

BACnet Protocol Implementation Conformance Statement

Date: January 16, 2017

Vendor Name: Cimetrics Inc.

Product Name: BACstac/DN version 1.6

Product Model Number: NA

Application Software Version: 1.6 **Firmware Revision:** NA **BACnet Protocol Revision:** 14

Product Description:

BACstac/DN is a BACnet protocol stack designed for the development of BACnet-compliant Windows client applications that run on the Microsoft .NET framework, including 32-bit and native 64-bit applications. It features a new API designed specifically for the development of managed code applications in Microsoft Visual Studio.

Customer applications built using BACstac/DN will support a subset of the functionality detailed in this document, as necessary for the application.

BACnet Standardized Device Profile (Annex L):

- BACnet Operator Workstation (B-OWS)
- BACnet Advanced Operator Workstation (B-AWS)
- BACnet Operator Display (B-OD)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Controller (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS) *
- BACnet Smart Actuator (B-SA) *

* Although these device profiles are supported, the primary purpose of BACstac/DN is development BACnet client applications.

List all BACnet Interoperability Building Blocks Supported (Annex K):

- K.1.1 BIBB - Data Sharing - ReadProperty-A (DS-RP-A)
- K.1.2 BIBB - Data Sharing-ReadProperty-B (DS-RP-B)
- K.1.3 BIBB - Data Sharing-ReadPropertyMultiple-A (DS-RPM-A)
- K.1.4 BIBB - Data Sharing-ReadPropertyMultiple-B (DS-RPM-B)
- K.1.7 BIBB - Data Sharing-WriteProperty-A (DS-WP-A)
- K.1.8 BIBB - Data Sharing-WriteProperty-B (DS-WP-B)
- K.1.9 BIBB - Data Sharing-WritePropertyMultiple-A (DS-WPM-A)
- K.1.10 BIBB - Data Sharing-WritePropertyMultiple-B (DS-WPM-B)
- K.1.11 BIBB - Data Sharing-COV-A (DS-COV-A)
- K.1.12 BIBB - Data Sharing-COV-B (DS-COV-B)

K.1.13 BIBB - Data Sharing-COVP-A (DS-COVP-A)

K.1.14 BIBB - Data Sharing-COVP-B (DS-COVP-B)

K.1.15 BIBB - Data Sharing-COV-Unsubscribed-A (DS-COVU-A)

K.1.16 BIBB - Data Sharing-COV-Unsubscribed-B (DS-COVU-B)

K.1.17 BIBB - Data Sharing - View - A (DS-V-A)

K.1.18 BIBB - Data Sharing - Advanced View - A (DS-AV-A)

K.1.19 BIBB - Data Sharing - Modify - A (DS-M-A)

K.1.20 BIBB - Data Sharing - Advanced Modify - A (DS-AM-A)

K.1.21 BIBB - Data Sharing-WriteGroup-A (DS-WG-A)

K.1.22 BIBB - Data Sharing-WriteGroup-Internal-B (DS-WG-I-B)

K.1.23 BIBB - Data Sharing-WriteGroup-External-B (DS-WG-E-B)

K.2.1 BIBB - Alarm and Event-Notification-A (AE-N-A)

K.2.2 BIBB - Alarm and Event-Notification Internal-B (AE-N-I-B)

K.2.3 BIBB - Alarm and Event-Notification External-B (AE-N-E-B)

K.2.4 BIBB - Alarm and Event-ACK-A (AE-ACK-A)

K.2.5 BIBB - Alarm and Event-ACK-B (AE-ACK-B)

K.2.6 BIBB - Alarm and Event-Alarm Summary-A (AE-ASUM-A)

K.2.7 BIBB - Alarm and Event-Alarm Summary-B (AE-ASUM-B)

K.2.8 BIBB - Alarm and Event-Enrollment Summary-A (AE-ESUM-A)

K.2.9 BIBB - Alarm and Event-Enrollment Summary-B (AE-ESUM-B)

K.2.10 BIBB - Alarm and Event-Information-A (AE-INFO-A)

K.2.11 BIBB - Alarm and Event-Information-B (AE-INFO-B)

K.2.12 BIBB - Alarm and Event-LifeSafety-A (AE-LS-A)

K.2.13 BIBB - Alarm and Event-LifeSafety-B (AE-LS-B)

K.2.14 BIBB - Alarm and Event Management - View Notifications - A (AE-VN-A)

K.2.15 BIBB - Alarm and Event Management - Advanced View Notifications - A (AE-AVN-A)

K.2.16 BIBB - Alarm and Event Management - View and Modify - A (AE-VM-A)

K.2.17 BIBB - Alarm and Event Management - Advanced View and Modify - A (AE-AVM-A)

K.2.18 BIBB - Alarm and Event Management - Alarm Summary View - A (AE-AS-A)

K.2.19 BIBB - Alarm and Event Management - Event Log View - A (AE-ELV-A)

K.2.20 BIBB - Alarm and Event Management - Event Log View and Modify - A (AE-ELVM-A)

K.2.21 BIBB - Alarm and Event Management - Event Log - Internal - B (AE-EL-I-B)

K.2.22 BIBB - Alarm and Event Management - Event Log - External - B (AE-EL-E-B)

K.2.23 BIBB - Alarm and Event-Notification Forwarder-B (AE-NF-B)

K.2.24 BIBB - Alarm and Event-Notification Forwarder-Internal-B (AE-NF-I-B)

K.3.1 BIBB - Scheduling-A (SCHED-A)

K.3.2 BIBB - Scheduling-Internal-B (SCHED-I-B)

K.3.3 BIBB - Scheduling-External-B (SCHED-E-B)

K.3.4 BIBB - Scheduling-Readonly-B (SCHED-R-B)

K.3.5 BIBB - Scheduling-Advanced View and Modify-A (SCHED-AVM-A)

K.3.6 BIBB - Scheduling-View and Modify-A (SCHED-VM-A)

K.3.7 BIBB - Scheduling-Weekly Schedule-A (SCHED-WS-A)

K.3.8 BIBB - Scheduling-Weekly Schedule Internal-B (SCHED-WS-I-B)

K.4.1 BIBB - Trending-Viewing and Modifying Trends-A (T-VMT-A)

K.4.2 BIBB - Trending-Viewing and Modifying Trends Internal-B (T-VMT-I-B)

K.4.3 BIBB - Trending-Viewing and Modifying Trends External-B (T-VMT-E-B)

K.4.4 BIBB - Trending-Automated Trend Retrieval-A (T-ATR-A)

K.4.5 BIBB - Trending-Automated Trend Retrieval-B (T-ATR-B)

K.4.6 BIBB - Trending-Viewing and Modifying Multiple Values-A (T-VMMV-A)

K.4.7 BIBB - Trending-Viewing and Modifying Multiple Values Internal-B (T-VMMV-I-B)

K.4.8 BIBB - Trending-Viewing and Modifying Multiple Values External-B (T-VMMV-E-B)

K.4.9 BIBB - Trending-Automated Multiple Value Retrieval-A (T-AMVR-A)

K.4.10 BIBB - Trending-Automated Multiple Value Retrieval-B (T-AMVR-B)

K.4.11 BIBB - Trending-View-A (T-V-A)

K.4.12 BIBB - Trending-Advanced View and Modify-A (T-AVM-A)

K.4.13 BIBB - Trending-Archival-A (T-A-A)

K.5.1 BIBB - Device Management-Dynamic Device Binding-A (DM-DDB-A)

K.5.2 BIBB - Device Management-Dynamic Device Binding-B (DM-DDB-B)

K.5.3 BIBB - Device Management-Dynamic Object Binding-A (DM-DOB-A)

K.5.4 BIBB - Device Management-Dynamic Object Binding-B (DM-DOB-B)

K.5.5 BIBB - Device Management-DeviceCommunicationControl-A (DM-DCC-A)

K.5.6 BIBB - Device Management-DeviceCommunicationControl-B (DM-DCC-B)

K.5.9 BIBB - Device Management-Text Message-A (DM-TM-A)

K.5.10 BIBB - Device Management-Text Message-B (DM-TM-B)

K.5.11 BIBB - Device Management-TimeSynchronization-A (DM-TS-A)

K.5.12 BIBB - Device Management-TimeSynchronization-B (DM-TS-B)

K.5.13 BIBB - Device Management-UTCTimeSynchronization-A (DM-UTC-A)

K.5.14 BIBB - Device Management-UTCTimeSynchronization-B (DM-UTC-B)

K.5.15 BIBB - Device Management-ReinitializeDevice-A (DM-RD-A)

K.5.16 BIBB - Device Management-ReinitializeDevice-B (DM-RD-B)

K.5.17 BIBB - Device Management-Backup and Restore-A (DM-BR-A)

K.5.18 BIBB - Device Management-Backup and Restore-B (DM-BR-B)

K.5.19 BIBB - Device Management-Restart-A (DM-R-A)

K.5.20 BIBB - Device Management-Restart-B (DM-R-B)

K.5.21 BIBB - Device Management-List Manipulation-A (DM-LM-A)

K.5.22 BIBB - Device Management-List Manipulation-B (DM-LM-B)

K.5.23 BIBB - Device Management-Object Creation and Deletion-A (DM-OCD-A)

K.5.24 BIBB - Device Management-Object Creation and Deletion-B (DM-OCD-B)

K.5.27 BIBB - Network Management-Connection Establishment-A (NM-CE-A)

K.5.31 BIBB - Device Management-Automatic Network Mapping-A (DM-ANM-A)

K.5.32 BIBB - Device Management-Automatic Device Mapping-A (DM-ADM-A)

K.5.33 BIBB - Device Management-Automatic Time Synchronization-A (DM-ATS-A)

K.5.34 BIBB - Device Management-Manual Time Synchronization-A (DM-MTS-A)

Segmentation Capability:

Able to transmit segmented messages	Window Size: <u>Up to 127</u>
Able to receive segmented messages	Window Size: <u>Up to 127</u>

Standard Object Types Supported:

Access-Door, Access-Point, Access-User, Access-Zone, Alert-Enrollment, Analog-Input, Analog-Output, Analog-Value, Averaging, Binary-Input, Binary-Output, Binary-Value, Bitstring-Value, Calendar, Charstring-Value, Credential-Data-Input, Date-Pattern-Value, Date-Value, Datetime-Pattern-Value, Datetime-Value, Device, Event-Enrollment, Event-Log, File, Group, Integer-Value, Large-Analog-Value, Life-Safety-Point, Life-Safety-Zone, Multi-State-Input, Multi-State-Output, Multi-State-Value, Notification-Class, Notification-Forwarder, Octetstring-Value, Positive-Integer-Value, Program, Pulse-Converter, Schedule, Structured-View, Time-Pattern-Value, Time-Value, Trend-Log, Trend-Log-Multiple.

An object type is supported if it may be present in the device. For each standard Object Type supported provide the following data:

- 1) All object types except 'Device' object can be dynamically creatable using the CreateObject service. The actual list depends on the application.
- 2) All object types except 'Device' object can be dynamically deletable using the DeleteObject service. The actual list depends on the application.
- 3) All optional properties in the standard object types are supported. The actual list depends on the application.
- 4) All properties in the standard object types can be writable. The actual list depends on the application.
- 5) Conditional writability is implemented in the application.
- 6) Can have any number of proprietary properties. The actual list, their type, and meaning depend on the application.
- 7) BACnet Unsigned, Integer, Enumerated are 32-bit values. Other range restrictions can exist depending on the application.

Data Link Layer Options:

BACnet IP, (Annex J)
 BACnet IP, (Annex J), Foreign Device
 ISO 8802-3, Ethernet (Clause 7)

NOTE: Support for ISO 8802-3 Ethernet requires installation of the WinPCap driver.

Device Address Binding:

Is static device binding supported? Yes

Networking Options:

BACnet/IP Broadcast Management Device (BBMD)	
Does the BBMD support registrations by Foreign Devices?	Yes
Does the BBMD support network address translation?	Yes

Network Security Options:

Non-secure Device - is capable of operating without BACnet Network Security (Addendum 2008g is not supported)

Character Sets Supported:

ISO 10646 (UTF-8)
ISO 10646 (UCS-2)

IBM™/Microsoft™ DBCS
ISO 10646 (UCS-4)

ISO 8859-1
JIS X 0208