Pythia DM — BACnet Protocol Implementation Conformance Statement (PICS)

Date: 2026-10-25 · **Document status:** Self-declared conformance statement

1. Product identification

Field	Value
Vendor Name	Pythia Technologies
Vendor Identifier	617 (ASHRAE-assigned)
Product Name	Pythia DM — Data Monitoring platform (BACnet gateway function)
Product Model Number	SPDM (the Smart Panel AC4 reports SPAC4)
Firmware Revision	2.0
Application Software Version	0.0
BACnet Protocol Version / Revision	Version 1, Revision 14

2. BACnet standardized device profile

None claimed. This PICS is a capability declaration of exactly what is implemented.

3. BACnet Interoperability Building Blocks (BIBBs) supported

As a BACnet server (the DM answering a BMS / head end)

BIBB	Service	Notes
DS-RP-B	ReadProperty	Device and Analog Value objects
DS-RPM-B	ReadPropertyMultiple	Including the special identifiers ALL, REQUIRED and OPTIONAL, multiple objects per request, and per-property array indexes
DS-WP-B	WriteProperty	Analog Value Present_Value on designated control points only; all other writes refused with write-access-denied. Optional per-control-point minimum/maximum limits: out-of-range writes refused with value-out-of-range
DM-DDB-B	Who-Is / I-Am	Device-range filtering honored; I-Am returned unicast to the requester (standard-permitted)
DM-DOB-B	Who-Has / I-Have	Object-identifier and object-name forms, device-range filtering; I-Have returned unicast to the requester (standard-permitted)

As a BACnet client (the DM polling third-party BACnet devices)

BIBB	Service	Notes
DS-RP-A	ReadProperty	Poll reads, including priority-array reads
DS-RPM-A	ReadPropertyMultiple	Single-object and multi-object request forms
DS-WP-A	WriteProperty	Setpoint writes with commandable priority; explicit relinquish (write NULL at priority) supported

BIBB	Service	Notes
DM-DDB-A	Who-Is / I-Am	Local, global and routed (directed-DNET) Who-Is; I-Am decode including routed source addresses

Client addressing supports routed BACnet networks (network number / MAC address behind BACnet routers), so devices behind B/IP-to-MS/TP or B/IP-to-B/SC routers are reachable without the DM speaking those datalinks itself.

4. Standard object types supported

Object type	Support	Create/Delete	Writable properties
Device	1 instance (configurable instance number)	No	None
Analog Value	One per mapped point (data, alarm, status and control points)	No (defined by DM mapping configuration)	Present_Value on designated control points

All monitored equipment is published under the single Device object. Each unit's points are grouped by a unit-number prefix in the object instance, and every object's name is its full configured path (Location\Group\Unit\Point).

Device object properties implemented: Object_Identifier, Object_Name, Object_Type, System_Status, Vendor_Name, Vendor_Identifier, Model_Name, Firmware_Revision, Application_Software_Version, Description, Protocol_Version, Protocol_Revision, Protocol_Services_Supported, Protocol_Object_Types_Supported, Object_List (read by index; full-array reads that exceed the APDU are refused so clients fall back to indexed access), Max_APDU_Length_Accepted, Segmentation_Supported, APDU_Timeout, Number_Of_APDU_Retries, Device_Address_Binding, Database_Revision, Event_State, Property_List.

Analog Value properties implemented: Object_Identifier, Object_Name, Object_Type, Present_Value, Status_Flags, Event_State, Out_Of_Service, Units, Property_List.

5. Data link layer options

Option	Supported
BACnet IP (Annex J)	**Yes** — UDP port configurable (default 47808 / 0xBAC0)
BACnet IP Annex J — Foreign Device registration	**Yes** — the DM registers with up to 8 remote BBMDs (IPv4 address or DNS host name, port and TTL per registration; names re-resolved at each registration; automatic re-registration at half the TTL; per-registration live status)
Receipt of Forwarded-NPDU (BBMD-relayed broadcasts)	**Yes** — answered unicast to the originating device
BBMD function	No (the DM is not a BBMD)
BACnet router function	No
MS/TP, PTP, Ethernet (Clause 7), LonTalk, BACnet/SC	No (devices on those datalinks are reached through third-party routers via routed addressing)

6. Segmentation, APDU, character sets, security

Item	Value
Segmentation	Not supported (requests and responses); segmented requests are refused with Abort (segmentation-not-supported)

Item	Value
Max APDU length accepted	1476 octets (consistent in I-Am and the Device property)
Character set	ANSI X3.4 (UTF-8-compatible)
Network security	None claimed; transport-level protection is deployed at the site/network layer

7. Not implemented (explicit)

COV subscription/notification · intrinsic/algorithmic alarming toward BACnet (Event/Notification classes) · TimeSynchronization · Backup & Restore (DM-BR-B) · DeviceCommunicationControl · ReinitializeDevice · segmentation · BBMD/router function · dynamic object creation/deletion. (DM alarming, trending and notification are delivered by the DM platform itself, not via BACnet services.)

This is a self-declared conformance statement by Pythia Technologies. Conformance is verified in-house using the applicable test procedures of ANSI/ASHRAE 135.1-2025 as selected by the BTL Test Plan for the supported BIBBs. The Pythia DM is not BTL Listed.