DMS Driver User Guide

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Chapter 1

Installation

Install ibmsDms-rt.jar and ibmsDms-wb.jar on the computer where Niagara N4 Workbench will run. To install, place a copy of the file in the modules directory of your Niagara N4 installation. This is typically C:\Niagara\Niagara-4.n.nnn\modules.

Install ibmsDms module on the target station. Using a Niagara N4 workbench where the module has already been installed, connect to the stations platform service. Go to the software manager and install ibmsDms.

Apart from installing the 4.*n.nn* version of the Niagara distribution files in the JACE, make sure to install the ibmsDms too (if not already present, or upgrade if an older revision). For more details, see "About the Commissioning Wizard" in the JACE Niagara N4 Install and Startup Guide.

Following this, the station is now ready for DMS software integration, as described in the rest of this document.

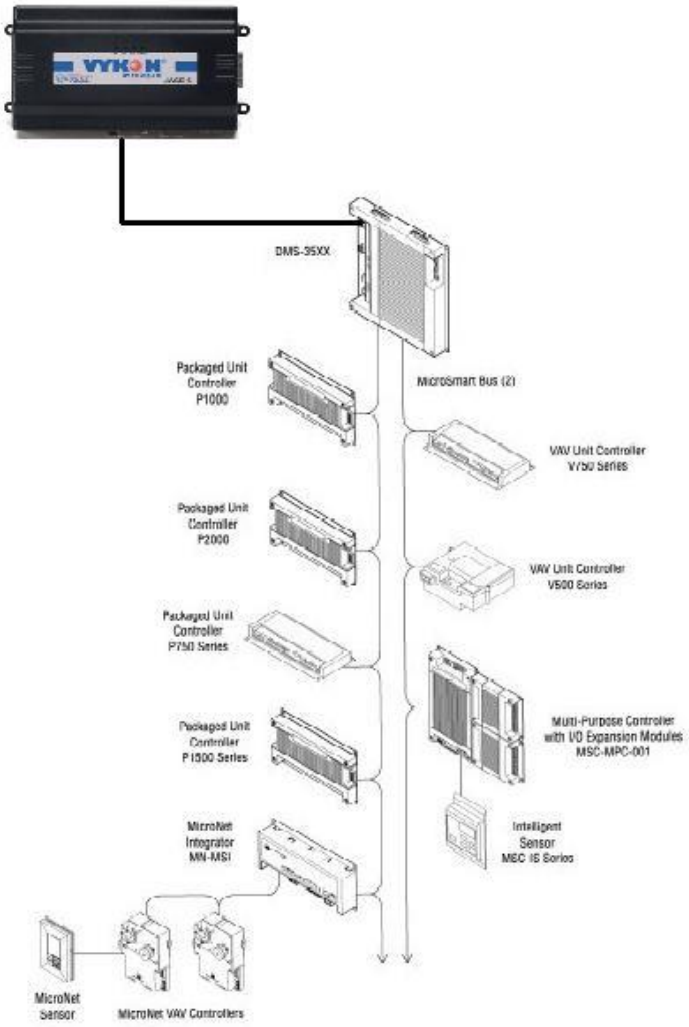
Requirement

- N4 workbench 4.0.22 or higher (for commissioning).
- Niagara N4 platform support:

  1. JACE-3E.
  2. JACE 6xx.
  3. JACE 7xx.
  4. JACE 8000 (Titan JACE).

- DMS device support:

  1. DMS-350
  2. DMS-350A
  3. DMS-35


DMS-95XX
MicroSmart Bus (2)
Packaged Unit Controller P1000
VAV Unit Controller V750 Series
Packaged Unit Controller P2000
VAV Unit Controller V500 Series
Packaged Unit Controller P750 Series
Multi-Purpose Controller with I/O Expansion Modules MSC-MPC-001
Packaged Unit Controller P1500 Series
Intelligent Sensor MSC IS Series
MicroNet Integrator MN-MSI
MicroNet Sensor
MicroNet VAV Controllers

Chapter 2

Quick Start

- Follow the installation and configuration instructions preceding this.
- This driver use serial communication RS232 Port. (Required "serial" feature in the license).
- Open the ibmsDms palette and find the DmsNetwork object.
- Paste a DmsNetwork object under the driver's node in your station.

  - Edit the Serial Port Config properties as needed.

  - The DMS panel to be attached to the JACE must be initially configured for its port to communicate using the "multidrop" protocol, and to have the proper panel address. You can do this from the front panel of a DMS 350A or DMS 35. If a DMS 3500, you typically would use DMS Operator Interface, connected to the port not being configured. Note that in the case of a multi-panel DMS network, only the "direct-connect" DMS panel needs this port configuration.

  - Set the DMS port being used to PORTn=<baud rate>, 1, 7, E, M, N.

  - For example,

    a) DMS 3500 using port 1 at 38,400 baud: PORT1=38.4 1 7 E M N
    b) DMS 350A using port 2 at 9600 baud PORT2=9600 1 7 E M N

  - Assign (or verify) the proper multi drop panel address. This address appears in the second field of the panel's PSWRD element (PSWRD=xxx 01 n).

    For example, for a DMS 350A addressed as panel 3, using a default 170 password:
    PSWRD=170 03 1

    Or, a DMS 3500 with a NIM addressed as 2, using a default password of 244:

PSWRD=244 02 1

Note if the DMS panel is not networked with other DMS panels, the multi drop address should be left at the default "01".

- Verify the assigned baud rate and panel address match the settings in the station's DmsNetwork used for this connection.
- Using a standard "null modem" type cable, connect the JACE serial port used by the DmsNetwork to the configured DMS panel port. Providing the JACE station has been restarted since adding the DmsNetwork, communications can now be tested.
- To verify the communication is proper configure simply click the DmsNetwork and click the mouse right button > Action > Ping. Is the DmsNetwork is showing the status is ok then you are ready to engineer your JACE station with the DMS integration.

- Open the DmsDeviceManager view by double-clicking the DmsNetwork object just added to the station.
  - Add the DMS device and setup the Panel Name and Panel address (1 – 32).
- Once a device is added, navigate to the "points" folder under the device and double click the point's folder to display the DmsPointManager view.
  - Press the "Discover" button.
  - Select and add DMS to your database.

DMS Component Guide

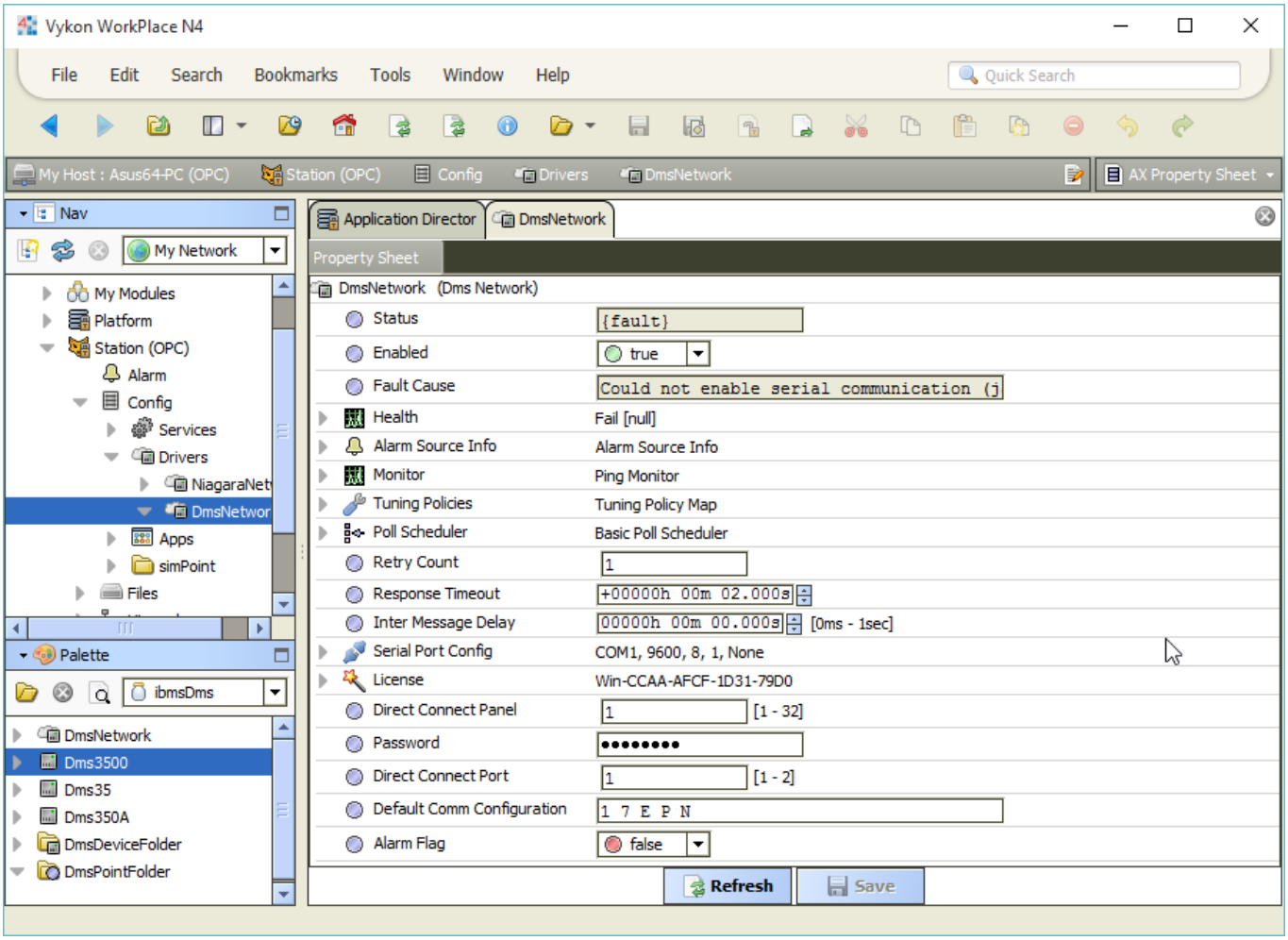
- DmsNetwork
- DmsDevice
- DmsProxyExt

DmsNetwork

The DmsNetwork provides all the configuration parameters necessary to allow the driver to communicate with a network of DMS devices.

The DmsNetwork is the "network-level" component in the NiagaraN4 architecture. It has the standard network component properties such as status and enabled (see "Driver Architecture / Common network

components" in the NiagaraN4 Users Guide for more information), as well as properties unique to operation as a host in a DMS system.



NOTE: In the following properties, the properties are inherited from the base N4 driver classes, and as such are only touched on here. For a full explanation, refer to the N4 Driver Architecture document.

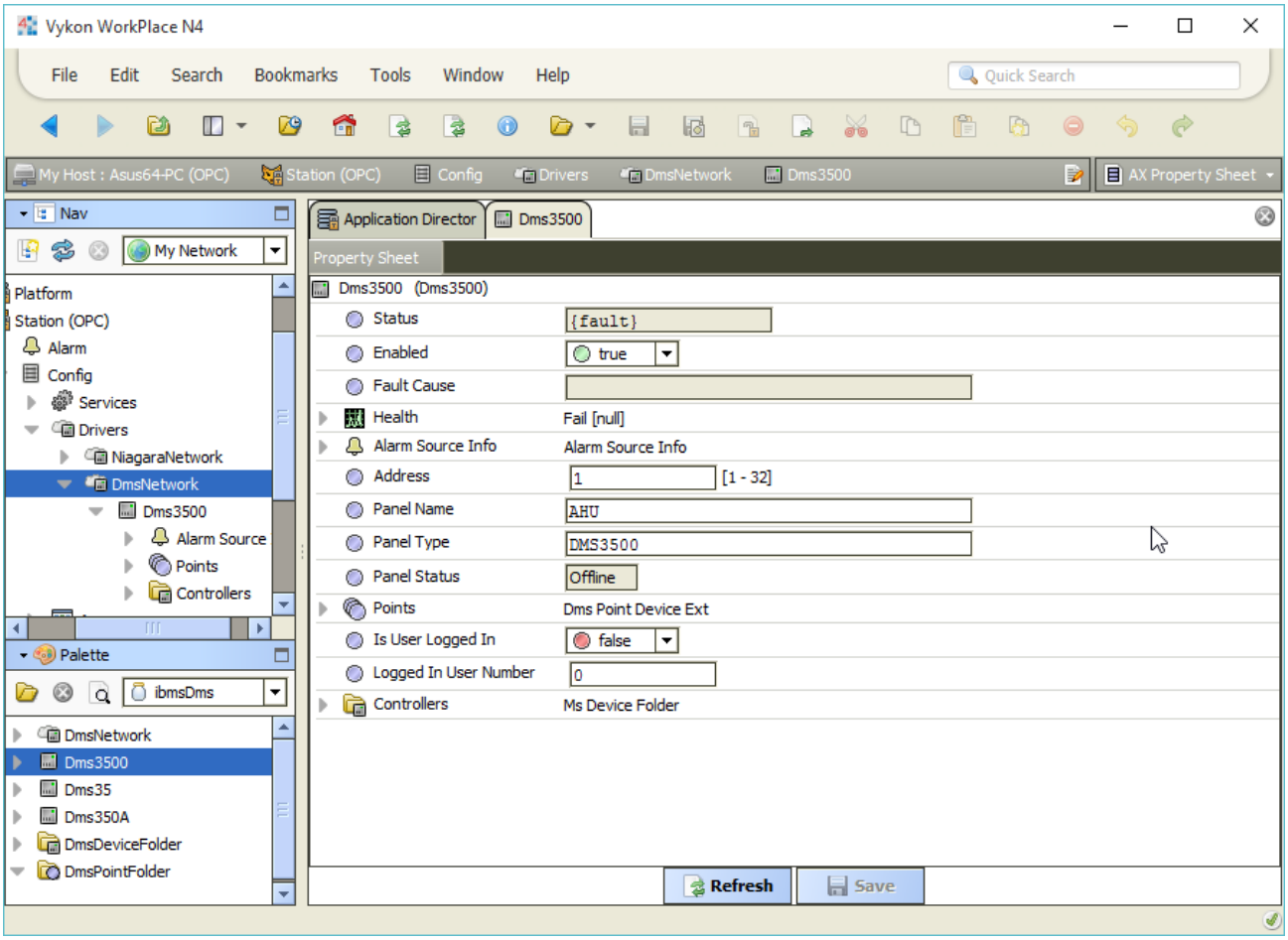
- Status – The status of the network will normally be {ok}. A value of {fault} usually indicates an incorrect Serial Port Config setting.
- Enabled – Enables or Disables the Dms Driver.
- Fault Cause – if the "Status" is fault, the fault cause will appear here. For instance, if a non-existent COM port is configured into the "Serial Port Config" property, then this will say "Could not enable serial communication (javN4.baja.serial.PortClosedException)".

- Monitor – container for monitor (ping) properties.
- Tuning Policies - A container for tuning policies which determines how and when proxy points are read and written.
- Response Timeout - Specifies the maximum time to wait for a response to a Dms message is sent. If a response is not received before the timeout.
- Inter Message Delay – The minimum amount of time to wait between receiving a message on the Dms bus, and sending the next request. This gives time for some Dms devices to prepare for receiving messages again. Note that this setting this value to non-zero has a negative impact on overall throughput, but may be necessary if a slow-to-turn-around Dms device is on the network, minimum setting can be set is 100 ms.
- Serial Port Config – A container for the serial port properties.
    - Status - {ok} or {fault}
    - Port Name – Common name of a serial port, such as "COM1"
    - Baud Rate – 9600 is a standard baud rate.
    - Data Bits – select 5, 6, 7, or 8 bits.
    - Stop Bits – select 1 or 2 bits.
    - Parity – select None, Odd, Even, Mark, or Space.
    - Flow Control Mode – Do not select any flow control.
- License - The Dms license information. Without a license , the driver can operate with full functionality but only for 2 hours, after the time expired the station need to restart.

DmsDevice

The DmsDevice provides all the configuration parameters necessary to allow the driver to communicate with a given Dms device. The DmsDevices are always children of a DmsNetwork. DmsDevices also serve as a container for all of the data points that need to be polled for data.

The DmsDevice is the "device-level" component in the NiagaraN4 architecture.



NOTE: In the following properties, the properties are inherited from the base N4 driver classes, and as such are only touched on here. For a full explanation, refer to the N4 Driver Architecture document.

- Status – The status of the device. Will normally be {ok}. A value of {down} indicates that the last ping to the device was not answered (the "Report Exception Message" is used as the ping message).

- Enabled – Enables or Disables communication to the associated device from Dms Driver.

- Fault Cause – if the "Status" property value is {fault}, the fault cause is displayed here.

- Heath – contains metadata about the health of this device on the network:

    - Down – indicates if this device is down – should be false under normal operation.
    - Alarm – indicates if this device is in alarm – should be false under normal operation
    - Last OK Time – the last time of successful communication to this device
    - Last Fail Time – the last time of unsuccessful communication to this device
    - Last Fail Cause – the reason of the last comm. Failure (example – "bad checksum) .

- Alarm Source Info – configuration items for alarms generated from the ping process (device up and device down events)
- Points – a container for all data items (attributes) in this device which need to be polled for data.

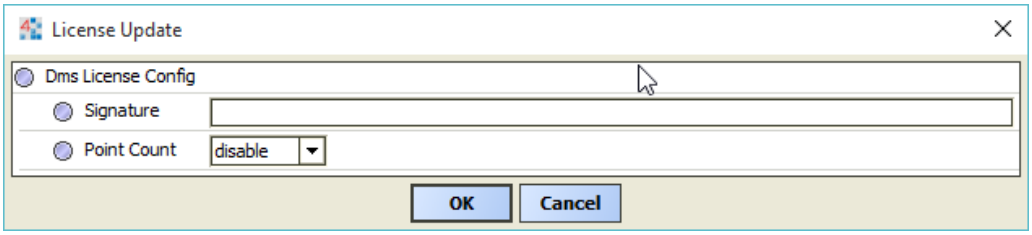
Chapter 5

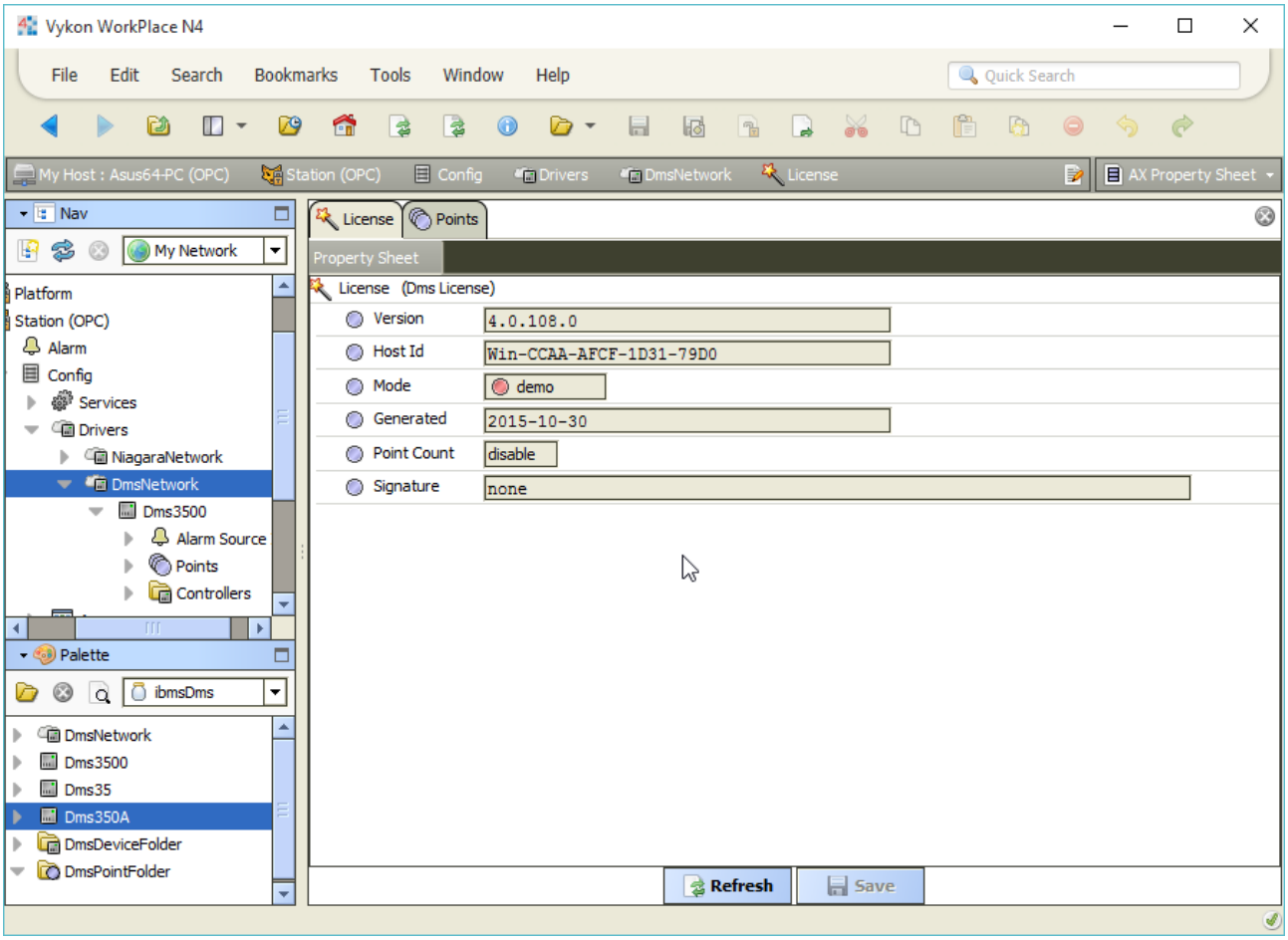
Licensing

Dms driver License is running independently from the Tridium license, it has no restriction to run to any of the existing license vendor.

The Dms license provide 2 hour demo license without the unlock code. After the demo license expired the Dms Driver communication will stop automatically and will show fatal fault at the Dms Network level. "ibmsDms license expired". To extend the demo period user required to restart the station or reboot the JACE.

To request the license please submit the JACE/Web Supervisor host ID, to unlock the driver simply go to the license property, select the word "License" and click right mouse button, action and invoke command "License Update", the dialog "License Update" will appear as below. Place the Signature code at the "Signature" and select the point Count (if applicable) property. Please take note the license only provide by authorize vendor. If the signature code is successful enter the property "Mode" will automatically change to "registered" and user is required to reboot the JACE to apply the change.





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