TRIDIUM





Leveraging Niagara Cloud Suite

Kevin Mamajek Sales Engineering Manager Tridium, Inc.











TRIDIUM

~ D

Niagara Cloud Suite

Architecture Cloud Services





niagara Cloud Hybrid Edge/Cloud Approach

NCS Portal User Management Point History Graphs / API Keys

Backups

Remote Access

3rd Party Services

Backups

 \bigoplus

Remote Access to Niagara Station



LTS: 4.10.7.42 or Feature 4.13.2.18 and Active SMA

Storage

IoT Cloud Connections

Time Series Database

Customer Siloed

Outbound 443

HTTPS

Browser Remote Access





niagara **Deeper Look into the Subscriptions**

Cloud Connection and Authentication

NS/





Secure Device Certificates, easy Onboarding, encryption, Self Configuring



Functionality based on Niagara Core Version

LTS: 4.10.7.42 | Feature 4.13.2.18 | Active SMA

Portal Demo

What you can do from the Niagara Cloud Suite Portal









niagara community niagara marketplace

Check Your Mobile Device

Use Salesforce Authenticator to approve the request to Access Niagara Cloud Portal Idp.



Having Trouble?





NS2024 POWER OF PARTNERSHIP







NSB Systems Engineering

PROJECTS (2)

Q Search Project

All Projects

Mechanicsville, VA

Richmond, VA

Ø

ALL PROJECTS	Q Search	Sort by	
3 Results			
DEVICE/HOST ID	PROJECT/LOCATION	SUBSCRIBED SERVICE	
J8000H1 Qnx-TITAN-D534-51CF-9324-7ACD	Mechanicsville, VA Home Office	~ \$ @	:
J8blue Qnx-TITAN-6A40-B8CC-8BDF-EFE5	Richmond, VA Richmond Office	~ \$ @	:
VA51J8_2 Qnx-TITAN-5290-78F7-0BE5-618E	Richmond, VA VA51 Office	~ \$ @	:
Copyright © 2023 Tridium Inc. All Righ	nts Reserved.		

NS2024 POWER OF PARTNERSHIP

Niagara Cloud Suite



PROJECTS

NSB Systems Engineering

ROJECTS (2)	ALL PROJECTS	Q Search	Sort by	~
Q Search Project	3 Results			
All Projects	DEVICE/HOST ID	PROJECT/LOCATION	SUBSCRIBED SERVIC	E
Mechanicsville, VA Richmond, VA	J8000H1 Qnx-TITAN-D534-51CF-9324-7ACD	Mechanicsville, VA Home Office	~ \$ @	:
	J8blue Qnx-TITAN-6A40-B8CC-8BDF-EFE5	Richmond, VA Richmond Office	~ \$ @	:
	VA51J8_2 Qnx-TITAN-5290-78F7-0BE5-618E	Richmond, VA VA51 Office	~ \$ @	:
	Copyright © 2023 Tridium Inc. All Righ	ts Reserved.		



Niagara Data Services



PROJECTS

NSB Systems Engineering

OJECTS (2)	ALL PROJECTS	Q Search	Sort by	~
C Search Project	3 Results			
All Projects	DEVICE/HOST ID	PROJECT/LOCATION	SUBSCRIBED SERVICE	
Mechanicsville, VA Richmond, VA	J8000H1 Qnx-TITAN-D534-51CF-9324-7ACD	Mechanicsville, VA Home Office	~ \$ @	:
	J8blue Qnx-TITAN-6A40-B8CC-8BDF-EFE5	Richmond, VA Richmond Office	~ \$ @	:
	VA51J8_2 Qnx-TITAN-5290-78F7-0BE5-618E	Richmond, VA VA51 Office	~ \$ @	:
	Copyright © 2023 Tridium Inc. All Righ	ts Reserved.		



Niagara Recover



NSB Systems Engineering

PROJECTS (2)

Q Search Project

All Projects

Mechanicsville, VA

Richmond, VA

3 Results			
DEVICE/HOST ID	PROJECT/LOCATION	SUBSCRIBED SERVICE	
J8000H1	Mechanicsville, VA	~ ~ ~	:
Qnx-TITAN-D534-51CF-9324-7ACD	Home Office		
J8blue	Richmond, VA		:
Qnx-TITAN-6A40-B8CC-8BDF-EFE5	Richmond Office		:
VA51J8_2	Richmond, VA		
Qnx-TITAN-5290-78F7-0BE5-618E	VA51 Office	~ \$:



Niagara Remote

Onboarding

Registering The Cloud Service for the First Time





▲ ► ■ ■ • ■ ★ C № ■ ■ • ■ ■ ■ ■ ■ ■ ■ ■ ★ ★ ★ ★ ★ ★ ★

172.31.66.93 (J9000) : Platfor

• Nav	Software Manager	pplication Director			×
🖸 🙌 🔿 🔀 🔇 My Network	Current free space 4,62	4,672 KB To be install e	d 0 KB Estimated fre	ee space after install 4,624,672 KB	
MyPC Home Office Office NCSdemo 172.31.66.93 (J9000) Platform Application Director Certificate Management Distribution File Installer File Transfer Client	File clientCertAuth-wb cloudBackup-rt cloudBackup-ux cloudBackup-wb cloudConfig-rt cloudConnector-rt cloudIotHubConnector-rt cloudIotHubDep-rt	Installed Version	Avail. Version Tridium 4.13.2.18 Tridium 4.13.2.18 Tridium 4.13.2.18 Tridium 4.13.2.18 Tridium 2022.13.2.18 Tridium 2022.13.2.18 Tridium 2022.13.2.18 Tridium 2022.13.2.18	Not Installed Not Installed Not Installed Not Installed Not Installed Not Installed Not Installed Not Installed Not Installed Not Installed	
 Lexicon Installer License Manager Platform Administration Software Manager Station Copier TCP/IP Configuration Remote File System Station (J9000) 	cloudLink-rt cloudLinkAzure-rt cloudLinkForge-rt cloudLinkForge-ux cloudLinkInternal-rt cloudLinkInternal-rt cloudSentienceConnector-rt cloudSentienceConnector-ux	- - - - - - - - - - - - - -	 Tridium 4.13.2.20 Tridium 4.13.2.20 Tridium 4.13.2.20 Tridium 4.13.2.20 Tridium 4.13.2.20 Tridium 4.13.2.18 Tridium 4.13.2.20 Tridium 4.13.2.18 Tridium 4.13.2.20 Tridium 4.13.2.20 Tridium 4.13.2.18 Tridium 4.13.2.20 	Not Installed	
• Palette	clUtils-rt	-	Tridium 4.13.2.20	Not Installed	
🖿 🗶 🔊 🛔 cloudLinkNcs 🔽	clUtilsBacnet-rt	-	Tridium 4.13.2.20	Not Installed	
CloudConnectionService	commonsCompress-rt commonslo-rt	-	 Tridium 4.13.2.20 Tridium 4.13.2.18 Tridium 4.13.2.18 	Not installed Not installed	÷
▪ Palette		Upgrade All Out of Dat	e Rebuild Module Signatu	Import - Install Uninstall Reset Commit	

🖌 🛛 Software Manager 👻

TRIDIUÂ

File Edit Search Bookmarks Tools Window Help	
172.31.66.93 (J9000) : Station (J9000)	n Summary 👻
 Nav Station (J9000) 	6 objects
🖸 🚹 🔿 🐹 🎽 Static - Name Description	₽
Alarm Alarm Alarm Database	
Config Config The station configuration database	
Services Eles File System accessed over Fox session	
Diagnostics information for remote VM	
Image: Hierarchy Hierarchy views of remote station	
Diagnostics Mistory History database	
 I n tCountdown Files 	_
Summary Properties	1 objects
Property Value	₽
Station Name J9000	A
Host /172.31.66.93	
Palette Host Model ATLAS	
Host Model Version 0.0.1	- 11
Host Product JACE-9000	- 11
Host Id ATLAS-SD-C0AA-CD4B-19D7-E129	
Niagara Version 4.13.2.18	
Java Version OpenJDK 64-Bit Server VM 25.392-b08	
OS Version aarch64 Linux 5.4.0-1041-shiner	

TRIDIUÂ



Action : Start Registration

FederatedIdentityAuthen	ticator (Federated Identity Authenticator)
Status	{ok}
Fault Cause	
🗎 Enabled	🕒 true 🔍
🗎 Authenticator Id	FederatedIdentity
🗎 System Id	
📔 Registration State	Unregistered
Authentication State	Unauthenticated
📔 User Code	
📔 User Registration Url	
Code Expiration	
🗎 Host Id	ATLAS-SD-C0AA-CD4B-19D7-E129
🛛 🚺 Alarm Source Info	Alarm Source Info
🗎 Status Message	



- 1. Copy the User code and recreate the URL
- 2. Copy the URL and Paste into Browser of choice
- Push the Play button. Remember you will need to have whitelisted <u>www.niagara-cloud.com</u>, remove the # from system.properties

Action : Start Registration

Property Sheet	
FederatedIdentityAuthentic	ator (Federated Identity Authenticator)
🗎 Status	{ok}
Fault Cause	
🗎 Enabled	🔵 true 🤍
authenticator Id	FederatedIdentity
System Id	
📔 Registration State	Unregistered
Authentication State	Unauthenticated
📔 User Code	RPY3N
User Registration Url	https://www.niagara-cloud.com/registerdevice?regcode=RPY3N
Code Expiration	06-Feb-2024 03:38 PM EDT
🗎 Host Id	ATLAS-SD-C0AA-CD4B-19D7-E129
Alarm Source Info	Alarm Source Info
📔 Status Message	



Regist	er new devi	ice		
Registr KDKX3	ation Code		Device Name VA51_J9000	
Licen	se			
1 Result				
	LICENSE ID	CUSTOMER N/	FEATURES	ACTIONS
Project	Name		Location	
Selec	t an option		Location	ncel Done

Although the License seams like it could have multiple Licenses for this hostID, only one will appear at this time.

Actions take you to the License on the community site

TRIDIUÂ

After Authentication and Project placement is finished, you can then observe the Cloud Connector begin to Configure based on the Subscriptions Purchased.

Note Registered and it receives its unique System Id Image:	- 81
Iote Registered and it eccives its unique System Id	- 81
Iote Registered and it eccives its unique System Id User Code User Registration Url User Registration Url Discrossion User Registration Url Discrossion Di	- 81
Inote Registered and it Image: System Id Image: System Id <t< td=""><td>- 8</td></t<>	- 8
ote Registered and it System Id System Id Registration State Registration State Authenticated User Code RPY3N User Registration Url https://www.niagara-cloud.com/registerdevice?regcode=RPY3N Code Expiration 06-Feb-2024 03:38 PM EDT	- 8
ote Registered and it System Id 3fb0f4be-1668-410e-9f38-6092b877b4a0 ceives its unique System Id Registration State Registered Authentication State Unauthenticated User Code RPY3N User Registration Url https://www.niagara-cloud.com/registerdevice?regcode=RPY3N Code Expiration 06-Feb-2024 03:38 PM EDT	
Registration State Registration State Authentication State Unauthenticated User Code RPY3N User Registration Url https://www.niagara-cloud.com/registerdevice?regcode=RPY3N Code Expiration 06-Feb-2024 03:38 PM EDT	
Authentication State User Code RPY3N User Registration Url https://www.niagara-cloud.com/registerdevice?regcode=RPY3N Code Expiration 06-Feb-2024 03:38 PM EDT	
User Code RPY3N User Registration Url https://www.niagara-cloud.com/registerdevice?regcode=RPY3N Code Expiration 06-Feb-2024 03:38 PM EDT	
User Registration Url https://www.niagara-cloud.com/registerdevice?regcode=RPY3N > Code Expiration 06-Feb-2024 03:38 PM EDT	
Code Expiration 06-Feb-2024 03:38 PM EDT	
	- 8
Host Id ATLAS-SD-C0AA-CD4B-19D7-E129	- 1
Alarm Source Info Alarm Source Info	- 1
Status Message	

Certificate Info		
fedid_3fb0f4be	- 1668-410e-9f38-6092b877b4a0 tificate 3fb0f4be-1668-410e-9f38-6092b877b4a0	
Table View ASN.1 View	v PEM View	
Properties:		
Alias	fedid_3fb0f4be-1668-410e-9f38-6092b877b4a0	
Version	v3	
Serial Number	00 ff 9d c6 ee bb 4b d5 8c 3f 34 bc b5 12 7d ce d5	
Issued By	Staging - Rolling Intermediate CA	
Issuer DN	O=Niagara Framework, CN=Staging - Rolling Intermediate CA	
Subject	3fb0f4be-1668-410e-9f38-6092b877b4a0	
Subject DN	CN=3fb0f4be-1668-410e-9f38-6092b877b4a0	
Not Before	Wed Mar 06 10:23:26 EST 2024	cator (Federated Identity Authenticator)
Not After	Tue Jun 04 11:28:26 EDT 2024	{ok}
Key Algorithm	RSA	
Key Size	2048	
Signature Algorithm	SHA256WITHRSA	true V
Signature Size	512	FederatedIdentity
Basic Constraints	Subject Type: End Entity	3fb0f4be-1668-410e-9f38-6092b877b4a0
Key Usage	digitalSignature	Registered
Extended Key Usage	TLS Web Client Authentication (1.3.6.1.5.5.7.3.2)	
▲	►	Authenticated
	OK	RPY3N
		https://www.niagara-cloud.com/registerdevice?regcode=RPY3N 📄 🗸 🕨
	Code Expiration	06-Feb-2024 03:38 PM EDT
	Host Id	ATLAS-SD-C0AA-CD4B-19D7-E129
	Alarm Source Info	Alarm Source Info
	Status Message	
		TRIDIU

Property Sheet

CloudConr	ectionServiceSTG (Cloud Connection Service)	
🗎 Status		{ok}	
📔 Fault C	ause		
📄 Enable	ł	🔵 true 🔍	
SMA Ex	piration Monitor	S M A Expiration Monitor	
Cloud	d Manager	Cloud Id Manager	
🔻 🔍 Auther	ticators	Client Authenticators Folder	
🕨 🔦 Fed	eratedIdentityAuthe	enticator Federated Identity Authenticator	
💌 🏘 Transp	orts	Transports Folder	
🕨 🦊 НТТ	P Transport	Http Transport	
💌 🖻 Channe	ls	Client Channels Folder	Descus
🕨 🔒 Mes	saging Messaging	Channel	Recover
🕨 🏵 Bac	up Backup Ch	nannel	
🕨 🎔 Hea	rtbeat Heartbeat	Channel	
Property Sh	et		
CloudConr	ectionServiceSTG ((Cloud Connection Service)	
Status	,	{ok}	
Fault C	ause		
Enable	ł	🔵 true 🔽	
SMA Ex	viration Monitor	S M A Expiration Monitor	
Cloud I	d Manager	Cloud Id Manager	
- 🔍 Auther	ticators	Client Authenticators Folder	
🕨 🔍 Fed	eratedIdentityAuthe	enticator Federated Identity Authenticator	
🔻 🧤 Transp	orts	Transports Folder	
🕨 🦊 НТТ	P Transport	Http Transport	
🕨 🦊 Nia	ara Remote Transp	ort Niagara Remote Transport	Domoto
Channe	ls	Client Channels Folder	Remote
🕨 🔒 Mes	saging Messaging	Channel	
🕨 🎔 Hea	rtbeat Heartbeat	Channel	

The Cloud will configure the service depending on the subscriptions purchased

Property Sheet

h	Clo	udConnectionSe	erviceSTG (Cl	oud Con	nection Ser	vice)		
	Ð	Status		{ok}				
	Ţ	Fault Cause						
	Ð	Enabled		🔵 true	-			
Þ	모	SMA Expiration I	Monitor	S M A Exp	iration Mor	nitor		
Þ		Cloud Id Manag	er	Cloud Id	Manager			
Ŧ	٩	Authenticators		Client Au	thenticator	s Folder		
	Þ.	FederatedId	entityAuther	ticator	Federated	l Identity Au	thenticator	
-	Ψψ	Transports		Transpor	rts Folder			
	₽	🖶 HTTP Transp	port	Http	o Transport			
[Þ	🐈 Niagara Rem	ote Transpo	rt Niag	gara Remote	e Transport		
Ŧ	E	Channels		Client Ch	annels Folo	ler		Remote
_	₽	🔒 Messaging	Messaging (Channel				Recover
C	•	🕑 Backup	Backup Cha	nnel				Recover
	•	Heartbeat	Heartbeat O	hannel				

Cloud Connection Service with All Subscriptions present

Pr	op	erty Sheet					
-	Clo	oudConnectionS	erviceSTG (Cloud Con	nection Serv	vice)	
	Ţ	Status		{ok}			
	Ţ	Fault Cause					
	Ţ	Enabled		🔵 true	-		
Þ	Ļ	SMA Expiration	Monitor	S M A Exp	iration Moni	itor	
₽		Cloud Id Mana	ger	Cloud Id	Manager		
•	٩	Authenticators	5	Client Au	thenticators	Folder	
	₽	🔍 Federatedi	dentityAuthe	nticator	Federated	Identity Authen	ticator
	₽	🔍 RpkAuthen	ticator		Rpk Authe	nticator	
-	Ψų	Transports		Transpor	ts Folder		
_	₽	🜵 HTTP Trans	sport	Http	Transport		
Г		🔶 AMQP Tran	sport	Amo	p Transport	t	
L	₽	🐈 Niagara Rer	mote Transp	ort Niag	ara Remote	Transport	
Ŧ	븝	Channels		Client Ch	annels Fold	er	
	►	🔒 Messaging	Messaging	Channel			NDS
	₽	🕑 Backup	Backup Ch	annel			Remote
	Þ	🆤 Heartbeat	Heartbeat	Channel			Remote
ſ	₽	A History	Histories C	hannel			Recover
L	₽	L. Model	Model Cha	nnel			

If on N4.13 the Cloud Connection Service will Automatically configure the Archive History Provider

Property Sheet	
HistoryService (History Service)	
🛛 🖪 Archive History Providers 🛛 Archi	ive History Providers
EloudArchiveHistoryProvider	Cloud Archive History Provider
🗎 Status	{ok}
Enabled	🔵 true 🕞
Fault Cause	
🕥 Max Archive Results Per Qu	Jery 5000 [1 - max]
Archive Limit Notifications	Notify Once Per Query Range Per Session
Cloud Connection Service	station: h:bc66
🔻 َ History Archive Cache	History Archive Cache
Max Record Count 12	2000 [1 - max]
Time To Live	001h 00m 00s 📲 [15 minutes - +inf]
History Groupings Histor	ory Groupings

Cloud Id Manager

This creates the Model for the JACE or Supervisor and Prepares it to send via the Model Channel





TagDictic Niag	onaryService gara			the Statio and map t	
Property Sheet					
CloudConnectionService (Cloud Connection Service)					
🗎 Status		{ok}			
Fault Cause					
Enabled		true	-		
Platform Typ	e	NCS			
SMA Expirati	on Monitor	S M A Ex	piration M	onitor	
Cloud Id Mar	nager	Cloud Ic	l Manager		
 Authenticato 	ors	Client A	uthenticat	ors Folder	
🕨 🔦 RpkAuthe	nticator		Rpk Auth	enticator	
Federated	IldentityAuthe	nticator	Federate	d Identity Authenticator	
🔻 🏘 Transports		Transpo	orts Folder		
# HTTP Trail	nsport	Http	Transpor	t	
# AMQP Tra	# AMQP Transport		p Transpo	ort	
🕨 🦊 Niagara R	emote Transp	ort Niag	gara Remo	te Transport	
🔻 🖪 Channels		Client C	hannels Fo	older	
🕨 🔒 Messaging	g Messaging	Channel			
Heartbeat	Heartbeat Heartbeat				
Model	Model Cha	nnel			
Histories	Histories C	hannel			
Backup	Backup Backup Ch				

The Cloud Id Manager when Invoked will work through the Station, tagging each object with a unique CloudId, and map the History with a telemetryId.

ticator are the workhorse on modeling the Drivers

uld anticipate clUtilsLon-rt, Maybe clUtilsNiro-rt

Tridium 4.13.2.20

TRIDIUÂ

Looking at the tags with Tag Manager

Points slot Image: Construct of the state of the	Selected Components Name Drivers NiagaraNetwork BacnetNetwork VTR830xAxxx-2	 Available Tags Loca slot: slot: slot: slot: slot: a 	Niagara Cloud ~ M Tag Tags cloudId dataType driverPointId	Tag Manager Show All ~ Tag Type String String Marker
Showing tags on: RoomTemperature Direct Implied 54 objects Tag Id Tag Name Value hs:id id h:a955 h4:phenomenon phenomenon Marker h4:cur cur Marker h4:kind kind Number h4:air air Marker n:ordInSession ordInSession station: h:a955 nc:driverPointId driverPointId analogValue:100.Present Value1	 Points LocalMotion RoomTemperature 	slot: 🔗	excluded telemetryId	Marker String
		Showing tags on: Tag Id Showing tags on: Tag Id Showing tags on: Associated on the second of th	RoomTemperature Tag Name id id enon phenomeno cur kind air on ordInSession ntId driverPoin	☑ Direct ☑ Implied 54 objects Value h:a955 on Marker Number Ø Marker on station:\h:a955 tld analogValue:100.Present Value1

1

Hierarchy based on nc:cloudId



Property Sheet	
CloudWithParents (Hierarchy)	
📔 Query Context	» • ·
🕤 Status	{ok}
📔 Fault Cause	
Scope	Hierarchy Scope Container
🕨 🧬 Tags	Hierarchy Tags
📔 Cache Status	Not Cached
Cache Creation Time	null
Cache On Station Started	🛑 false 🔽
🕶 🛏 firstLevel	Query Level Def: Inc:cloudId and n:child
Query Context	» •
Query	<pre>!nc:cloudId and n:child->nc:cloudId</pre>
📔 Include Grouping Queri	es 💽 true 🔽
Sort	Ascending 🗸
💌 🛏 children	Relation Level Def: out: n:child; filter: nc:‹
Query Context	» • ·
📔 Inbound Relation Ids	
Outbound Relation Ids	n:child
Filter Expression	nc:cloudId
Repeat Relation	🔵 true 🔽
📔 Caching Repeat Limit	5 [1 - max]
Sort	Ascending 🗸

TRIDIUM

Modeler

Uploads model created by Cloud Id Manager







The Model Channel is used to upload the Model to the Niagara Cloud The **Cloud Id Manager** will **automatically** send the model if it finds changes in the station.

Action : Execute

L Mo	del (Model Channe	el)					
Ģ	Status	{ok}					
Ū,	Fault Cause						
Q	Enabled	🔵 true 🚽					
Ū,	Channel Type	Model					
- 6	Channel Config	Model Channe	l Config: H	TTP			
•	Http Transport		Transpor	t Config			
	📔 Upload Model Files		🔵 true	•			
	Delete Model Files		🛑 false 🔍				
	Model File Upl	oad Timeout	00000h	15m 00s 🚆 [15	minutes - 1	Lhour]	
- 🗋	Policies	Model Export	Policy Con	tainer			

TRIDIUM

What does the Model look like?

Using the Model Niagara Data Service API





```
"systemGuid" : "6cf676bc-94a6-479c-a0e4-d6c0c10fbc09",
"cloudId": "c8ea6ef9-44b8-44ee-9094-ceb23fb1bbc1".
"name": "WindStrengthMPH",
"tags" : [ {
"tagld" : "n:units",
 "tagValue" : "mph"
 "tagld" : "n:name",
 "tagValue" : "WindStrengthMPH"
 "tagId" : "n:displayName",
 "tagValue" : "WindStrengthMPH"
 "tagld" : "n:type",
 "tagValue" : "control:NumericWritable"
 "tagId" : "n:ordInSession",
 "tagValue" : "station: | h:7704"
 "tagld" : "n:station",
 "tagValue" : "VAH01KM"
 "tagId" : "n:point",
 "tagValue" : "Marker"
"tagld" : "n:history",
 "tagValue" : "/VAH01KM/module2wind WindStrengthMPH"
```

```
"tagId" : "a:a",
"tagValue" : "M"
"tagId" : "nc:cloudId",
 "tagValue" : "c8ea6ef9-44b8-44ee-9094-ceb23fb1bbc1"
"tagld" : "nc:telemetryld",
 "tagValue" : "97799084-5456-4432-9cb3-44e9c1c059ff"
"relations" : [ {
"inbound" : true
"rld" : "n:parent",
 "cld" : "a6ade4ad-54d5-4d77-b6cf-a441f438631a"
"inbound" : false,
"rld": "n:child",
 "cld": "a6ade4ad-54d5-4d77-b6cf-a441f438631a"
```

TRIDIUÂ

History Selection

Auto vs Manual Selection of Histories to send to Niagara Data Service




		Onboarding M	ode: 🦲 Comp	lete. Exports allowed.)	\backslash
		State:	Normal of	peration		1	
		Backfill Status:	A backtil.	was not needed on 2024-02-05113:34:22.645-05:00.			- \
		Discovered				16 objects	
		Histories		Assigned Cloud History Export Config	Auto Cloud History	Export Config	
	/	→ a J9000		Absolute cloud motory Export coming	nato cioda motory	Export comig	-
		▶ ▲AuditHisto	ory	MySpecialExport	excluded		
		LightSenso	rLevel		included		
	_ / _	▶ ▲LocalMotion	1		included		
		▶ ▲LogHistory			included		
	/				included		-
	Data	base				2 objects	-
		Name	Enabled	Execution Time	Last Success	Last Failure	Last
	,	Auto Export	true	15 minutes {Sun Mon Tue Wed Thu Fri Sat}	06-Feb-24 9:50 AM EST	01-Feb-24 4:00 AM E	.ST
	M	lySpecialExport	true	2:00 AM {Sun Mon Tue Wed Thu Fri Sat}	null	null	
	_	-			-		
	6		💉 Edit	Discover >> Excl	ude 🛛 🕞 Includ		ute
_							
				N	iagara Versio Ec	lipse Totality	

👻 🔺 History			nvoke Action · Activate Channel			
🕨 🍞 Channe	el Config	······································	Noke Action : Activate channel			
💌 🍞 Exports	5					
Ret	try Trigger					
Aut	to Export					
Mv	SpecialExpor Onboarding N	1ode: 🔴 Comp	lete. Exports allowed.		1	
Model	State:	Normal o	peration			
La Model	Backfill Status:	A backfil	l was not needed on 2024-02-05T13:34:22.645-05:00.			
	Discovered				16 objects 💌	
	Histories		Assigned Cloud History Export Config	Auto Cloud History	Export Config	
	√ a J9000					-
	▶ ▲AuditHist	ory	MySpecialExport	included		
	LightSense	orLevel		included		
	LocalMotio	n		included		
	▶ ▲LogHistory			included		
/ -	► ▲OAT			included		-
1	Database				2 objects	
	Name	Enabled	Execution Time	Last Success	Last Failure	Last
	Auto Export	true	15 minutes {Sun Mon Tue Wed Thu Fri Sat}	06-Feb-24 9:50 AM EST	01-Feb-24 4:00 AM E	ST
	MySpecialExport	true	2:00 AM {Sun Mon Tue Wed Thu Fri Sat}	null	null	
-	D New	Edit	Discover			,
1	Let New	eun	Discover			
						TRIDIU



Direct tag

Point is not included in the model

Suppresses the point from being displayed in the cloud Portal Suppresses the point history from being uploaded to the Cloud



Direct tag

Nc:excluded Implied tag (ancestor rule)



API an Cloud Portal Users

From API's to what the actual users can see / do





NIAGAR Home	A CLOUD ×	≡ cloud Users and Roles			۲
Saved Rep Users & Rol	orts >	ALL USERS			Q @trid
		1-15 of 19 NAME	EMAIL	↓ USER TYPE	↓ SCOPE
		Amod Kamat	amod.kamat+nsbse@tridium.com	Customer	NSB Systems Engineerin
		Christian Ortolf	christian.ortolf@tridium.com	Partner	
		Craig Smart Buildings Gemmil	craig.gemmill+nsb@tridium.com	Partner	All Customers
		Dominik Zuehlke	dominik.zuehlke+nsbadmin@tridium.com	Partner	
		lerome Bergquist	jerome.bergquist+nsbse@tridium.com	Customer	NSB Systems Engineerin
	Jo	Bailey	jbailey@tridium.com	Partner	
VIVACY & TERMS	Kev	vin Mamajek	kevin.mamajek+nsbse@tridium.com	Customer	NSB Systems Engineerir
Privacy Choices 🕢					
cy Statement Notice			< 1 2	>	Go to Page
			Copyright © 2023 Tridium In	nc. All Rights Reserved.	

TRIDIUÂ

CUSTOMER ACCESS Overall Customer Access You Can Assign A Role Directly To This User At Customer Level.	Custom ~
PROJECTS AND DEVICES ACCESS ①	+ Add New Role Save changes
Role User ~	Delete Role
All Projects	
Navarre, FL (0/1 Device)	~
London, UK (0/1 Device)	~
Mechanicsville, VA (1/1 Device)	~
Richmond, VA (2/2 Devices)	~
ACME Tomato, NC (0/2 Devices)	\checkmark
Offenbach DE (0/0 Devices)	~

TRIDIUM

CUSTOMER ACCESS Overall Customer Access You Can Assign A Role Directly To This User At Customer Level.	Custom ~
PROJECTS AND DEVICES ACCESS ③	+ Add New Role Save changes
Role Niagara Remote V	Delete Role
All Projects	
Navarre, FL (0/1 Device)	~
London, UK (0/1 Device)	~
Mechanicsville, VA (1/1 Device)	~
Richmond, VA (0/2 Devices)	~
ACME Tomato, NC (0/2 Devices)	\sim
Offenbach, DF (0/0 Devices)	~

CUSTOMER ACCESS Overall Customer Access You Can Assign A Role Directly To This User At Customer Level.	Custom ~
PROJECTS AND DEVICES ACCESS ③	+ Add New Role Save changes
Role Admin ~	Delete Role
All Projects	
Navarre, FL (0/1 Device)	~
London, UK (0/1 Device)	~
Mechanicsville, VA (1/1 Device)	~
Richmond, VA (2/2 Devices)	~
ACME Tomato, NC (0/2 Devices)	~
Offenbach DE (0/0 Devices)	~

API Demo

Example dashboard built in Grafana





Egress API

Getting historical data out







"time": "2024-04-08T14:30:00.005Z",

"value": 64.5,

"properties": "{trendFlags.outOfOrder=false, status.overridden=false, status.fault=false, status.ok=true, trendFlags.modified=false, status.null=false, status.unackedAlarm=false, status.disabled=false, trendFlags.interpolated=false, trendFlags.hidden=false, status.alarm=false, status.stale=false, status.down=false, trendFlags=0, trendFlags.start=false, status=0}"



JACE Status

H8000H1

HOME JACE



TRIDIUÂ

Model API

It's all about Context





tagValues Endpoint 🔅

Request URL

https://www.niagara-cloud.com/api/v1/entitymodel/customers/372/tagValues?

page=0&size=50)
----------------	---

÷ tagValues Endpoint: Points of Type control:NumericPoint ③ Request Body Point Name Cloud Id tagValues Endpoint: Points of Type control:BooleanPoint ③ RM4LightSensor "searchType": "tagVa "systemGuid": "bca44 Cloud Id Display Name RM2CO2 "searchItems": ["n:type=control:Nu RM4Motion e471d8b8-050b-45ef-a09f-65b2b952bc... CO2sensor co2 yesterdayAvg RM4Temp RM4Humidity NumericPoint NumericPoint1 <





tagNames Endpoint 🔅

Request URL

https://www.niag tagNames Endpoint: Points with Tags: hs:temp, hs:discharge, hs:sensor ③ page=0&size=50

Request Body CO2

"searchType"	CO2
"systemGuid"	CO2
"hs:temp",	RM2C
"hs:discha "hs:sensor	CO2se

be"	C02
id" ems	CO2
o", cha	RM2CO2
sor	CO2sensor
	co2
	RM4Temp
	RM4Humidity
	RM4OutdoorTemp

Point Name

Cloud Id					
tagNames Endpoint: Points with Tags: n:parent ③					
Point Name	Cloud Id				
comp6	901516bc-f267-40cf-ba2b-1e61c6214c61				
ASHRAEco2CHK	cbbdcf5b-6b68-432f-93d4-5c87c847d1				
TemperatureF	b2284092-77a0-4543-9c04-e9c29b53d				
CurrentRainInch	9ad8048b-52c7-4337-9179-257de79bb				
comp39	54c51d06-c6b2-4d76-9592-25481d9ac				
DeviceOnline	27d45e3a-1025-4aef-81d4-978b387fc244				
comp30	5cf696ce-35b7-4cbe-a74e-892570d1d0				
BooleanCov	0d462719-3800-404a-94a4-852c6ad4e				
MinTemperatureF	d311b560-97d1-44fb-88e9-e4c3ea5db1				
totalDiskGB	80d9bc8e-00d2-4bab-ab41-57b22df413				
DeviceBattery	6464e23f-45e7-491a-909a-4af3db1e69				



Live Read/Write

But wait, there is more! Coming Soon







"cloudIds": [

,

"e5194a8a-2292-4f55-a9ef-02b016c293d0",
"b233d1c1-a055-4515-80b6-2db6e7f11e3f",
"b39944c1-fab1-4f41-9bc1-e04971a06d57",
"88959094-1ebb-42c3-943a-26a770c1f1fe",

"requestProcessingPriority": 255



"requestProcessingPriority" : 255, "points" : [

"cloudId": "88959094-1ebb-42c3-943a-26a770c1f1fe", "value":1500, "duration": 1, "inputPriority" : 11

"pointWriteDetails": [

"cloudId": "88959094-1ebb-42c3-943a-26a770c1f1fe", "status": "success", "writeTime": "2024-04-08T10:18:27.396-04:00"

Niagara Cloud Suite

• Wait, What





Cloud Backup



14 Nov 2023, 07:34 AM

0.5 MB

Offsite storage of your device backup

- Up to 5 versions
- You can select 1 to be preferred and retained permanently
- Supervisor or JACE
- Easy Onboarding



Download

Updated to N4.13.0.186 NCS4.13.0.178,



Remote browser connection

Reverse proxy via Niagara Cloud

- Remote Engineering
- Remote Dashboard viewing
- No VPN required
- Outbound 443 (https) connection, no IT setup
- Easy Onboarding



Remote Access to Niagara Station



11:40 AM Mon Apr 8	•••• 1 00% 💋
🔝 🛓 NCS < >	niagara Cloud 🛛 4a6-479c-a0e4-d6c0c10fbc09.remote.niagara-cloud.com 🕯 🔮 💿 🗚 🖒 📫 🕂 🗍
	playHereWiresheet
 alarm baja control Points BooleanPoint BooleanWritable NumericPoint NumericWritable EnumPoint EnumWritable StringPoint StringWritable StringWritable Extensions Trigger history kitControl schedule 	▼ Image: Constrained of the second of the

Remote browser connection

Reverse proxy via Niagara Cloud

- Remote Engineering
- Remote Dashboard viewing
- No VPN required
- Outbound 443 (https) connection, no IT setup
- Easy Onboarding



Remote Access to Niagara Station



33 AM Mon Apr 8		•••		• 100% 🛃
	×	🕦 niagara-cloud.com 🔒	S AA 🕐	Ć + Ć
≡ cloud				D
NCD Systems Engl				
NSB Systems Engl	neering			
PROJECTS (2)	AL	L PROJECTS	Q Search	Sort by \checkmark
Q Search Project	3 F	Results		
All Projects	DE	EVICE/HOST ID	PROJECT/LOCATION	SUBSCRIBED SERVICE
Mechanicsville, VA Richmond, VA	J8 Qr	0000H1 1x-TITAN-D534-51CF-9324-7ACD	Mechanicsville, VA Home Office	~ \$ @
	J8 Qr	B blue nx-TITAN-6A40-B8CC-8BDF-EFE5	Richmond, VA Richmond Office	~ \$ @
		\51J8_2 nx-TITAN-5290-78F7-0BE5-618E	Richmond, VA VA51 Office	~ \$ @

Cloud Historian

Auto configure Archive History Provider

- Offload years of history to the cloud •
- Niagara automatically brings back requested ٠ data if a chart or analytic requests it
 - No retrieval configuration required •
- Speed up the Supervisor especially restarting it
 - No longer needs to index all the previous years histories

History Groupings

- Historical data context, in alarm, stale, etc. ٠
- Cloud charting / reporting ٠
- Offsite Historical Backup ٠
- Captures data model of the device ٠
- Easy Onboarding





Advanced Cloud Services

Control 3rd Party access to the Model and Data via cloud API

- One Data Model for accessing the historical data
- Revocable keys
- Control what 3rd Party can access
- Live Read/Write API
- Alarm histories / acknowledgement
- Overrides from the Cloud portal interface
- Cloud Applications and Dashboarding



: LIVE | Humidity ③

LIVE | Override ③

100

LIVE | Temperature ③



If YOU act NOW

• *But, wait, if you act NOW, you can get a FREE 90 – Day Trial for Remote and Recover*















TRIDIUM

More Resources

• Tridium Talks, Tridium University





NEW Niagara Remote Training in Tridium University!!

By Joseph Reierson Published: Jan Free Self-Paced Elearning	- 12, 2024 25m Beginner 🜲 ☆☆☆☆☆ (0) 🏴 <u>Report</u>	
I Plan ♥ Favorites		
	E-learning Course Started on February 1, 2024.	

Welcome to the course on Tridium's Niagara Remote! Here you get to learn about what Niagara Remote is and the benefits of it. You will also get to take a deep dive into how Niagara Remote works and some inside looks into its day to day use.

NEW Niagara Recover Training in Tridium University!!



This course centralizes around Tridium's Niagara Recover. This is a part of the Niagara Cloud Suite and its main function is that it can access backups remotely. This can be used and deployed to supervisors and JACEs at a moments notice through the usage of Niagara Cloud Suite.

WHERE CAN I FIND MORE TRIDIUM TALKS?

TRIDIUMta

🌐 ENGLISH(EN) | Niagara Community | Niagara Marketplace | Niagara Resource Center | Tridium University



This TridiumTalk showcases the features of Niagara Data Service and how Elipsa and Tridium have delivered what others only talk about!

Zoom

Nov 02 - Nov 02, 2023 / 11 AM ET

GIVE YOUR FEEDBACK NIAGARA CLOUD SUITE

- Come to the Tradeshow Hall
- Experience a live demo of Niagara Cloud Suite
- Provide your feedback:
 - SI
 - Developer
 - OEM

NS2024

- Distributor
- Building Owner/Operator/Property Manager
- Your feedback will help shape the future of Niagara Cloud Suite
- & you could win one-of-many prizes announced on Wednesday afternoon







TRIDIUM








