

Niagara 4.13

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Solution Product Manager

FEATURES OVERVIEW



AGENDA

01

MAC36NL
MAC36PRO
iSMA-B-J9

02

Deployment
Upgrades

03

Compliance
Upgrades

04

Visualization
Upgrades

05

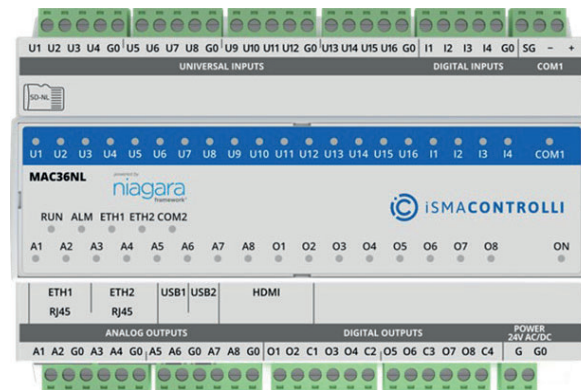
Connectivity
Upgrades

06

Cyber
Defense
Upgrades

niagara⁴

- Powered by Niagara N4 Framework
- Supported versions of Niagara N4.4 N4.6, N4.7, 4.8, 4.9, 4.10(LTS), **4.11, 4.12, 4.13**
- **Now supports N4.13U2**

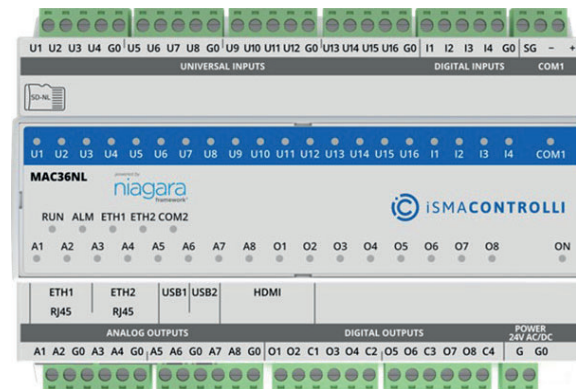


powered by
niagara
 framework®



MAC36NL

BACnet Revision 15 compliance



powered by
niagara
framework®

Based on Niagara 4.12U2

MAC36PRO
Performance. Redefined.



MAC36PRO

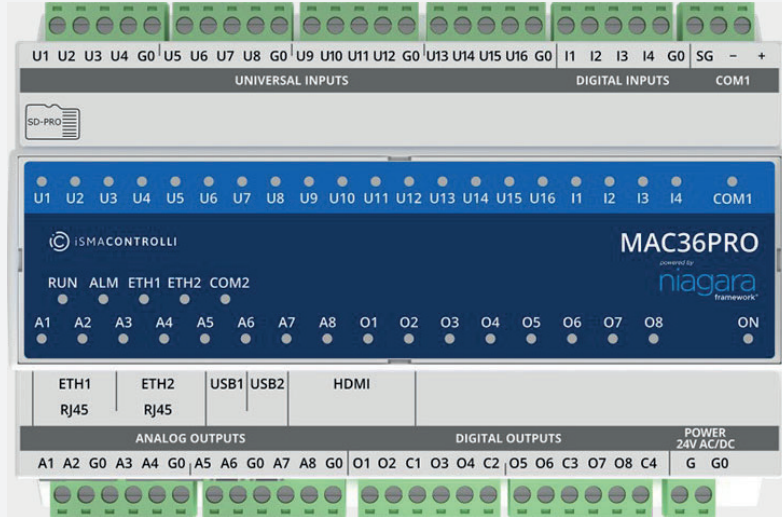
Licensing

MAC36NL	Point limit
iSMA-B-MAC-L-50	50
iSMA-B-MAC-L-100	100
iSMA-B-MAC-L-250	250
iSMA-B-MAC-L-500	500
iSMA-B-MAC-L-1250	1250

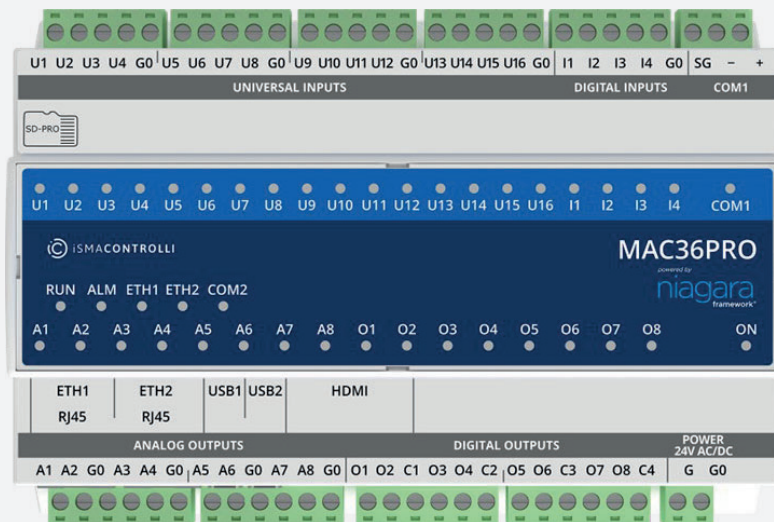
MAC36PRO	Point limit
iC-MAC-L-100	100
iC-MAC-L-250	250
iC-MAC-L-500	500
iC-MAC-L-1250	1250
iC-MAC-L-2500	2500
iC-MAC-L-5000	5000

MAC36PRO

Currently supported Niagara version



+ Niagara 4.10U6



+ Niagara 4.13U2
Q2 2024



iSMA-B-J9

KEY FEATURES

- Quad core iMX8M+ CPU
- Double the amount of RAM
- 4X the amount of storage
- Ubuntu Core 20 operating system
- Wireless and Non-Wireless model
- Refreshed branding clip
- Easy drop-in replacement/upgrade to iSMA-B-J8
- Supports all existing expansion modules (+remote IO)
- All connectors in same location and same orientation

ROADMAP OBJECTIVES

- Remote device management
- Edge computing platform
- Mobile management UI
- Machine learning capabilities (NPU)

NEW NIAGARA 4.13 DEPLOYMENT FEATURES

DEPLOYMENT
EASE /FLEXIBILITY



MULTI-TIERED SYSTEM DB



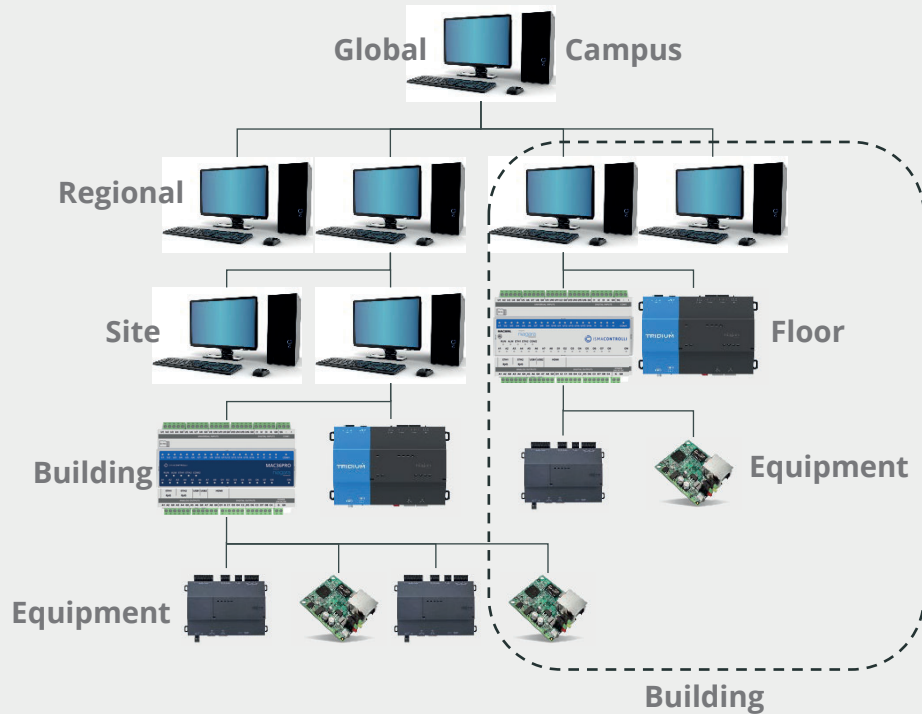
Niagara System Architecture
Flexes to Any Layout



Query Entire Niagara System From A
Single Database Location



Expedite UI Configuration Through
Hierarchies and Virtual Px Views



MULTI-TIERED SYSTEM DB

Expanded the functionality and benefits of Niagara's System Database and Indexing to support vast architecture layouts with:

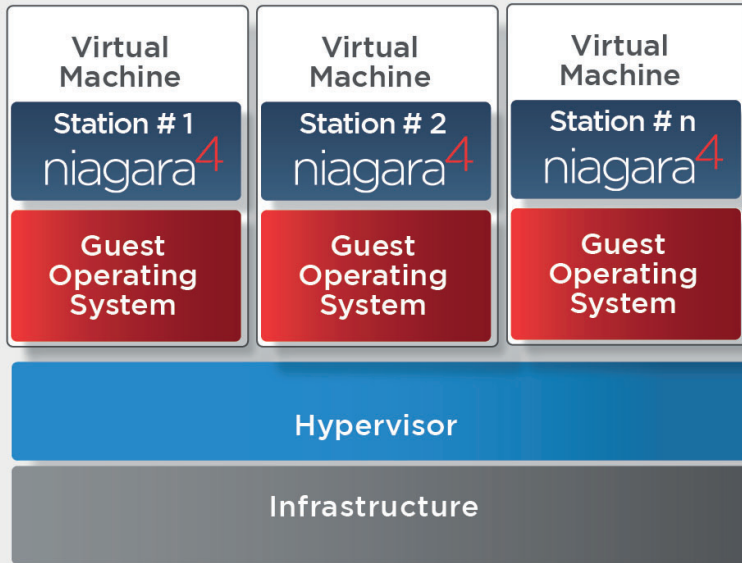


Niagara's System Database and Indexing establishes an entity data model to enable querying of the entire Niagara system from a single location

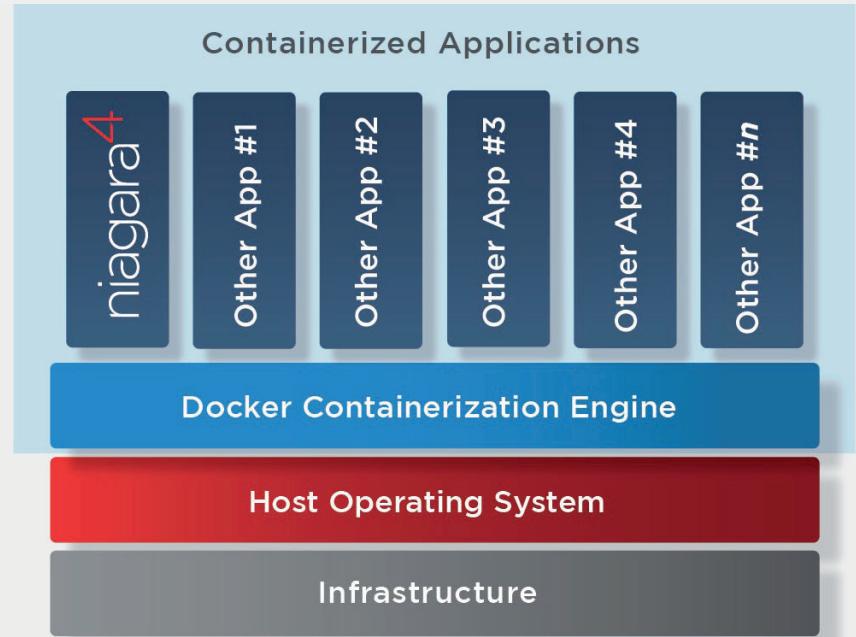
Design more intuitively. Design more efficiently!

CONTAINERIZED NIAGARA

Containers are less resource intensive and more portable than Virtual Machines. Can ease development, deployment and upgrades.



Formerly Popular for Virtualization



Now Popular for Virtualization

CONTAINERIZED NIAGARA

Subscription can be purchased for:

ON PREM

Supervisor deployment on a server device housed locally

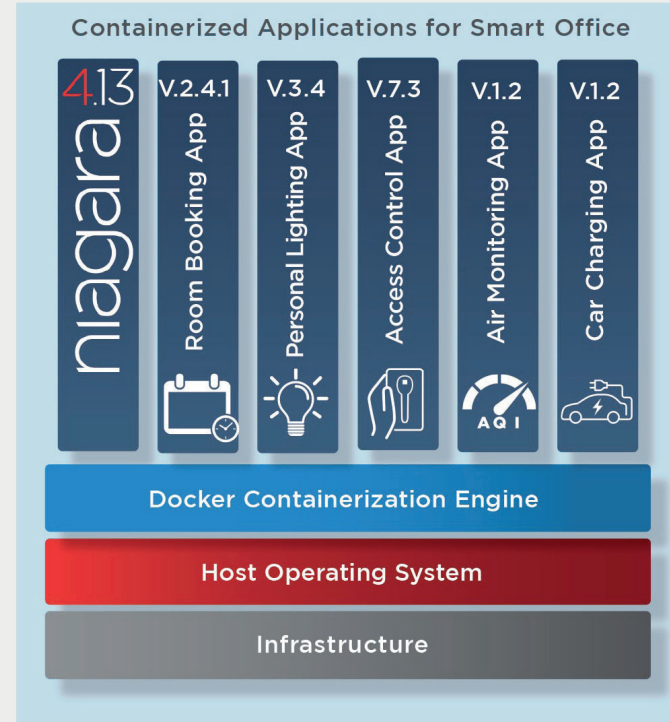
CLOUD

Supervisor deployment in a cloud service

PORTABLE

Embedded deployment whereby a Niagara development partner deploys Niagara containers on its own proprietary or a third-party commercial device or server – ‘Containerized Portable Niagara’ or CPN

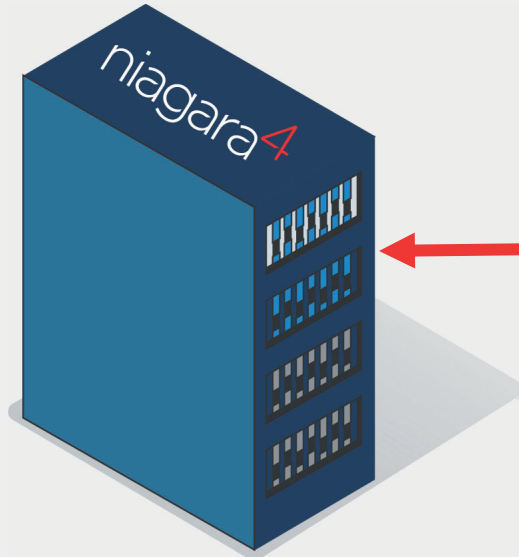
NOTE: A subscription Niagara instance will perform a system exit — that is, it will stop working — if subscription renewal is not paid.



Example deployment of Containerized Niagara on a partner-built mobile hub.

SUBSCRIPTION LICENSING

SaaS Subscriptions: Purchased using OPex rather than CAPex



More purchasing flexibility!



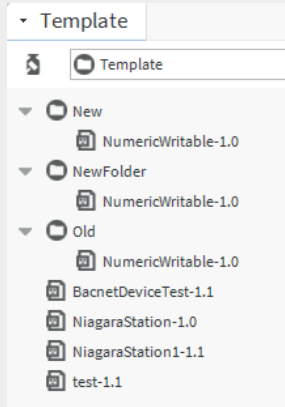
NOTE: A subscription Niagara instance will perform a system exit—that is, it will stop working—if subscription renewal is not paid.

EDGE TEMPLATE AND DEPLOYMENT TOOLS UPGRADES

Reducing time spent installing, commissioning and configuring multiple Niagara devices using Niagara Provisioning

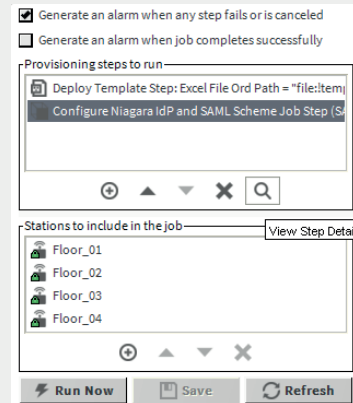
ORGANIZE

Allow users to keep a template library organized with the addition of sub-folders



BULK-DEPLOY

Template Enhancements for easier search and visualization



PROVISION

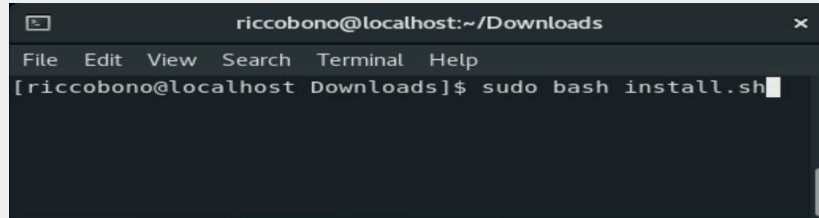
Edit and modify Job Steps before running a Provisioning Job

Key enhancements for NIAGARA-at-the-EDGE deployments!

SILENT INSTALL

UNATTENDED INSTALLER

Enabling *Silent Install* allows for automated installation of Niagara Framework via programming. This streamlines PC maintenance, automated testing, and bundling installations with additional applications.

A terminal window titled "riccobono@localhost:~/Downloads" with a menu bar (File, Edit, View, Search, Terminal, Help). The command prompt shows "[riccobono@localhost Downloads]\$ sudo bash install.sh" with a cursor at the end.

```
riccobono@localhost:~/Downloads
File Edit View Search Terminal Help
[riccobono@localhost Downloads]$ sudo bash install.sh
```

Run a Niagara installer for Windows or Linux without the need for user input

New properties file constructs installation choices prior to execution via the command line

NIAGARA

4.13

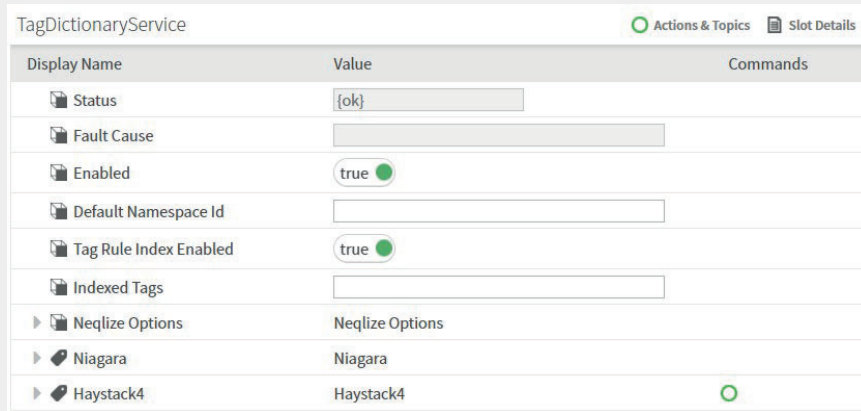
INDUSTRY COMPLIANCE



CERTIFICATIONS
& COMPLIANCE

HAYSTACK 4 SUPPORT

Haystack 4 encompasses a taxonomy and an ontology. Evolved to capture machine-readable relationships of things along with their contextual data



Display Name	Value	Commands
Status	{ok}	
Fault Cause		
Enabled	true	
Default Namespace Id		
Tag Rule Index Enabled	true	
Indexed Tags		
Neqlize Options	Neqlize Options	
Niagara	Niagara	
Haystack4	Haystack4	

Types Mapping Table

Haystack 4

- marker
- bool
- number
- int
- str
- coord
- scalar
- uri
- date
- dateTime
- time

niagara⁴

- BMarker
- BBoolean
- BDouble
- BInteger
- BString
- BString
- BString
- BString
- BString
- BAbsTime
- BAbsTime
- BAbsTime

HAYSTACK DICTIONARY

Aligns Niagara Tagging with the latest Haystack Tag Dictionary. Updatable in-place and without a module update from Tridium.

EASY MIGRATION

Haystack 4 items equivalent to the Haystack 3 versions are added during migration action.

SYSLOG INTEGRATION

Aligns to the IT
standard in
message
logging

Enables
consolidation to
a central
repository for
system
management

Meet IT System Administrator requirements for proper audit logging, monitoring, and detection

Display Name	Value
Platform Service Description	Syslog
Enabled	<input type="radio"/> false
Transport Protocol	Tcp
Server Host	localhost
Server Port	1514 [1 - 65535]
Message Type	Bsd
Client Alias	syslog
Platform Log Enabled	<input checked="" type="checkbox"/> true
Station Log Enabled	<input checked="" type="checkbox"/> true
Workbench Log Enabled	<input checked="" type="checkbox"/> true
Station Audit Enabled	<input checked="" type="checkbox"/> true
Security Audit Enabled	<input checked="" type="checkbox"/> true
Facility	Local0
Queue Size	1000
Log Level	Info
Station Server Status	{down}
Queue Full Percent Station	0.00 [0.00 - 100.00]
Niagarad Server Status	{down}
Queue Full Percent Niagarad	0.00 [0.00 - 100.00]
Syslog Server Connection Alarm Support	Platform Alarm Support

NIAGARA 4.13 VISUALIZATION



VISUALIZATION/
USER EXPERIENCE

HTML5 NIAGARA NETWORK STATION MANAGER VIEW

Eliminating a dependency on workbench removes logistical burdens and eliminates the 'module-and-version-dependency' guessing game.

Open a browser, login, and GO!

The screenshot displays the Niagara Network Station Manager interface. On the left is a navigation pane with a tree view containing items like Config, Services, Drivers, NiagaraNetwork, Apps, Folder, BooleanScheduleSelector, NumericWritable, EnumWritable, StatusEnumToEnum, Files, and Histories. The main area shows a 'Database' table with the following data:

Name	Exts	Address	Host Model	Version	Status	Health
Floor_01	[Icons]	ip:172.31.66.110	Workstation	4.12.0.116	{unackedAlarm}	Ok [07-Dec-22 10:41 AM EST]
alarm	[Icons]	ip:localhost	Workstation	4.13.0.103	{ok}	Ok [07-Dec-22 10:41 AM EST]

Three callout boxes are overlaid on the interface:

- Niagara Network Discovery and Database Panes** (Red box)
- Trace Descendants, Edit, Match and New Commands** (Blue box)
- Hyperlink to Certificate Manager** (Orange box)

At the bottom, a toolbar contains buttons for: New Folder, New, Edit, Discover, Cancel, Add, Match, and Certificate Manager.

NIAGARA ANALYTICS

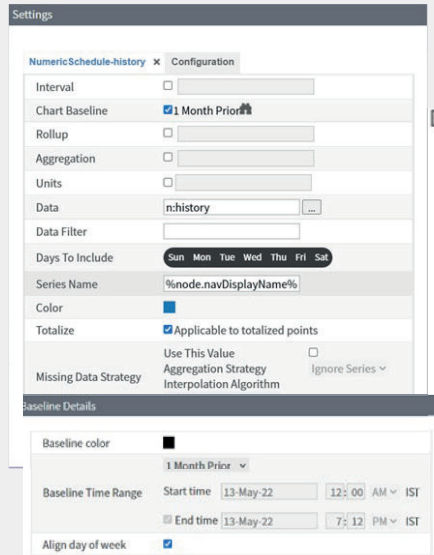
Make data-driven decisions by visualizing collected data on an Analytics Web Chart with an established baseline

Custom **BASELINING**

EASE-OF-USE Upgrades

HARDENING Measures

Updated documentation across the product to enable easier application design
Large collection of general hardening improvements & defect clean-up



Customize a web chart or dashboard by adding an additional time series to represent a baseline to a dataset



Configurable settings such as: node color, time-period, baseline time range, and align day of the week

NIAGARA 4.13 CONNECTIVITY & CLOUD



CONNECTIVITY
& CLOUD

AUTHENTICATION VIA EMAIL

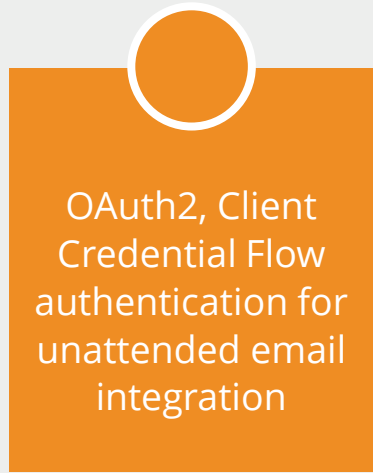
Maintain security posture using preferred authentication by major email providers: Microsoft (365/Exchange) and Gmail



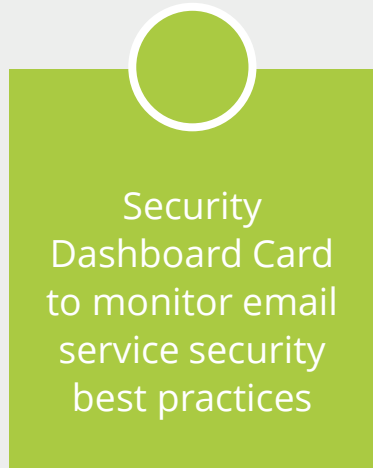
Used to send out reports, charts and alarms from a station through the smtp transport



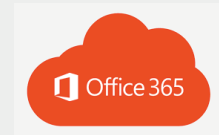
Used to receive alarm acknowledgements to a station through the pop3 or imap transport



OAuth2, Client Credential Flow authentication for unattended email integration



Security Dashboard Card to monitor email service security best practices



Gmail

VIDEO DRIVER FRAMEWORK

Improved how video live streams from industry standard cameras are integrated into Niagara.



HTML5 browser viewing enabled



Video can now display via Real Time Streaming Protocol (RTSP)



Added New Px Widgets to natively support Pan, Tilt, Zoom (PTZ) camera functions

ENTERPRISE SECURITY UPDATES

Optimized and streamlined the process of adding a new user to this Niagara-native physical security application

JOIN Process: Auto-Grouping; Auto-filling of Parameters; Optimized User Sync Manager

REPLICATION Process: Enhanced logging; job summary now displays

More feedback to the user when checking status of workflow and debugging

NIAGARA 4.13 CYBERSECURITY



CERTIFICATE MANAGEMENT SIMPLIFIED

Browser (HTML5 View) access without need for Workbench; useful to IT network admin persona

CertManagerService Certificate Management for "localhost"

Alias	Subject	Not After	Key Algorithm	Key Size	Valid
newtest	newtest	15-Nov-2024 9:16 AM EST	RSA	2048	true
sp_privatekeyandcert	sp	16-Aug-2023 11:42 AM EDT	RSA	2048	true
pm_cs	Product Management Code Signing	06-Oct-2024 1:16 PM EDT	RSA	2048	true
client	client	30-Nov-2023 9:37 PM EST	RSA	2048	true
iamaca	iamaca	30-Nov-2023 4:32 PM EST	RSA	2048	true
jace8cert	jace8Cert	03-Oct-2025 9:10 AM EDT	RSA	2048	true
testingopc	chris	15-Nov-2023 10:57 AM EST	RSA	2048	true
aliasca	commonname	20-May-2023 4:03 PM EDT	RSA	2048	true
chriscert	riccobono	31-Oct-2024 5:57 AM EDT	RSA	2048	true
iamaclient	iamaclient	30-Nov-2023 4:31 PM EST	RSA	2048	true
pm_ca	Product Management CA	06-May-2025 9:09 AM EDT	RSA	2048	true
iamaserverux	iamaserverux	30-Nov-2023 4:35 PM EST	RSA	2048	true
edge10cert	edge10Cert	03-Oct-2025 9:12 AM EDT	RSA	2048	true
tridium	Niagara4	13-Nov-2024 11:47 AM EST	RSA	2048	true
default	Niagara4	28-Sep-2023 1:51 PM EDT	RSA	2048	true

Generate Certificate

Generates a signed or self-signed certificate and inserts it into the key

General Attributes

Alias ? (required)

Distinguished Name (DN) ? Distinguished Name (DN)

Not Before ?

Not After ?

Key Algorithm RSA EC

Key Size ? 1024 bits 2048

Certificate Usage Server Client

Type

Key Usage ? Key Usage

The Distinguished Name (DN) uniquely identifies an entity in an X.509 certificate. It consists of a sequence of Relative Distinguished Names (RDNs) such as Common Name, Organization, State, etc... These are type/value pairs. The Common Name (CN) can describe any entity. For example, the CN in a client certificate may represent an individual user, but the CN in a server certificate may be the hostname of the server.

OK

The key usage extension defines the purpose (e.g., encipherment, signature, certificate signing) of the key contained in the certificate. This is used to restrict the usage of a certificates key only to permitted operations. For example, a key that should only be used for key management should have the keyEncipherment bit set.

OK

CONTEXT-SENSITIVE
Subject Descriptors

CERTIFICATE MANAGEMENT & HTML5 VIEW

Enhanced UI aids in the setup & configuration of certificates; similar to Security Dashboard

HTML5 INTERFACE

ELLIPTICAL-CURVE:
New Certificate Type

MORE EXTENSIONS:
Add 'A La Carte'



SAN: Supports a variety of identity types, including email, DNS name, directory name, uniform resource identifier (URI), IP address, registered ID





Generate Certificate

Generates a signed or self-signed certificate and inserts it into the key store

**Basic Constraints supports CAs or Entity*

General Attributes

Alias ?	<input type="text"/>	(required)
Distinguished Name (DN) ?	<input type="text" value="CN=, OU=, O=, L=, ST=, C="/>  	(required)
Not Before ?	<input type="text" value="08-Dec-2022"/> <input type="text" value="2:15"/> <input type="text" value="PM"/> <input type="text" value="EST"/>	
Not After ?	<input type="text" value="08-Dec-2023"/> <input type="text" value="2:15"/> <input type="text" value="PM"/> <input type="text" value="EST"/>	<i>Elliptic-Curve (EC) Certs feature smaller size and stronger keys</i>
Key Algorithm	<input checked="" type="radio"/> RSA <input type="radio"/> EC	
Key Size ?	<input type="radio"/> 1024 bits <input checked="" type="radio"/> 2048 bits <input type="radio"/> 3072 bits <input type="radio"/> 4096 bits	
Certificate Usage	<input checked="" type="radio"/> Server <input type="radio"/> Client <input type="radio"/> CA <input type="radio"/> Code Signing <input type="radio"/> Custom	

Type	Critical	Value
Key Usage ?	<input checked="" type="checkbox"/> true	Digital signature, Key encipherment   (required)
Subject Alternative Name ?	<input type="checkbox"/> false	DNS Name:  

Add Extensions: Key Usage, SAN, Extended Key Usage, Basic Constraints, CRL Distribution Points*

UPDATED OS & ENTERPRISE APPLICATIONS

Support Added for:

RHEL v9

**Ubuntu
22.04**

**Windows
Server
2022**

**VMWare
ESXI v7**

Thank you!