TRIDIUM

niagara 4.13

FEATURES OVERVIEW

AGENDA

01

JACE 9000

02

Deployment Upgrades

03

Compliance Upgrades

04

Visualization Upgrades

05

Connectivity Upgrades

06

Cyber Defense Upgrades

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JACE 9000

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 JACE-8000
- 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
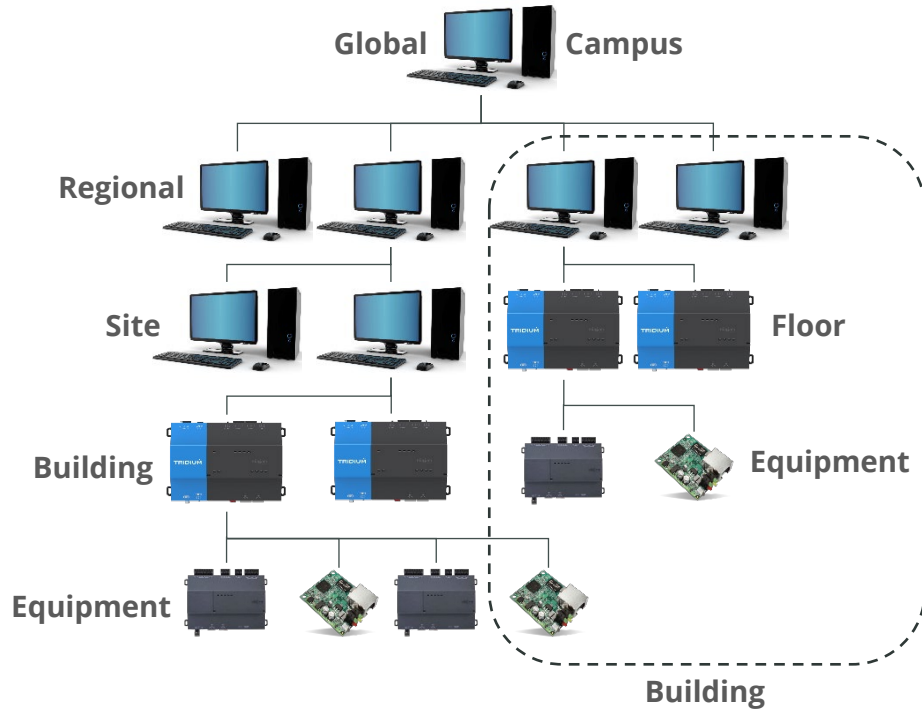
DEPLOYMENT EASE /FLEXIBILITY

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

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MULTI-TIERED SYSTEM DB

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

Reachable Stations

Multi-tiered Indexing

Multi-tiered Virtual Px

Niagara's System Database and Indexing establishes an entity data model to enable querying of the entire Niagara system from a single location
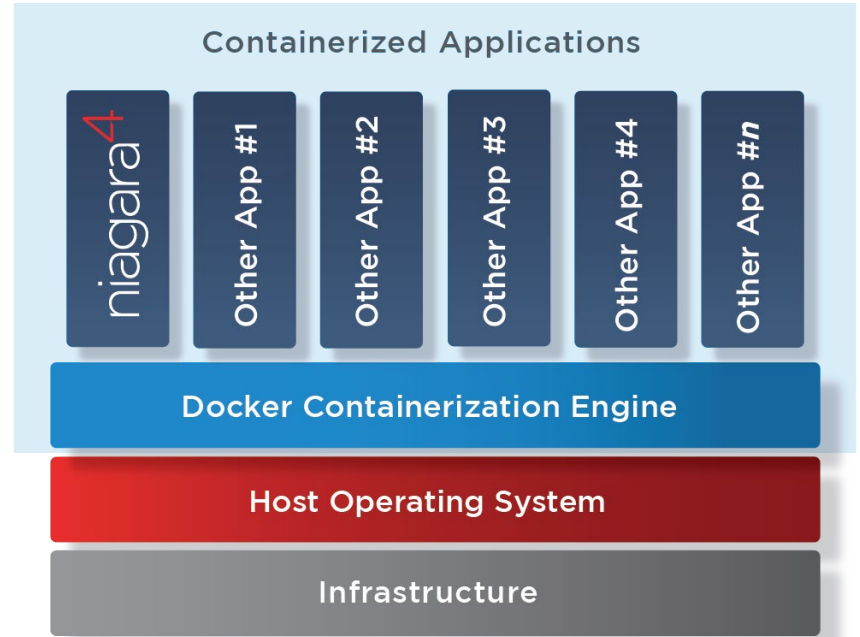
Design more intuitively. Design more efficiently!

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CONTAINERIZED NIAGARA

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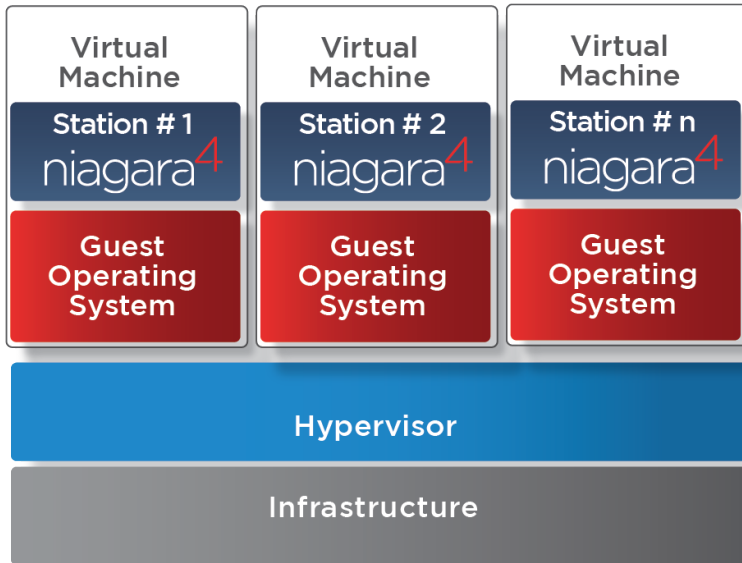
Formerly Popular for Virtualization

Now Popular for Virtualization

CONTAINERIZED NIAGARA

Subscription can be purchased for:

ON PREM

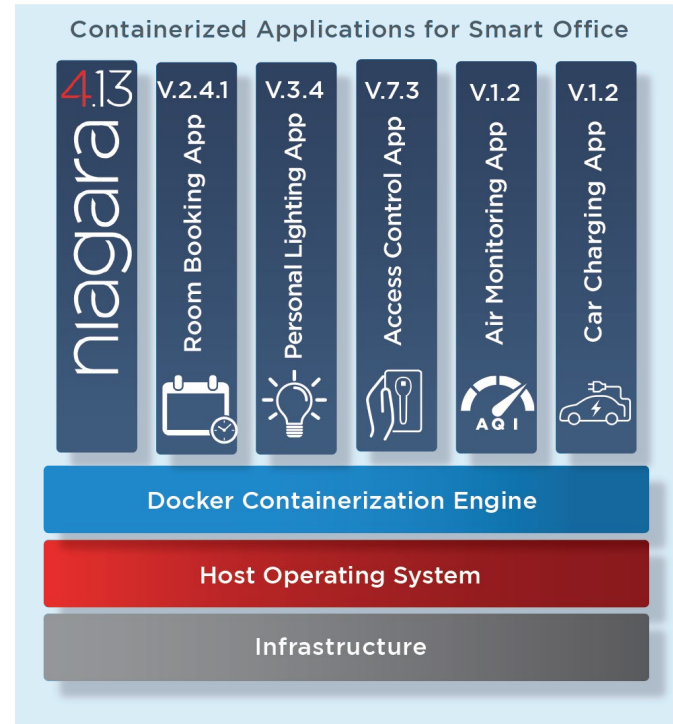Supervisor deployment on a server device housed locally

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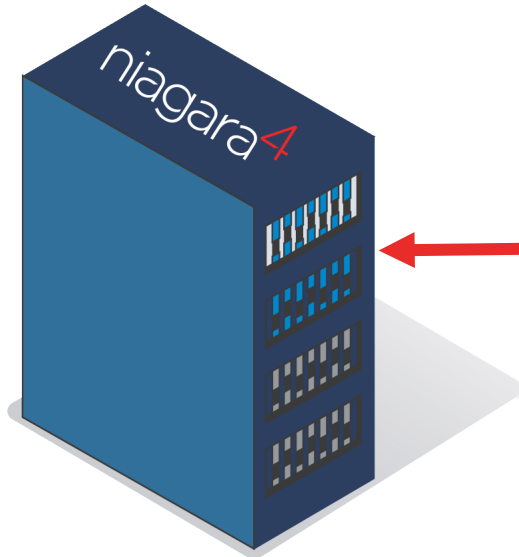
NOTE: A subscription Niagara instance will perform a system exit — that is, it will stop working — if subscription renewal is not paid.

Containerized Applications for Smart Office

niagara 4.13 | V.2.4.1 Room Booking App | V.3.4 Personal Lighting App | V.7.3 Access Control App | V.1.2 Air Monitoring App | V.1.2 Car Charging App

Docker Containerization Engine

Host Operating System

Infrastructure

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

SUBSCRIPTION LICENSING

SaaS Subscriptions: Purchased using OPex rather than CAPex

niagara 4

More purchasing flexibility!

niagara licensing

NOTE: A subscription Niagara instance will perform a system exit—that is, it will stop working—if subscription renewal is not paid.
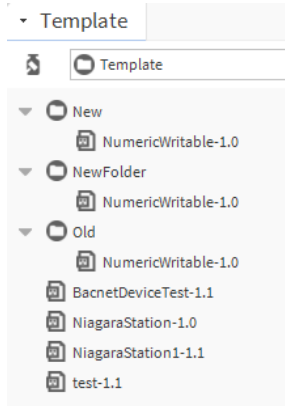
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EDGE TEMPLATE AND DEPLOYMENT TOOLS UPGRADES

Reducing time spent installing, commissioning and configuring multiple Niagara devices using Niagara Provisioning
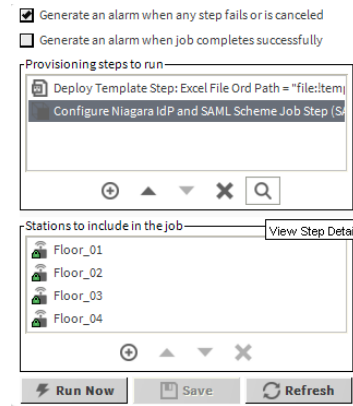
ORGANIZE
Allow users to keep a template library organized with the addition of sub-folders

BULK-DEPLOY
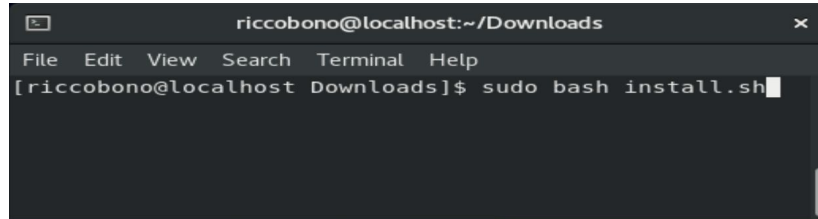Template Enhancements for easier search and visualization

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.


```
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

TagDictionaryService		○ Actions & Topics 📄 Slot Details
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	niagara⁴
● marker	● BMarker
● bool	● BBoolean
● number	● BDouble
● int	● BInteger
● str	● BString
● coord	● BString
● scalar	● BString
● uri	● BString
● date	● BAbsTime
● dateTime	● BAbsTime
● time	● 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.

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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

SyslogPlatformService

Display Name	Value
📄 Platform Service Description	Syslog
📓 Enabled	🔴 false
📓 Transport Protocol	Tcp ∨
📓 Server Host	localhost
📓 Server Port	1514 [1 - 65535]
📓 Message Type	Bsd ∨
📓 Client Alias	syslog
📓 Platform Log Enabled	true 🟢
📓 Station Log Enabled	true 🟢
📓 Workbench Log Enabled	true 🟢
📓 Station Audit Enabled	true 🟢
📓 Security Audit Enabled	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
▶ 🔔 Syslog Message Queue Alarm Support	Platform Alarm Support

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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!

Niagara Network Discovery and Database Panes

Trace Descendants, Edit, Match and New Commands

Hyperlink to Certificate Manager

NIAGARA ANALYTICS

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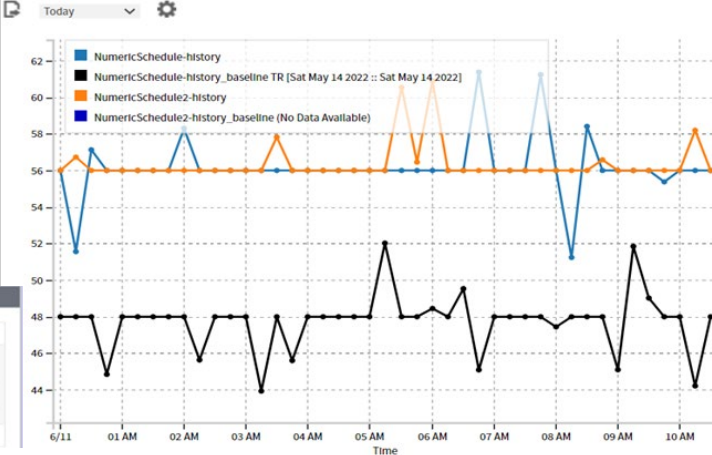
Custom **BASELINING**

EASE-OF-USE Upgrades

HARDENING Measures

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

Updated documentation across the product to enable easier application design

Large collection of general hardening improvements & defect clean-up

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

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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

OUTGOING ACCOUNTS

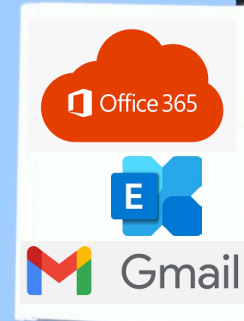Used to send out reports, charts and alarms from a station through the smtp transport

INCOMING ACCOUNTS

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

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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**

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NIAGARA 4.13
CYBERSECURITY

CYBER DEFENSE

CERTIFICATE MANAGEMENT SIMPLIFIED

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

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

General Attributes

Alias ⓘ	[ ] (required)
Distinguished Name (DN) ⓘ	CN=, OU=, O=, L=, ST=, C= ✏ 🕐 (required)
Not Before ⓘ	08-Dec-2022 2 : 15 PM ▾ EST
Not After ⓘ	08-Dec-2023 2 : 15 PM ▾ EST
Key Algorithm	◉ RSA ○ EC
Key Size ⓘ	○ 1024 bits ◉ 2048 bits ○ 3072 bits ○ 4096 bits
Certificate Usage	◉ Server ○ Client ○ CA ○ Code Signing ○ Custom

	Type	Critical	Value	
Extensions	Key Usage ⓘ	true 🟢	Digital signature, Key encipherment ✏ ✕ (required)
	Subject Alternative Name ⓘ	false 🔴	DNS Name: ✏ ✕
	⊕ Add Extension			

Elliptic-Curve (EC) Certs feature smaller size and stronger keys

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

*Basic Constraints supports CAs or Entity

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UPDATED OS & ENTERPRISE APPLICATIONS

Support Added for:

| RHEL v9 | Ubuntu 22.04 | Windows Server 2022 | VMWare ESXI v7 |

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Q&A

THANK YOU