Systems Associates, Incorporated

ControlIQ Building Automation Solutions
SynergyMMS Maintenance Management Software

Interface:	**BACDoorService From PolarSoft – BACnet driver for ControlIQ**
Version:	**1.11** (revision history listed at the end of this document)
Date:	**February 4th, 2010**
Vendor ID:	**'PolarSoft"**
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Interface Specifications

1. **Intellectual Property:**
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2. **Purpose:**
    It is desired to interface ControlIQ to BACnet for the purpose of monitoring and control of devices that support this open protocol. Polarsoft authors a service that is an intermediate step between ControlIQ and the BACnet network and the BACdoorService takes care of all of the "housekeeping" of the actual protocol.

3. **Sponsoring Property:**
    The interface is being developed as an overall product enhancement and is not for any specific property.

4. **SAI Associated Products:**

    _X_ ControlIQ   version <u>2.12.0.63</u>

    ___ SynergyMMS   version _____

5. **General Description of the Interface:**
    The interface is developed using TCP socket messaging where the BACdoorService is the sever and ControlIQ is the client.

6. Supporting Documents:
This interface was developed based on the documentation provided by David Fisher and Jack Meyer with PolarSoft. The documents supplied are marked as proprietary to PolarSoft.

   The documents are titled:
   BACdoor Service Programmer Guide V2.35.pdf
   BACdoor OEM Client v6.60 API.pdf

7. Interface Specifics:
   a. The Interface uses TCP sockets set at Port 9000 (settable)
   b. The interface was developed via Visual Studio 2005 named Driver_BACnet"
   c. Vendor ID recorded is "PolarSoft"

8. Subsystem Table Fields
   SubsystemType =   BACnet
   Settings =   [IPaddress of NIC card]:[Port used]
                          192.168.2.1:9000
   Personality   (tags shown with their default values)
           RefreshInterval=0   How often to rescan devices (in Seconds)
           QuietTime=0   Delay between TX and RX attempts (in ms)
           Password=sysass   Remote password (See INI files)
           Method=XML   XML or Direct (legacy support)
           PerQuery=5   How many objects handled by each transmission
                                  If Method <> "XML" then PerQuery = 1
           WaitForAnswer=2000   How long to wait for a response from the BDS

           NOTE: Set PerQuery=1 or Method="Direct" to diagnose errors
           XML method supports sending Schedule (SCH) object, Direct does not

9. Installing the Service
   YOU MUST HAVE ADMINISTRATIVE RIGHTS on the computer to install the service
   From ftp.controliq.com\bacnet
     Run InstallBacDoc.EXE
     Replace with newer:
     Copy BACDoorService.EXE to C:\Programs Files\BACdoor OEM Client\BACdoor Service\
     Copy BACDoc.INI to C:\Windows
     Copy BACDoorService.INI to C:\Windows
     Copy BACDOC.DLL to C:\Windows\System32
   From a Command Prompt
     CD\Program Files\ BACdoor OEM Client\BACdoor Service
     BACdoorService.exe –install

10. Edit C:\Windows\BACDOC.INI
   OurInstance=99   (this will be the BACnet 'Address' of the service)
   BACneTseg=2
   BACneTout=3
   BACnetNretry=0
   BACnetIPAddress=192.168.2.1   (The IP of the NIC card that will communicate to the
                                  BACnet devices. See Subsystem Table Above)
   BACnetIPSubNet=255.255.255.0   (The subnet of the NIC card defined above)

11. Edit C:\Windows\BacDoorService.INI
   LanType=1   This is for BACNet of IP
   Socket=9000   The Port between CIQ and BACDOC (See Subsystem

Table above)

12. Point Types Support in ControlIQ
All
Points addressing is defined as
DevID.ObjectInstance[.Property]
For example: **300.AV1**
If the [.Property] is omitted, then 85 (Present Value) is assumed. For a list of properties, look in the C:\Windows\BacDoorService.INI file. A list of supported object types and their abbreviations are listed there as well

13. Known Limitations to the Interface:
1.   The BACdoorService only supports the standard BACnet Objects and Properties

Revision History:
1.11 – Updated the driver, BDS and BACdoc for better schedule handling