EAGLEHAWK NX Controller

PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS)

CENTRA LINE by Honeywell

BACNET PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS)

Date: 16-January-2019
Vendor Name: Honeywell
Product Name: EAGLEHAWK NX
Product Model Numbers:
CLNXEH00ND100A, CLNXEH14ND100A, CLNXEH26ND100A
CLNXEHS00ND100A, CLNXEHS14ND100A, CLNXEHS26ND100A
CLNXEHSERIES00ND, CLNXEHSERIES14ND, CLNXEHSERIES26ND
CLNXEH00D100A, CLNXEH14D100A, CLNXEH26D100A
CLNXEHS00D100A, CLNXEHS14D100A, CLNXEHS26D100A
CLNXEHSERIES00D, CLNXEHSERIES14D, CLNXEHSERIES26D
WEB-EAGLENX26ND, WEB-EAGLENX26D
WEB-EHSERIESNX26ND, WEB-EHSERIES26D
Firmware Revision: 4.4
BACnet Protocol Revision: 14

PRODUCT DESCRIPTION

The EAGLEHAWK NX controller provides the ability to view, monitor, and control BACnet devices over IP, raw Ethernet, or MS/TP media. Devices, points, schedules, alarms, and logs can be learned and managed from the EAGLEHAWK NX controller. In addition, Niagara points, as well as points from Non-BACnet bus systems, schedules, histories, and alarming can be exposed to BACnet for monitor and control by foreign BACnet clients.

CONTENTS

BACNET STANDARDIZED DEVICE PROFILE (ANNEX L)

☐ BACnet Advanced Operator Workstation (B-AWS)
☐ BACnet Operator Workstation (B-OWS)
☑ 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)

BACNET INTEROPERABILITY BUILDING BLOCKS SUPPORTED (ANNEX K)

Data Sharing

DS-RP-A	Read Property-A
DS-RP-B	Read Property-B
DS-RPM-A	Read Property Multiple-A
DS-RPM-B	Read Property Multiple-B
DS-WP-A	Write Property-A
DS-WP-B	Write Property-B
DS-WPM-A	Write Property Multiple-A
DS-WPM-B	Write Property Multiple-B
DS-COV-A	Change of Value-A
DS-COV-B	Change of Value-B
DS-COVP-B	Change of Value of Properties-B
DS-V-A	View-A
DS-M-A	Modify-A
DS-COVU-B	COV Unsolicited-B

Alarm and Event Management

AE-N-A	Alarm & Event Notification-A
AE-N-I-B	Alarm & Event Notification Internal-B
AE-ACK-A	Alarm & Event Acknowledgement-A
AE-ACK-B	Alarm & Event Acknowledgement-B
AE-INFO-B	Alarm & Event Information-B
AE-ESUM-B	Alarm & Event-Enrollment-Summary-B
AE-ASUM-B	Alarm Summary (for compatibility with older workstations)-B
AE-VN-A	View-Notification-A
AE-VM-A	View and Modify-A
AE-AS-A	Alarm Summary View-A

Scheduling

SCHED-VM-A	View and Modify-A
SCHED-I-B	Scheduling Internal-B
SCHED-E-B	Scheduling External-B

Trending

T-V-A	View-A
T-VMT-I-B	Viewing & Modifying Trend Internal-B
T-ATR-A	Automated Trend Retrieval-A
T-ATR-B	Automated Trend Retrieval-B
T-AMVR-A	Automated Multiple Value Retrieval-A

Device Management

DM-DDB-A	Dynamic Device Binding-A
DM-DDB-B	Dynamic Device Binding-B
DM-DOB-B	Dynamic Object Binding-B
DM-ADM-A	Automatic Device mapping-A
DM-ANM-A	Automatic network mapping-A
DM-DDB-A	Dynamic Device Binding-A
DM-DDB-B	Dynamic Device Binding-B
DM-DOB-B	Dynamic Object Binding-B
DM-ADM-A	Automatic Device mapping-A
DM-ANM-A	Automatic network mapping-A
DM-TS-A	Time Synchronization-A
DM-TS-B	Time Synchronization-B
DM-UTC-A	Universal Time Synchronization-A
DM-UTC-B	Universal Time Synchronization-B
DM-ATS-A	Automatic Time Sychronization-A
DM-MTS-A	Manual Time Synchronization-A
DM-DCC-B	Device Communication Control-B
DM-RD-B	Reinitialize Device-B
DM-BR-B	Backup/Restore-B
DM-LM-A	List Manipulation-A
DM-LM-B	List Manipulation-B

Network Management

NM-RC-B	Router Configuration-B

Standard Object Types Supported

No general range restrictions exist; however, certain specific applications may have specific range restrictions.

ReadPropertyMultiple Request with, 'Property Identifier' = Required would respond with all the properties except Property_List.

Object Type	**Dynamically creatable [1)]**	**Dynamically deletable [1)]**
Analog Input		
Analog Output		
Analog Value		
Binary Input		
Binary Output		
Binary Value		
Multistate Input		
Multistate Output		
Multistate Value		
Calendar		
Device		
File		
Loop		
Notification Class		
Program		
Schedule		
Structured View		
Trendlog		

[1)] The CreateObject and DeleteObject services are not supported, so no objects are dynamically creatable or deletable through BACnet service requests, although these objects are dynamically creatable and deletable through Niagara.

Analog Input

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Device_Type	O	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Units	R	R	
Min _Pres_Value	O	R	
Max_Pres_Value	O	R	
Resolution	O	R	
COV_Increment	O	W	
Time_Delay	O	W	
Notification_Class	O	W	
High_Limit	O	W	
Low_Limit	O	W	
Deadband	O	W	
Limit_Enable	O	W	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	O	R	

Analog Output

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	W	
Description	O	W	
Device_Type	O	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Units	R	R	
Min_Pres_Value	O	R	
Max_Pres_Value	O	R	
Resolution	O	R	
Priority_Array	R	R	
Relinquish_Default	R	W	
COV_Increment	O	W	
Time_Delay	O	W	
Notification_Class	O	W	
High_Limit	O	W	
Low_Limit	O	W	
Deadband	O	W	
Limit_Enable	O	W	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	R	R	

Analog Value

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	R	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	O	W	
Units	R	R	
Priority_Array	O	R	
Relinquish_Default	O	W	
COV_Increment	O	W	
Time_Delay	O	W	
Notification_Class	O	W	
High_Limit	O	W	
Low_Limit	O	W	
Deadband	O	W	
Limit_Enable	O	W	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	R	R	

Binary Input

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Device_Type	O	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Polarity	R	R	
Inactive_Text	O	W	
Active_Text	O	W	
Change-Of-State-Time	O	R	
Change-Of-State-Count	O	W	
Time-Of-State-Count-Reset	O	R	
Elapsed-Active-Time	O	W	
Time-Of-Active-Time-Reset	O	R	
Time_Delay	O	W	
Notification_Class	O	W	
Alarm_Value	O	W	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	R	R	

Binary Output

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Device_Type	O	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Polarity	R	R	
Inactive_Text	O	W	
Active_Text	O	W	
Minimum_Off_Time	O	W	
Minimum_On_Time	O	W	
Change-of-state-time	O	R	
Change-of-state-count	O	W	
Time-of-state-count-reset	O	R	
Elapsed-active-time	O	W	
Time-of-active-time-reset	O	R	
Priority_Array	R	R	
Relinquish_Default	R	W	
Time_Delay	O	W	
Notification_Class	O	W	
Feedback_Value	O	R	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	R	R	
Current Command Priority	R	R	

Binary Value

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Inactive_Text	O	W	
Active_Text	O	W	
Change-of-state-time	O	R	
Change-of-state-count	R	W	
Time-of-state-count-reset	O	R	
Elapsed-active-time	O	W	
Time-of-active-time-reset	O	R	
Minimum_Off_Time	O	W	
Minimum_On_Time	O	W	
Priority_Array	O	R	
Relinquish_Default	O	W	
Time_Delay	O	W	
Notification_Class	O	W	
Alarm_Value	O	W	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	R	R	

Multistate Input

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Device_Type	O	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Number_Of_States	R	R	
State_Text	O	W	
Time_Delay	O	W	
Notification_Class	O	W	
Alarm_Values	O	W	
Fault_Values	O	R	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	O	R	

Multistate Output

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Device_Type	O	R	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	O	W	
Number_Of_States	R	R	
State_Text	O	W	
Priority_Array	R	R	
Relinquish_Default	R	W	
Time_Delay	O	W	
Notification_Class	O	W	
Feedback_Value	O	R	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property List	O	R	

Multistate Value

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Status_Flags	O	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Number_Of_States	R	R	
State_Text	O	W	
Priority_Array	O	R	
Relinquish_Default	O	W	
Time_Delay	O	W	
Notification_Class	O	W	
Alarm_Values	O	W	
Fault_Values	O	R	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Property_List	O	R	

Calendar

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Description	O	W	
Present_Value	R	R	
Date_List	R	W	
Property_List	R	R	

Device

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	R	
Object_Type	R	R	
System_Status	R	R	
Vendor_Name	R	R	
Vendor_Identifier	R	R	
Model_Name	R	R	
Firmware_Revision	R	R	
Application_Software_Version	R	R	
Location	O	W	
Description	O	W	
Protocol_Version	R	R	
Protocol_Revision	R	R	
Protocol_Services_Supported	R	R	
Protocol_Object_Types_Supported	R	R	
Object_List	R	R	
Max_APDU_Length_Accepted	R	R	
Segmentation_Supported	R	R	
Max_Segments_Accepted	O	R	
Local_Time	O	R	
Local_Date	O	R	
UTC_Offset	O	R	
Daylight_Saving_Status	O	R	
APDU_Segment_Timeout	O	R	
APDU_Timeout	R	R	
Number_Of_APDU_Retries	R	R	
Time Synchronization Recipients	R	R	
Max_Master	O	R	
Max_Info_Frames	O	R	
Device_Address_Binding	R	R	
Database_Revision	R	R	
Configuration_Files	O	R	
Last_Restore_Time	O	R	
Backup_Failure_Timeout	R	R	
Backup_Preparation_Time	R	R	
Restore_Preparation_Time	R	R	
Restore_Completion_Time	R	R	
Backup_And_Restore_State	R	R	
Active_COV_Subscriptions	O	R	
Last_Restart_Reason	R	R	
Time_Of_Device_Restart	O	R	
Restart_Notification_Recipients	R	R	
UTC_Time_Synchronization_Recipients	R	R	
Time_Synchronization_Interval	R	R	
Align_Intervals	R	R	
Interval_Offset	R	R	
Serial_Number	R	R	
Property_List	R	R	

File (Stream Access Only)

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Description	O	W	
File_Type	R	R	
File_Size	R	W	The File_Size property of File objects is only writable if the underlying system file is changeable.
Modification_Date	R	R	
Archive	R	W	
Read_Only	R	R	
File_Access_Method	R	R	
Property_List	R	R	

Loop

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Present_Value	R	R	
Description	O	W	
Status_Flags	R	R	
Event_State	R	R	
Reliability	O	R	
Out_Of_Service	R	W	
Output_Units	R	R	
Manipulated_Variable_Reference	R	R	
Controlled_Variable_Reference	R	R	
Controlled_Variable_Value	R	R	
Controlled_Variable_Units	R	R	
Setpoint_Reference	R	R	
Setpoint	R	W	The Setpoint property of Loop objects is writable only if the setpoint is not linked from within Niagara.
Action	R	R	
Proportional_Constant	O	W	
Proportional_Constant_Units	O	R	
Integral_Constant	O	W	
Integral_Constant_Units	O	R	
Derivative_Constant	O	W	
Derivative_Constant_Units	O	R	
Bias	O	W	
Maximum_Output	O	W	
Minimum_Output	O	W	
Priority_For_Writing	R	R	
COV_Increment	O	W	
Time_Delay	O	W	
Notification_Class	O	R	
Error_Limit	O	W	
Deadband	R	R	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	R	
Event_Time_Stamps	O	R	
Event_Message_Texts	O	R	
Event_Detection_Enable	O	R	
Property List	O	R	

Notification Class

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Description	O	W	
Notification_Class	R	R	
Priority	R	W	
Ack_Required	R	W	
Recipient_List	R	W	The Recipient_List property of the Notification Class object will maintain entries that are internally configured within Niagara.
Property_List	R	R	

Schedule

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Description	O	W	
Present Value	R	R	
Effective_Period	R	W	
Weekly_Schedule	O	W	
Exception_Schedule	O	W	
Schedule_Default	R	W	
List_Of_Object_Property_References	R	W	The List_Of_Object_Property_References property of the Schedule object will maintain entries that are internally configured within Niagara.
Priority_For_Writing	R	W	The Priority_For_Writing property of Schedule objects is not important for internal Niagara operation, as the priority at which a point is commanded is determined by the input to which the Schedule output is linked.
Status_Flags	O	R	
Reliability	R	R	
Out_Of_Service	R	W	
Property_List	R	R	

Trend Log

Property name	R=Required O=Optional P=Proprietary	Supported (R=Read, W=Write, empty = not supported)	Property ID, Range, Data Type; other remarks
Object_Identifier	R	R	
Object_Name	R	W	
Object_Type	R	R	
Description	O	W	
Log_Enable	O	W	These Trend Log object properties are not writable if the backing history for the exported Trend Log is a Niagara-generated history. If the history is created as a BACnet Trend Log, then they are writable.
Start_Time	O	W	
Stop_Time	O	W	
Log_DeviceObject-Property	O	R	
Log_Interval	R	W	These Trend Log object properties are not writable if the backing history for the exported Trend Log is a Niagara-generated history. If the history is created as a BACnet Trend Log, then they are writable. Trend Logs in Niagara are either COV or Interval. So the Log_Interval property cannot be written to a value other than 0 for COV logs, or to 0 for interval logs.
COV_Resubscription_Interval	O	R	
Client_COV_Increment	O	R	
Stop_When_Full	R	R	
Buffer_Size	R	R	
Log_Buffer	R	R	
Record_Count	R	W	These Trend Log object properties are not writable if the backing history for the exported Trend Log is a Niagara-generated history. If the history is created as a BACnet Trend Log, then they are writable.
Total_Record_Count	R	R	
Logging Type	R	R	
Trigger	R	R	
Status Flags	R	R	
Notification_Threshold	O	R	
Records_Since_Notification	O	R	
Last_Notify_Record	O	R	
Event_State	R	R	
Notification_Class	O	W	
Event_Enable	O	R	
Acked_Transitions	O	R	
Notify_Type	O	W	
Event_Time_Stamps	O	R	
Event_Message_Texts	O	R	
Event_Detection_Enable	O	R	
Property_List	O	R	

Proprietary Objects Supported

None

Segmentation Capability

☑ Transmit Segmented Messages Window Size 10
☑ Receive Segmented Messages Window Size any

Data Link Layer Options

☑ BACnet IP, (Annex J)
☑ BACnet IP, (Annex J), Foreign Device
☑ ISO 8802-3, Ethernet (Clause 7)
☐ ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
☐ ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s) _____
☑ MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 76800, 115200
☐ MS/TP slave (Clause 9), baud rate(s): _____
☐ Point-To-Point, EIA 232 (Clause 10), baud rate(s):_____
☐ Point-To-Point, modem, (Clause 10), baud rate(s): _____
☐ LonTalk, (Clause 11), medium: _____
☐ Other: 10BASE T, DIX Ethernet_____

Device Address Binding

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) ☑Yes ☐No

Networking Options

☑ Router, Clause 6 - Routing configurations: Ethernet-IP, Ethernet-MS/TP, IP-MSTP
☐ Annex H, BACnet Tunneling Router over IP
☑ BACnet/IP Broadcast Management Device (BBMD)
Does the BBMD support registrations by Foreign Devices? ☑ Yes ☐ No

Character Sets Supported

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

☑ ANSI X3.4 ☐IBM™/Microsoft™ DBCS ☑ ISO 8859-1
☑ ISO 10646 (UCS-2) ☐ ISO 10646 (UCS-4) ☐ JIS X 0208

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:

This product supports communications between BACnet and any third-party system to which Niagara can connect. Contact Tridium for a list of supported protocols.

Manufactured for and on behalf of the Environmental and Energy Solutions Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative:

CentraLine
Honeywell GmbH
Böblinger Strasse 17
71101 Schönaich, Germany
Phone +49 (0) 7031 637 845
Fax +49 (0) 7031 637 740
info@centraline.com
www.centraline.com

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