# SIEMENS



# Desigo™ CC MP2.1
# BACnet Protocol Implementation Conformance Statement (PICS)
# Basic documentation

# Contents

# 1 Desigo CC Workstation

| | |
|---|---|
| **Date** | : October 6, 2014 |
| **Vendor name** | : Siemens Building Technologies (Vendor ID 7) |
| **Product name** | : Desigo CC Workstation |
| **Product model number** | : 2.1 |
| **BACnet protocol version** | : 13 |
| **Application software version** | : 2.1 |
| **Firmware revision** | : n/a |

## 1.1 Product description

Desigo CC from Siemens is an integration platform for managing facility systems and enterprise applications. Optimized as an extension of the powerful APOGEE automation system, Desigo CC allows full building operation as well as complete system configuration from the convenience of a standard web browser, from a dedicated console for mission-critical applications, or from a Windows Desktop App for optimal mobile performance. Users find the workflow driven interface, designed around role-based profiles and flexible user-defined views, easy to learn and easy to use as it grows with their expertise. Desigo CC is built on building automation, fire safety, security, video, and IT standards, and provides the application support necessary for automating intelligent control and providing actionable information.

## 1.2 BACnet standardized device profile (Annex L)

| | | |
|---|---|---|
| ☒ | BACnet Advanced Workstation | (B-AWS) |
| ☐ | BACnet Operator Workstation | (B-OWS) |
| ☐ | 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) |

## 1.3 BACnet interoperability building blocks supported (Annex K)

**Data sharing**

| | | |
|---|---|---|
| ☒ | Data Sharing – ReadProperty-A | DS-RP-A |
| ☒ | Data Sharing – ReadProperty-B | DS-RP-B |
| ☒ | Data Sharing – ReadPropertyMultiple-A | DS-RPM-A |
| ☒ | Data Sharing – ReadPropertyMultiple-B | DS-RPM-B |
| ☒ | Data Sharing – WriteProperty-A | DS-WP-A |
| ☒ | Data Sharing – WriteProperty-B | DS-WP-B |
| ☒ | Data Sharing – WritePropertyMultiple-A | DS-WPM-A |
| ☐ | Data Sharing – WritePropertyMultiple-B | DS-WPM-B |
| ☒ | Data Sharing – ChangeofValue -A | DS-COV-A |
| ☐ | Data Sharing – ChangeofValue -B | DS-COV-B |
| ☒ | Data Sharing – ChangeofValueProperty -A | DS-COVP-A |
| ☐ | Data Sharing – ChangeofValueProperty -B | DS-COVP-B |
| ☒ | Data Sharing – View-A | DS-V-A |
| ☒ | Data Sharing – Advanced View-A | DS-AV-A |
| ☒ | Data Sharing – Modify-A | DS-M-A |
| ☒ | Data Sharing – Advanced Modify-A | DS-AM-A |

**Alarm and event management**

| | | |
|---|---|---|
| ☒ | Alarm and Event – Notification-A | AE-N-A |
| ☐ | Alarm and Event – Notification Internal-B | AE-N-I-B |
| ☐ | Alarm and Event – Notification External-B | AE-N-E-B |
| ☒ | Alarm and Event – ACK-A | AE-ACK-A |
| ☐ | Alarm and Event – ACK-B | AE-ACK-B |
| ☐ | Alarm and Event – Alarm Summary-B | AE-ASUM-B |
| ☐ | Alarm and Event – Enrollment Summary-B | AE-ESUM-B |
| ☐ | Alarm and Event – Information-B | AE-INFO-B |
| ☒ | Alarm and Event – LifeSafety-A | AE-LS-A |
| ☐ | Alarm and Event – LifeSafety-B | AE-LS-B |
| ☒ | Alarm and Event – View Notifications-A | AE-VN-A |
| ☒ | Alarm and Event – Advanced View Notifications-A | AE-AVN-A |
| ☒ | Alarm and Event – View and Modify-A | AE-VM-A |
| ☒ | Alarm and Event – Advanced View and Modify-A | AE-AVM-A |
| ☒ | Alarm and Event – Alarm Summary View-A | AE-AS-A |
| ☒ | Alarm and Event – Event Log View-A | AE-ELV-A |
| ☒ | Alarm and Event – Event Log View and Modify-A | AE-ELVM-A |
| ☐ | Alarm and Event – Event Log-Internal-B | AE-EL-I-B |
| ☐ | Alarm and Event – Event Log-External-B | AE-EL-E-B |

| | | | |
|---|---|---|---|
| **Alarm and event management** | **Historical/Deprecated BIBBs** | | |
| | ☒ | Alarm and Event – Alarm Summary-A | AE-ASUM-A |
| | ☒ | Alarm and Event – Enrollment Summary-A | AE-ESUM-A |
| | ☒ | Alarm and Event – Information-A | AE-INFO-A |

| | | | |
|---|---|---|---|
| **Scheduling** | ☐ | Scheduling – Internal-B | SCHED-I-B |
| | ☐ | Scheduling – External-B | SCHED-E-B |
| | ☒ | Scheduling – View Modify-A | SCHED-VM-A |
| | ☒ | Scheduling – Advanced View Modify-A | SCHED-AVM-A |
| | ☒ | Scheduling – Weekly Schedule-A | SCHED-WS-A |
| | ☐ | Scheduling – Weekly Schedule Internal-B | SCHED-WS-I-B |
| | ☐ | Scheduling – Readable-B | SCHED-R-B |

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|---|---|---|---|
| | **Historical/Deprecated BIBBs** | | |
| | ☒ | Scheduling – A | SCHED-A |

| | | | |
|---|---|---|---|
| **Trending** | ☐ | Trending – Viewing and Modifying Trends Internal-B | T-VMT-I-B |
| | ☐ | Trending – Viewing and Modifying Trends External-B | T-VMT-E-B |
| | ☐ | Trending – Viewing and Modifying Multiple Values Internal-B | T-VMMV-I-B |
| | ☐ | Trending – Viewing and Modifying Multiple Values External-B | T-VMMV-E-B |
| | ☒ | Trending – Automated Multiple Value Retrieval-A | T-AMVR-A |
| | ☐ | Trending – Automated Multiple Value Retrieval-B | T-AMVR-B |
| | ☒ | Trending – View-A | T-V-A |
| | ☒ | Trending – Advanced View and Modify-A | T-AVM-A |
| | ☒ | Trending – Archival-A | T-A-A |
| | ☒ | Trending – Automated Trend Retrieval-A | T-ATR-A |
| | ☐ | Trending – Automated Trend Retrieval-B | T-ATR-B |

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|---|---|---|---|
| | **Historical/Deprecated BIBBs** | | |
| | ☐ | Trending – Viewing and Modifying Trends-A | T-VMT-A |
| | ☐ | Trending – Viewing and Modifying Multiple Values-A | T-VMMV-A |

| | | | |
|---|---|---|---|
| **Device management** | ☒ | Device Management – Dynamic Device Binding-A | DM-DDB-A |
| | ☒ | Device Management – Dynamic Device Binding-B | DM-DDB-B |
| | ☒ | Device Management – Dynamic Object Binding-A | DM-DOB-A |
| | ☒ | Device Management – Dynamic Object Binding-B | DM-DOB-B |
| | ☒ | Device Management – DeviceCommunicationControl-A | DM-DCC-A |
| | ☐ | Device Management – DeviceCommunicationControl-B | DM-DCC-B |
| | ☐ | Device Management – Private Transfer-A | DM-PT-A |
| | ☐ | Device Management – Private Transfer-B | DM-PT-B |
| | ☒ | Device Management – Text Message-A | DM-TM-A |
| | ☐ | Device Management – Text Message-B | DM-TM-B |

| | | | |
|---|---|---|---|
| **Device management** | ☒ | Device Management – TimeSynchronization-A | DM-TS-A |
| | ☐ | Device Management – TimeSynchronization-B | DM-TS-B |
| | ☒ | Device Management – UTCTimeSynchronization-A | DM-UTC-A |
| | ☐ | Device Management – UTCTimeSynchronization-B | DM-UTC-B |
| | ☒ | Device Management – ReinitializeDevice-A | DM-RD-A |
| | ☐ | Device Management – ReinitializeDevice-B | DM-RD-B |
| | ☒ | Device Management – Backup and Restore-A | DM-BR-A |
| | ☐ | Device Management – Backup and Restore-B | DM-BR-B |
| | ☐ | Device Management – Restart-A | DM-R-A |
| | ☐ | Device Management – Restart-B | DM-R-B |
| | ☒ | Device Management – List Manipulation-A | DM-LM-A |
| | ☒ | Device Management – List Manipulation-B | DM-LM-B |
| | ☒ | Device Management – Object Creation and Deletion-A | DM-OCD-A |
| | ☐ | Device Management – Object Creation and Deletion-B | DM-OCD-B |
| | ☐ | Device Management – Virtual Terminal-A | DM-VT-A |
| | ☐ | Device Management – Virtual Terminal-B | DM-VT-B |
| | ☒ | Device Management – Automatic Network Mapping-A | DM-ANM-A |
| | ☒ | Device Management – Automatic Device Mapping-A | DM-ADM-A |
| | ☒ | Device Management – Automatic Time Synchronization-A | DM-ATS-A |
| | ☒ | Device Management – Manual Time Synchronization-A | DM-MTS-A |

| | | | |
|---|---|---|---|
| **Network management** | ☒ | Network Management – Connection Establishment-A | NM-CE-A |
| | ☐ | Network Management – Connection Establishment-B | NM-CE-B |
| | ☐ | Network Management – Router Configuration-A | NM-RC-A |
| | ☐ | Network Management – Router Configuration-B | NM-RC-B |

## 1.4 Standard object types supported

Only the device object is supported.

**Device**

| Properties | monitor | modify |
|---|:---:|:---:|
| Object_Identifier | ☒ | ☐ |
| Object_Name | ☒ | ☐ |
| Object_Type | ☒ | ☐ |
| System_Status | ☒ | ☐ |
| Vendor_Name | ☒ | ☐ |
| Vendor_Identifier | ☒ | ☐ |
| Model_Name | ☒ | ☐ |
| Firmware_Revision | ☒ | ☐ |
| Application_Software_Version | ☒ | ☐ |
| Location | ☒ | ☐ |
| Description | ☒ | ☐ |
| Protocol_Version | ☒ | ☐ |
| Protocol_Revision | ☒ | ☐ |
| Protocol_Services_Supported | ☒ | ☐ |
| Protocol_Object_Types_Supported | ☒ | ☐ |
| Object_List | ☒ | ☐ |
| Structured_Object_List | ☐ | ☐ |
| Max_APDU_Length_Accepted | ☒ | ☐ |
| Segmentation_Supported | ☒ | ☐ |
| Max_Segments_Accepted | ☒ | ☐ |
| VT_Classes_Supported | ☐ | ☐ |
| Active_VT_Sessions | ☐ | ☐ |
| Local_Time | ☐ | ☐ |
| Local_Date | ☐ | ☐ |
| UTC_Offset | ☒ | ☐ |
| Daylight_Savings_Status | ☐ | ☐ |
| APDU_Segment_Timeout | ☒ | ☐ |
| APDU_Timeout | ☒ | ☐ |
| Number_Of_APDU_Retries | ☒ | ☐ |
| List_Of_Session_Keys | ☐ | ☐ |
| Time_Synchronization_Recipients | ☐ | ☒ |
| Max_Master | ☐ | ☐ |
| Max_Info_Frames | ☐ | ☐ |
| Device_Address_Binding | ☒ | ☐ |
| Database_Revision | ☒ | ☐ |
| Configuration_Files | ☐ | ☐ |
| Last_Restore_Time | ☐ | ☐ |
| Backup_Failure_Timeout | ☐ | ☐ |
| Active_COV_Subscriptions | ☐ | ☐ |
| Slave_Proxy_Enable | ☐ | ☐ |
| Manual_Slave_Adress_Binding | ☐ | ☐ |

| Properties | monitor | modify |
|---|---|---|
| Auto_Slave_Discovery | ☐ | ☐ |
| Slave_Address_Binding | ☐ | ☐ |
| Last_Restart_Reason | ☐ | ☐ |
| Time_Of_Device_Restart | ☐ | ☐ |
| Restart_Notification_Recipients | ☐ | ☐ |
| UTC_Time_Synchronization_Recipients | ☐ | ☒ |
| Time_Synchronization_Interval | ☐ | ☐ |
| Align_Intervals | ☐ | ☐ |
| Interval_Offset | ☐ | ☐ |
| Serial_Number | ☐ | ☐ |
| Property_List | ☐ | ☐ |
| Profile_Name | ☒ | ☐ |

## 1.5 Client supported object types

| Object type | Supported | Can be created dynamically | Can be deleted dynamically |
|---|---|---|---|
| Analog Input | ☒ | ☐ | ☐ |
| Analog Output | ☒ | ☐ | ☐ |
| Analog Value | ☒ | ☐ | ☐ |
| Binary Input | ☒ | ☐ | ☐ |
| Binary Output | ☒ | ☐ | ☐ |
| Binary Value | ☒ | ☐ | ☐ |
| Calendar | ☒ | ☒ | ☒ |
| Command | ☒ | ☒ | ☒ |
| Device | ☒ | ☐ | ☐ |
| Event Enrollment | ☒ | ☒ | ☒ |
| File | ☒ | ☐ | ☐ |
| Group | ☒ | ☐ | ☐ |
| Loop | ☒ | ☐ | ☐ |
| Multi-State Input | ☒ | ☐ | ☐ |
| Multi-State Output | ☒ | ☐ | ☐ |
| Notification Class | ☒ | ☒ | ☒ |
| Program | ☒ | ☐ | ☐ |
| Schedule | ☒ | ☒ | ☒ |
| Averaging | ☒ | ☐ | ☐ |
| Multi-State Value | ☒ | ☐ | ☐ |
| Trend Log | ☒ | ☒ | ☒ |
| Life-Safety-Point | ☒ | ☐ | ☐ |
| Life-Safety-Zone | ☒ | ☐ | ☐ |
| Accumulator | ☒ | ☐ | ☐ |
| Pulse-Converter | ☒ | ☐ | ☐ |
| Event Log | ☒ | ☐ | ☐ |
| Global Group | ☒ | ☐ | ☐ |
| Trend Log Multiple | ☒ | ☒ | ☒ |
| Load Control | ☒ | ☐ | ☐ |
| Structured-View | ☒ | ☐ | ☐ |
| Access Door | ☐ | ☐ | ☐ |
| Access Credential | ☐ | ☐ | ☐ |
| Access Point | ☐ | ☐ | ☐ |
| Access Rights | ☐ | ☐ | ☐ |
| Access User | ☐ | ☐ | ☐ |
| Access Zone | ☐ | ☐ | ☐ |
| Credential Data Input | ☐ | ☐ | ☐ |
| Network Security | ☒ | ☐ | ☐ |
| Bitstring Value | ☒ | ☐ | ☐ |
| Characterstring Value | ☒ | ☐ | ☐ |

| Object type | Supported | Can be created dynamically | Can be deleted dynamically |
|---|---|---|---|
| Date Pattern Value | ☒ | ☐ | ☐ |
| Date Value | ☒ | ☐ | ☐ |
| Datetime Pattern Value | ☒ | ☐ | ☐ |
| Datetime Value | ☒ | ☐ | ☐ |
| Integer Value | ☒ | ☐ | ☐ |
| Large Analog Value | ☒ | ☐ | ☐ |
| Octetstring Value | ☒ | ☐ | ☐ |
| Positive Integer Value | ☒ | ☐ | ☐ |
| Time Pattern Value | ☒ | ☐ | ☐ |
| Time Value | ☒ | ☐ | ☐ |
| Notification Forwarder | ☒ | ☐ | ☐ |
| Alert Enrollment | ☒ | ☐ | ☐ |
| Channel | ☐ | ☐ | ☐ |
| Lighting Output | ☐ | ☐ | ☐ |

## 1.6    Segmentation capability

| | | | |
|---|---|---|---|
| ☒ | Able to transmit segmented messages | Window size | 32 |
| ☒ | Able to receive segmented messages | Window size | 32 |

## 1.7    Data Link Layer options

| | | |
|---|---|---|
| ☒ | BACnet IP, (Annex J) | |
| ☒ | BACnet IP, (Annex J), Foreign Device | |
| ☒ | ISO 8802-3, Ethernet (Clause 7) | |
| ☐ | ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8) | |
| ☐ | ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s) | |
| ☐ | MS/TP master (Clause 9), baud rate(s) | |
| ☐ | MS/TP slave (Clause 9), baud rate(s) | |
| ☐ | Point-To-Point, EIA 232 (Clause 10), baud rate(s) | : Max. 38400 |
| ☐ | Point-To-Point, modem, (Clause 10), baud rate(s) | : Max. 38400 |
| ☐ | LonTalk, (Clause 11), medium: | : TP/FT-10 |
| ☐ | Other | |

## 1.8    Device address binding

| | | |
|---|---|---|
| Is static device binding supported? | ☒ Yes | No |

## 1.9    Networking options

| | |
|---|---|
| ☐ | Router, Clause 6 |
| ☐ | Annex H, BACnet Tunnelling Router over IP |
| ☒ | BACnet/IP Broadcast Management Device (BBMD) |
| | Does the BBMD support registrations by Foreign Devices?   ☒ Yes   ☐ No |

## 1.10    Character sets supported

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

| | | |
|---|---|---|
| ☒ UTF-8 | ☐ IBM / Microsoft DBCS | ☒ ISO 8859-1 |
| ☒ ISO 10646 (UCS-2) | ☐ ISO 10646 (UCS-4) | ☐ JIS C 6226 |