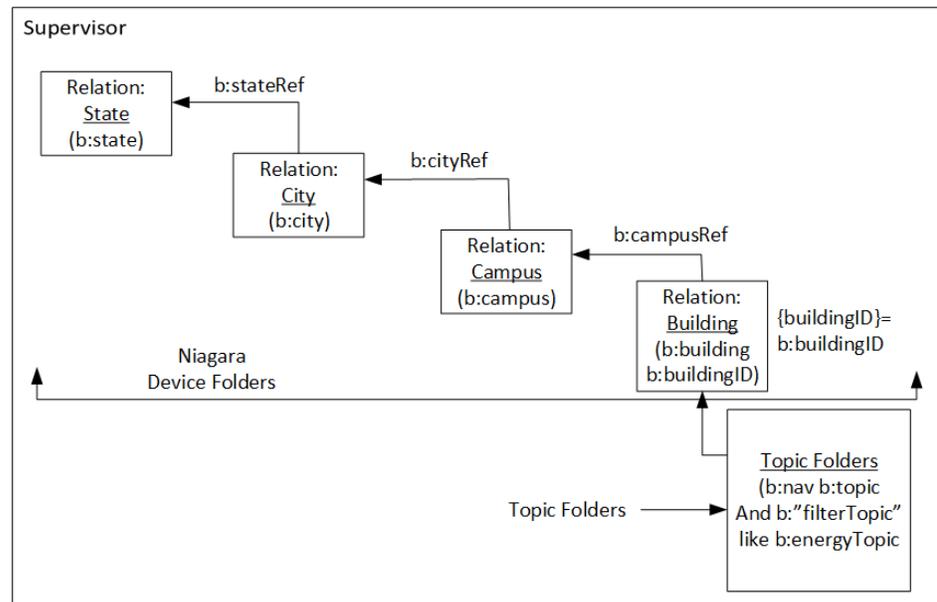


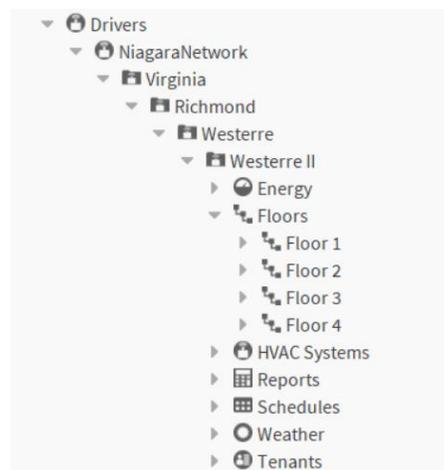
# System Database Tutorial Hierarchy Design Details

- a. This lesson is not intended to teach the student about hierarchy design, however, here is a very high-level view of the hierarchies used in this tutorial. This design is based on relation level definitions within the Supervisor, and query level definitions that use query context to capture tag data from one level to be passed to the levels below for data from the remote stations.
  - i. Supervisor Hierarchies

## Supervisor Hierarchy Design



Supervisor Hierarchy Component Concept



Niagara Network

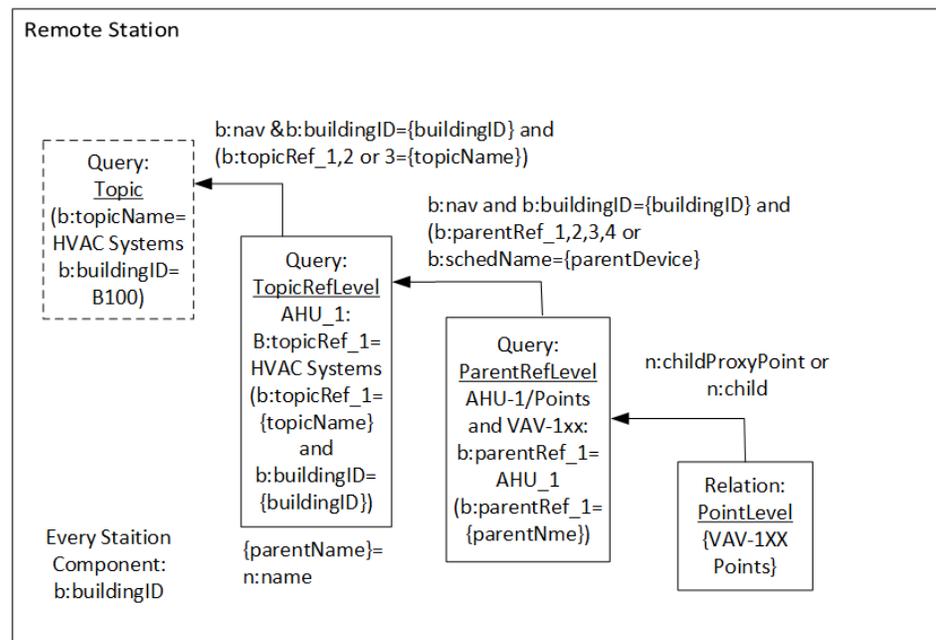
In the Niagara Network of the Supervisor, there are device folders used to represent the state, city, campus and building. This allows the designer to create PX presentation at each level if desired. These folders are referenced by

# System Database Tutorial Hierarchy Design Details

relations to form the internal portion of the hierarchy. Each building has a unique building ID string tag that is captured using query context used to associate individual items indexed from the subordinate stations into the correct building. Under each building there are Topic folder components to provide locations under which the components in the subordinate stations can be organized. The b:topicName tag of each for each of these folders is captured as query context to be used in the hierarchy design. In the Floors Topic folder, there are sub-folders for each floor. This is because a single floor may have multiple remote stations connected, especially when the new E10 controllers are used to manage individual HVAC equipment such as Air Handlers or Roof-Top Units.

## ii. Remote Stations (JACES)

### Remote Station Hierarchy Design



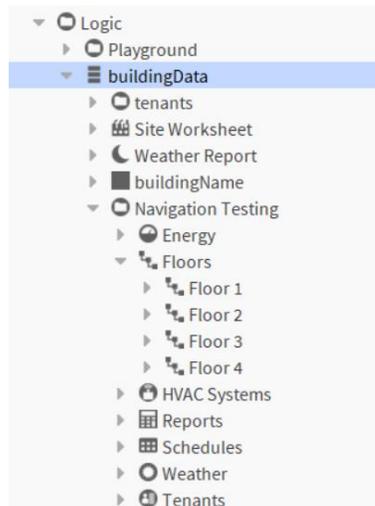
Remote Station Hierarchy Concept

At the remote stations, there are three levels used for navigation. The diagram above shows them as solid lines. These three levels exist in both the Supervisor and Remote Station hierarchy design.

1. Each remote station has a tag rule that applies a unique b:buildingID string tag to every component in that station. This identifies which building these components will be associated with.

# System Database Tutorial Hierarchy Design Details

2. String tags (b:topicRef\_X for up to 3 items in each topic) are used to associate a component with a specific topic. In the example above, Air Handler #1 is desired to fall under the “HVAC SYSTEMS” topic. At the Supervisor level, the b:topicName “HVAC Systems” was captured as context. Setting the string tag b:topicRef\_1=“HVAC Systems” will make this happen, and the b:buildingID tag will cause it to be displayed in the correct building.
3. String tags (b:parentRef\_X for up to 4 items associated with components in each topic) are used to associate a component with a specific topic. In the example above, the points under Air Handler #1 and a collection of VAV’s are desired to fall under component AHU\_1. At the Supervisor level, the b:parentName AHU\_1 was captured as context. Setting the string tag b:parentRef\_1=AHU\_1 will make this happen, and the b:buildingID tag will cause it to be displayed in the correct building.
4. The lowest level is a relation level definition used to display point data at this level. It uses the automatically implied n:childProxyPoint, n:childNullProxyPoint, and n:child relations definitions to resolve these points



Remote Station Building Data

In the remote stations, there is a Navigation Testing folder that mimics the Topic and Floor folder design at the building level in the Supervisor for validating the design of the remote station. These components do not get visualized at the Supervisor, they are just there for testing purposes.