

NEXUDUS

niagara⁴

Nexodus Space Management for Tridium Niagara 4 Technical Guide

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Revision 1.0

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INTRODUCTION

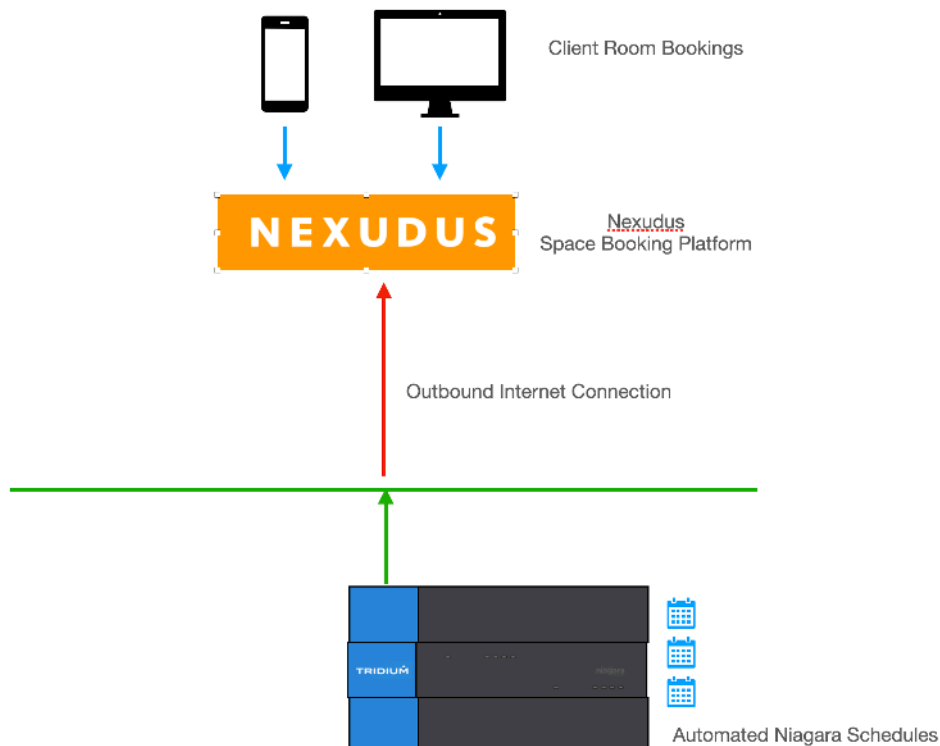
The Nexodus Service allows access to the room / space scheduling data available within the Nexus Cloud Dashboard to automatically generate Niagara Boolean Schedules. The interface allows room / space occupancy books to be periodically subscribed and the local Niagara Boolean Schedule updated automatically. The Niagara Boolean Schedule will be configured with 'Special Events' reflecting each booking data & times.

The Niagara Schedule can then be used to further integrate systems within a building to achieve optimal energy efficiency. For example:

- ▶ Lighting Control
- ▶ Air Conditioning Control
- ▶ Heating Control
- ▶ General Energy Reduction.

The Nexodus system should be fully configured and working before starting the Niagara integration.

The Niagara device (Controller / Web Supervisor) will require an outbound internet connection to connect the Nexodus cloud.



LICENSING & SOFTWARE MAINTENANCE

The Nexodus Service is licensed based on the number of Room Schedules being imported to a Niagara Station.

You will need to provide your Niagara 4 Host ID as part of your purchase.

Once the license has been generated you can re-import your niagara license files from the Platform > License Manager providing you have an internet connection, alternatively you can be emailed a copy of the new license files.

The Nexodus Service includes a software maintenance feature. Every new purchase of the Service will support the current release of Niagara 4 and the next release of Niagara 4, any subsequent upgrades will require a software maintenance license to be purchased.

As an example the current release of Niagara 4 is N4.13, a new Service purchase will cover you for N4.13 and a future upgrade to N4.14. Any further upgrades, for example to N4.15 or above, will require a software maintenance license to be updated. The software maintenance license would then cover you for the now current release of Niagara 4 (as an example N4.16). You can upgrade from any previous release with a single software maintenance purchase.

Ensure the target Host License Manager is up to date with a Tyrrell.license and Tyrrell.certifcate containing the required license features.

Any questions or queries in relation to this item should be sent to sales@tyrrellproducts.com

Nexodus License Packs:

Product Code	Description
Nexodus010	Nexodus Cloud Service With 10x Room Schedules
Nexodus025	Nexodus Cloud Service With 25x Room Schedules
Nexodus050	Nexodus Cloud Service With 50x Room Schedules
Nexodus100	Nexodus Cloud Service With 100x Room Schedules
Nexodus250	Nexodus Cloud Service With 250x Room Schedules
Nexodus-Domain-UPG	Nexodus Cloud Service Upgrade 1x Domain Space
Nexodus025-UPG	Nexodus Cloud Service Upgrade 25x Room Schedules
Nexodus050-UPG	Nexodus Cloud Service Upgrade 50x Room Schedules
Nexodus-NUPG	Nexodus Cloud Service Niagara Version Upgrade

NEXUDUS SERVICE INSTALLATION

The Nexodus Cloud Service supports Niagara 4.10 and above.

NOTE:

If your installation is running an older version of the Niagara software then it must be upgraded to meet the above requirements to run this Service.

Any future updates to the Nexodus Cloud Service will be available for the current release and Long Term Support (LTS) release of Niagara 4. All other releases will become legacy and unsupported.

Niagara 4 Installation:

You will need the version specific JAR files for your Niagara 4 installation. These can be downloaded from the Customer Portal or alternatively contact support.

To install the Service copy the below JARS to the following directory

- ▶ nexodus-rt.jar
- ▶ nexodus-wb.jar

c:\niagara\niagara 4.x.xx\modules

Once the files have been put into the correct directory close your workbench, and relaunch. Any running Stations on the local machine will have to be re-started to make use of the Nexodus Cloud Service.

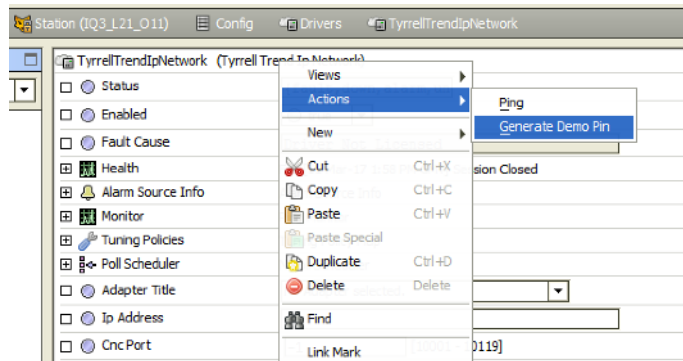
The Nexodus Cloud Service is now ready to use in a local station or to commission / update a N4 based controller. To install the Service on a controller use the Commissioning Wizard on the platform of the target device.

DEMO MODE

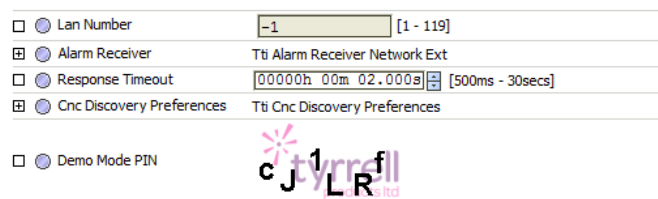
In addition to permanent licenses the driver also supports a two hour demonstration mode.

To activate this mode follow the below steps -

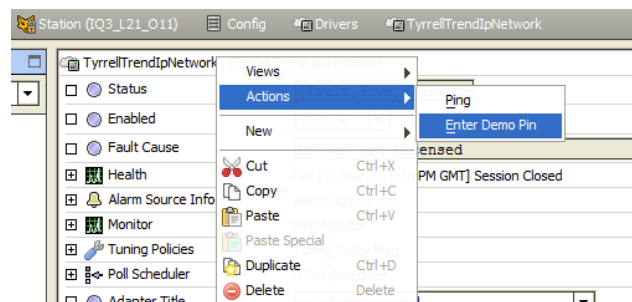
- ▶ Insert a new Nexodus Service (see the following section).
- ▶ Go into the property sheet of the Service.
- ▶ Right click on the **Service > Actions > Generate Demo PIN**



- ▶ An image will appear at the bottom of the property sheet with a demo PIN



- ▶ Right click on the **Service > Actions > Enter Demo PIN**



- ▶ Enter the PIN exactly as it is shown in the image
- ▶ When entered correctly a pop up box will appear with instructions.
- ▶ Restart the station to complete the activation of the demo mode.
- ▶ After two hours the demo mode will expire, repeat the above steps to re-activate the demo mode.

PRE REQUISITES

Before proceeding you should ensure the following:

- ▶ Nexodus Account is fully configured.
- ▶ You have obtained the Nexodus Cloud API connection details.
These details are site specific to your account and will be required to configure the interface.

SERVICE CONFIGURATION

Connect to the Niagara station where you intend to configure the Nexodus Cloud Service.

Expand **Config > Services** container and add a new **Nexodus** Service, this can alternatively be dragged in from the **Nexodus Palette**.

Navigate to the AX Property Sheet view of the Service.

From the **Nexodus Palette** add a **Domain Space** component. There will typically only be one Domain Space per integration.

The screenshot shows the configuration interface for a 'Nexodus Service'. The 'Domain Space' component is expanded, showing various settings:

- Status:** {ok}
- Fault Cause:** (empty)
- Enabled:** true
- Domain Space:**
 - Status:** {fault}
 - Fault Cause:** 'Domain Space Name' cannot be blank !
 - Enabled:** true
 - Domain Space Name:** (empty)
 - Connect Timeout:** 00000h 00m 10.000s [500 ms - 2 minutes]
 - Response Timeout:** 00000h 02m 00.000s [500 ms - 5 minutes]
 - Poll Frequency:** 00000h 05m 00s [5 seconds - 1 day]
 - Query Start Offset:** 00024h 00m 00s [1 hour - 365 days]
 - Query End Offset:** 00720h 00m 00s [1 hour - 365 days]
 - Pre Start Interval:** 00000h 15m 00s [0 ms - 1 day]

PROPERTY	DESCRIPTION
Domain Space Name	Account Name Of The Nexodus Account
Poll Frequency	Frequency To Request / Update Bookings The Domain Space Supports a Manual Poll Action
Query Start Offset	Time Before Now To Request FROM Default is 24 hours ago.
Query End Offset	Time After Now To Request TO Default is 30 Days Ahead.
Pre Start Interval	Schedule Pre Start Time. If a booking start a 09:00 and the Pre Start Time is 15 minutes the schedule will start at 08:45. This could be considered a 'warm up' time.

ROOM COMPONENT

Once the Domain Space Name has been entered the Service will come out of fault and enter a normal & healthy state.

Next you will need to add a **Room** component under the Domain Space. You will need one Room component for each meeting Room / Space you intend to subscribe.

When adding the component you can apply a name to describe the space.

_1415085587 (Room)	
Status	{fault}
Fault Cause	'Resource Id' cannot be blank !
Resource Id	
Room Name	
Bookings	Room Bookings
Schedule	false {ok}

PROPERTY	DESCRIPTION
Resource ID	ID of the Room / Space Subscription Obtain from Cloud Platform.
Room Name	Description of the Room / Space (e.g. Meeting Room / Hot Desk 9)
Bookings	This folder will populate with entries at the next polling interval.
Schedule	The Schedule will be automatically generated based on the data in the Bookings folder.

Example of a Subscribed Room / Space

	_1415085587 (Room)	
	Status	<input data-bbox="464 349 823 394" type="text" value="{ok}"/>
	Fault Cause	<input data-bbox="464 405 1169 450" type="text"/>
	Resource Id	<input data-bbox="464 461 1169 506" type="text" value="1415085587"/>
	Room Name	<input data-bbox="464 517 1169 562" type="text" value="Meeting Room Blue"/>
	Bookings	Room Bookings
		Booking_1430329426 Room Booking
	Booking Id	<input data-bbox="544 674 1249 719" type="text" value="1430329426"/>
	Start	<input data-bbox="544 730 991 775" type="text" value="20-Mar-2024 09:00 AM GMT"/>
	End	<input data-bbox="544 786 991 831" type="text" value="20-Mar-2024 04:00 PM GMT"/>
		Booking_1430235807 Room Booking
	Booking Id	<input data-bbox="544 875 1249 920" type="text" value="1430235807"/>
	Start	<input data-bbox="544 931 991 976" type="text" value="20-Mar-2024 04:00 PM GMT"/>
	End	<input data-bbox="544 987 991 1032" type="text" value="20-Mar-2024 05:00 PM GMT"/>
		Booking_1430260306 Room Booking
	Booking Id	<input data-bbox="544 1077 1249 1122" type="text" value="1430260306"/>
	Start	<input data-bbox="544 1133 991 1178" type="text" value="27-Mar-2024 01:00 PM GMT"/>
	End	<input data-bbox="544 1189 991 1234" type="text" value="27-Mar-2024 03:00 PM GMT"/>
		Booking_1430181036 Room Booking
		Booking_1430181018 Room Booking
		Schedule false {ok}

ROOM SCHEDULE

Navigate into the Schedule and review the **Special Events** Tab.

All Subscribed Events, based on the defined FROM - TO time frames (dates) will be shown with their specific occupation times.

The schedule will start 15 minutes (based on the Pre Start Interval setting) before the Room / Space is due to become occupied. This time allows HVAC Plant etc to run and prior to the space becoming occupied.

The screenshot displays the Room Schedule interface. At the top, there are navigation buttons: Prev Page, Prev Month, Today, Next Month, and Next Page. Below these are seven calendar grids for the months of March, April, May, June, July, August, and September 2024. Each grid shows days of the week (s, m, t, w, t, f, s) and dates. A booking is highlighted on March 21st at 12:00 PM. Below the calendars, there is a table with columns for Name and Summary. The table lists three bookings: Booking_1430260306 (Dates: 27 Mar 2024), Booking_1430181036 (Dates: 3 Apr 2024), and Booking_1430181018 (Dates: 12 Apr 2024). To the right of the table is a time slot grid with slots for 3:00 AM, 6:00 AM, 9:00 AM, 12:00 PM, 3:00 PM, 6:00 PM, and 9:00 PM. The 12:00 PM slot is highlighted in green and labeled 'true'. At the bottom, there are buttons for Add, Edit, Priority, Rename, and Delete. Below these are buttons for Weekly Schedule, Special Events, Properties, and Summary. At the very bottom, there are buttons for Save and Refresh.

You can then **Link Mark** the **Schedule** to pass the **Out Value** to other parts of your Niagara Station.

The screenshot shows the Niagara Station configuration interface for a room. The room is identified as '_1415085587 (Room)'. The interface includes fields for Status (set to {ok}), Fault Cause, Resource Id (set to 1415085587), and Room Name (set to Meeting Room Blue). Below these fields are sections for Bookings and Schedule. The Schedule section is expanded, showing a dropdown menu with options like Views, Actions, New, Edit Tags, Make Template, Cut, Copy, Paste, Duplicate, Delete, Find, and Link Mark. The Link Mark option is highlighted. The Link Mark option is described as 'Link Event "Schedule"'.

REVISION HISTORY

REVISION	DESCRIPTION
1.0	Draft Release For Approval