INTEGRATED passes information regarding the status of Hotel Rooms and equipment from the Fidelio to the BACnet Server. Information regarding the room occupancy sent from Fidelio can, for example, be used to enable the Air conditioning, the lighting and the shutters in the specific room. Information regarding the state of the room, informing the Clients that it needs cleaning or is being inspected can be used as part of the maintenance programme.

3.1 Room Status

If a room defined in the Fidelio system database changes state, for example someone CHECKS-IN, a message will be sent to the Server. If the room is CHECKED-OUT, another message will be sent to the Server.

All rooms required to be mapped, as BACnet Objects must be entered into the Server Database. On receipt of a message from the Fidelio Hotel Management System, the Server will look-up the room and if it exists, will deal with the message accordingly. Each Room mapped as a BACnet Object AI will have a value reflective of the Fidelio Hotel Booking System Room Status. More details regarding the status and the value are shown later in the document.

3.2 Room Status Control

Rooms are also able to be set out of service by the Client. This will prevent the Hotel Staff from booking the room. This is useful if maintenance work needs to be completed on the room – please review the FIAS System Capability for this feature.

3.3 Room Status Pre Check in Message

Rooms are also able to be send pre-check in information 1 or two hours before expected arrival. This option is not supported by all Hotel Booking Systems. For more information contact INTEGRATED. –please review the FIAS System Capability for this feature.

3.4 Demo Mode

In the interest of software protection, the Server for Fidelio supports a license dongle. Without this dongle the BACnet Server for Fidelio will run for 30minutes, after that time the BACnet Objects will not be updated.

4 Installing the Software

If the BACnet Server for Fidelio is supplied as a software package without hardware, please follow the simple installation procedure below:

- Unzip the Files to a temporary directory.
- For the Server installation, run the setup.exe program from windows and follow the messages on the screen. Install the software onto the default directory. When successfully complete continue to next step.
- Supplied with the installation are the drivers for the Dongle. Plug the dongle in, and if requested, point to the dongle drivers.
- You are now ready to configure the BACnet Server for Fidelio to suit the Site requirements. For this, move to the next section BACnet Server for Fidelio Configuration.

5 BACnet Server Configuration

5.1 General Overview

The Server comprises of a number of major components. These are installed automatically with the BACnet Server, but will need editing for the site-specific details

Configuration File [fidelioTCP.ini] - this file is installed with the BACnet Server and contains project specific information regarding the start-up and operation of the Server. More information on the contents of this file are contained in the next chapters

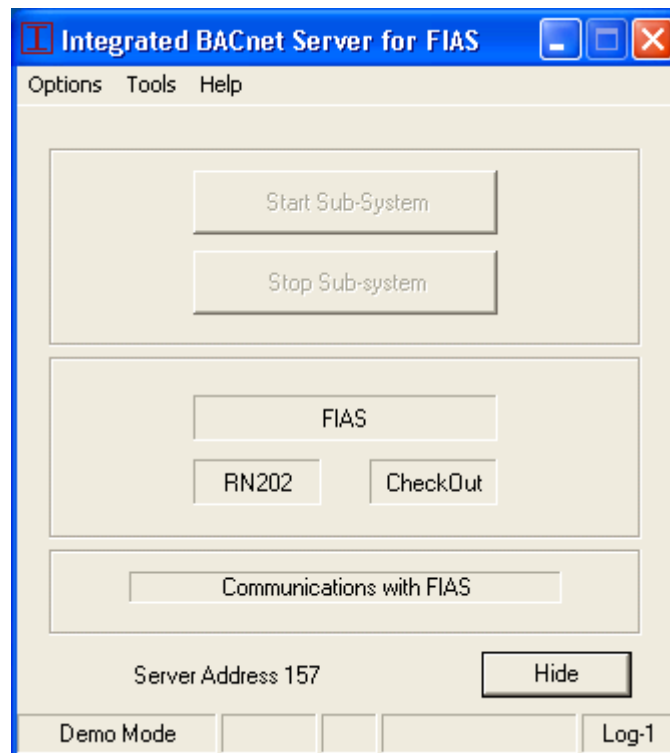
Data file [fidelioTCP.dat] - this file contains the names of the Hotel rooms required for the interface. This must be edited to suit the project. The room detailed in this file are then created as BACnet Objects. More information on the contents of this file is contained in the next chapters.

6 BACnet Server Windows [Non Service Version only]

From the Start Menu, select program files, integrated and then Fidelio BACnet Server. You should then see the following window:

6.1 BACnet Server main Window

The Server main window highlights the communications status and allows manual start/stop of the Communications with the Micros Fidelio Hotel Booking System.



The bottom tool bar displays the following information:

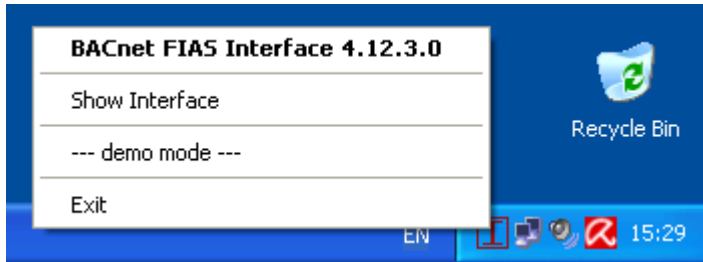
Check-in	details of the last check in message received from the Fidelio Hotel Booking System.
Check-out	details of the last check-out message received.
LOG	displays if the logging function is enabled or disabled.
INI File	displays the status of the configuration file
DATA file	displays the status of the data file

ErrorMsg displays the last error message. A table at the end of the document explains the values.
ErrorTotal displays the total number of errors since the last start.
Server Address displays the BACnet Address.

Commands - start and stop of the communications with Fidelio - not normally needed
Hide - this will hide the main form. It can be opened again from the system tray icon

6.2 Server System Tray [NON SERVICE VERSION ONLY]

The diagram below shows the letter I in the system tray. This is the icon representing the Server for Fidelio.



Right Click on the icon and you will be presented with a small menu

6.3 Configuration Details

The file "Fideliotcp.ini" is a configuration utility used by the Server on start-up. The file MUST be located in the application directory. By default this is part of the installation procedure.

```
! -----
! fidelio.ini
!
! configuration file for Fidelio BACnet Server TCP VERSION
! author      : Stephen Wreford          www.integrated.ch
! date       : Sept 2008
! prodcut Code : BAC-FIDT-106
! version    : 100
! -----
.bacnetserver
157
! -----
! options : none, default 157
! the address of the BACnet Server
! -----
.leading

! -----
! options : max one character a-z, A-Z, default "F"
! the TAG reference from fidelio is used as the TAG name plus the text above, for example
! room number
! text from fidelio is RN202. the relevant TAG would then be FRN202 - use "" for no text addition
! NOT SUPPORTED IN THIS VERSION
! -----
.log file
Y
! -----
! options : Y or N, default N
! the communications log file details the events such as startup, writing errors,
! room actions and other errors. the file is fidelio.log and is stored in the project directory.
! -----
.autostart
Y
! -----
! options : Y or N, default Y
! the system will autostart the communications with the bus
! -----
.port
5008
! -----
! options : 1 to 9, default 1
! specify the communications port that the server will use to connect to the Fidelio System
! -----
.server
192.168.1.31
! -----
! options : the IP Address 192.168.1.31
! specify the server IPAddress that the server will use to connect
! -----
.re
n
! -----
! options : y or n
! Enable or disable the Room Equipment Command
! This feature was added into v106 TCP
! -----
```

6.4 Database Details

The file "fidelioTCP.dat" is a database used by the Server on start-up. The file MUST be located in the application directory. By default this is part of the installation procedure.

The Server creates a list of BACnet Object AIs to represent the Rooms. The extract of the file below details how the reference is made. Each room is entered into the list with a pretext 'RN' plus the number of the room as defined by the Fidelio Hotel Booking system. For example Room 201 is entered into the list as RN201

If rooms are not entered into this database, they will not be generated, as Objects and messages from Fidelio regarding the state of the room will be ignored.

```
! -----  
! Fidelio.dat  
!  
! database file for Servers  
!  
! author      : Stephen Wreford www.integrated.ch  
!  
! date        : Sept 2004  
! Product Code : BAC-FIAS-TCP  
! version     :  
! -----  
RN1  
RN2  
RN3  
RN4  
RN201  
RN202  
RN203  
! -----  
! END of FILE
```

Remember - any changes to the dat file will not be recognised until after the Server has been restarted

6.5 Running the communications automatically

To allow the Server for Fidelio to run automatically, edit the Configuration file for Auto-run 'enabled' and monitor open 'yes'. Restart the Server and ensure the operation.

6.6 Error Message, ErrorTotalNo

The Error Status Tags automatically created. The table below details the values and their meanings.

Tag Name	Value	Description
Error Message	-1	The Server has not yet started up successful communications
	1..13	The last error recorded - See the Error List.
Total Errors	-1	The Server has not yet started up successful communications
	0..255	Counts up the number of errors since the last start

6.7 Interface Server State

The Interface State AI Object is automatically created

Name	Value	Description
InterfaceState	-1	The Server has not yet started up successful communications
	0..255	

6.8 Interface Communications State

Name	Value	Description
CommsState	-1	The Server has not yet started up successful communications

6.9 Room BACnet Objects

The following information details the Objects and their actual possible values or states.

Name	Value	Description
Room Status	-1	The Server has not yet received a message for this room
	0	Unoccupied
	1	Occupied

6.10 Log of Operations

In order to ensure recorded information, a logging facility is included with the solution. The program DBGView is delivered with the application; this can be used to monitor the application

6.11 Log File

```

DebugView on WNE01 (local)
File Edit Capture Options Computer Help
# Time Debug Print
112 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN202
113 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN203
114 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN204
115 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN205
116 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN206
117 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN207
118 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN208
119 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN209
120 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN300
121 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN301
122 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Add Object --> RN302
123 15:18:52 [1712] 15:18:52 INFO 000 : F : CrDbs : Addin Rooms and Server Object Properties
124 15:18:52 [1712] 15:18:52 INFO 000 : 0 : IamIn : Iam Received From Network 0 Device 157
125 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN1
126 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN2
127 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN200
128 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN201
129 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN202
130 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN203
131 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN204
132 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN205
133 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN206
134 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN207
135 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN208
136 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN209
137 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN300
138 15:18:53 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN301
139 15:18:54 [1712] 15:18:53 INFO 000 : F : CrDbs : Add Object --> RN302
140 15:18:54 [1712] 15:18:53 INFO 000 : 0 : Start : System Started
141 15:18:54 [1712] 15:18:54 INFO 000 : 0 : StSvr : AppState set to [ Started ]
142 15:18:54 [1712] 15:18:54 INFO 000 : 0 : UpdBo : 157 AV0 1 True
143 15:18:54 [1712] 15:18:54 INFO 000 : 0 : Start : AutoStart Enabled
144 15:18:54 [1712] 15:18:54 INFO 000 : 0 : StarT : Starting FIAS communications
145 15:18:54 [1712] 15:18:54 INFO 000 : 0 : ScnLp : Starting
146 15:18:54 [1712] 15:18:54 INFO 000 : 0 : ScnLp : Startup Completed
147 15:18:54 [1712] 15:18:54 INFO 000 : 0 : ScnLp : -----
148 15:18:54 [1712] 15:18:54 INFO 000 : 0 : ScnLp : Communications with FIAS Started
149 15:18:54 [1712] 15:18:54 INFO 000 : 0 : StSvr : AppState set to [ Communicating ]
150 15:18:55 [1712] 15:18:54 INFO 000 : 0 : UpdBo : 157 AV0 3 True
  
```

7 Appendix : Fidelio supported functions

The Software driver has implemented and automatically supports the following functions from Fidelio:

<u>Shortcode</u>	<u>Description</u>	<u>Use</u>
LS	link start	part of start up.
LA	link alive	part of start up.
LE	link end	option for stopping comms.
DS	database sync	part of start up.
GI	guest in	mapped to Object
GO	guest out	mapped to Object

8 Appendix : Data-point type

The driver on start-up and on any change receives the Fidelio room allocation and status information. This information is generated from the FIDLEIO.DAT file and the relevant Objects.

<u>Data point description</u>	<u>Fidelio Text</u>	<u>BACnet Object</u>	<u>Data Type</u>
Room Status	RNxxx	RNxxx	byte
Room Control	RNxxx	RNxxx_RE	byte
Communication Status		FidComm	byte
Error Message		Error Message	byte
Total Errors		Total Errors	byte

9 Appendix: Cabling

The TCP Version uses the TCP network to communicate with FIAS Interfaces.

10 Appendix : Supported Operating Systems

Currently the solution has been tested on the following Operating Systems:

<u>Operating System</u>	<u>Version</u>	<u>Notes</u>
Windows 2000	service pack 4	professional version
Windows XP	service pack 2	professional version