



nHaystack Upgraded. Beta Testers Wanted.



An upgraded version of nHaystack has just been completed by Tridium’s engineering team under the direction of Richard McElhinney, Manager of the nHaystack Project, Project Haystack Board Member, and Chief Software Architect of Project Haystack Founding Member ConservelT.

nHaystack is an open-source Niagara 4 module that enables Niagara stations to act as either servers or clients in the Project Haystack format, via a RESTful protocol. Using nHaystack, external applications receive data that includes essential meta data (tags) to describe the meaning of the data.

When acting as a server, nHaystack automatically generates standard tags for all the ControlPoints in a system. This feature allows for connecting immediately to the Niagara Station via Haystack once the nHaystack module has been installed, without requiring any further configuration. It makes discovering the points in your station as easy as issuing a simple query.

nHaystack-as-a-server also streamlines the process of adding user-specified Haystack tags to Niagara systems, by providing a GUI tool that allows users to add the tags directly to Niagara components. Once tags have been defined, the data associated with the Niagara components, including the tags, are available over the REST communications interface. This combination of the tagging tool and the Haystack protocol “engine” reduces

the effort involved in connecting Niagara data to external software applications.

This new upgraded version of nHaystack will be a great time-saver for system integrators that have made an investment in Haystack tagging and also want to use the new Niagara 4 tagging features, including Search, Hierarchies and System Database. With nHaystack, there is no need to manually create Niagara Haystack tags for data previously contained in the Haystack slots.

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Those tags will be delivered over the Haystack protocol automatically. Tags can be added and edited with Niagara facilities or with the familiar nHaystack GUI tool.

Haystack Hierarchy

The screenshot shows the Niagara Workbench interface. The left pane (Nav) displays a hierarchy under 'My Network' > 'Hierarchy' > 'Haystack'. It lists two locations: 'ConcordCapitol' and 'RichmondCapitol'. Each location has an 'Ahu' (Air Handling Unit) with several sensors: 'DischargeAirFanCmd', 'DischargeAirFanSensor', 'DischargeAirFlowSensor', 'DischargeAirHumiditySensor', 'DischargeAirPressureSensor', and 'DischargeAirTempSensor'. The right pane shows the 'Station (haystack)' details, including a list of 6 objects and a 'Summary Properties' table with 10 objects.

| Name | Description |
|-----------|---------------------------------------|
| Alarm | Alarm Database |
| Config | The station configuration database |
| Files | File System accessed over Fox session |
| Spy | Diagnostics information for remote VM |
| Hierarchy | Hierarchy views of remote station |
| History | History database |

| Property | Value |
|-----------------|-----------------------|
| Station Name | haystack |
| Host | |
| Host Model | Workstation |
| Product | Workstation |
| Host Id | |
| Niagara Version | 4.7.109.20.1 |
| Java Version | |
| OSVersion | amd64 Windows 10 10.0 |
| Locale | en_US |

Learn more about nHaystack and find official builds at <https://stackhub.org/package/nHaystack>.

This nHaystack upgrade supports and accelerates effective data tagging toward the goal of semantic data

interoperability of all devices in a smart system. For nHaystack, next steps include beta testing of this version. Anyone interested in participating in the beta program can contact Richard McElhinney. 



Eric Anderson, a Software Engineer, has been working on tagging and tag hierarchies since he joined Tridium in 2015. Tridium created and continues to enhance the Niagara Framework®, an open platform that facilitates system integration and control.