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NS2024
POWER OF PARTNERSHIP

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Accelerated Engineering

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Tridium – Sales Engineer

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Agenda

- Template Overview
- Station Templates
- Component Templates
- Device Templates
- Deploying and Upgrading Templates
- Deploying Templates Using Provisioning

Template Overview

- A **deployable package of Niagara objects** which might include station components, images and px files
- Designed to **eliminate unnecessary repetition** when deploying multiple instances of components with similar functionality
- **Provides better versioning and portability** than using palettes or partial bog files
- **Helps enforce engineering standards** on projects, particularly when multiple application engineers or multiple integrators are involved

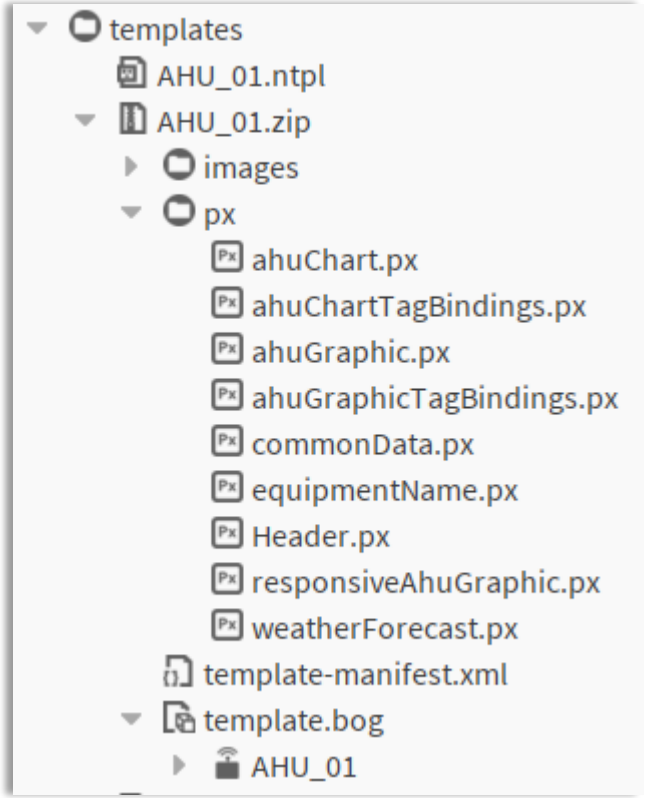
Template File

- Encapsulates at least two internal files:
  - template.bog – the root component of the template
  - template-manifest.xml – xml parameters such as UUID, version, resources, etc.
- Optionally includes additional resources such as images, px or html files
- Template is a zip file with a unique extension based on type

Template Type	File Extension	File Location
Station	ntpl	local:|file:~stationTemplates
		local:|file:!defaults/workbench/newStations
Component	ntpl	local:|file:~templates
Device		
Application	napl	local:|file:~applicationTemplates

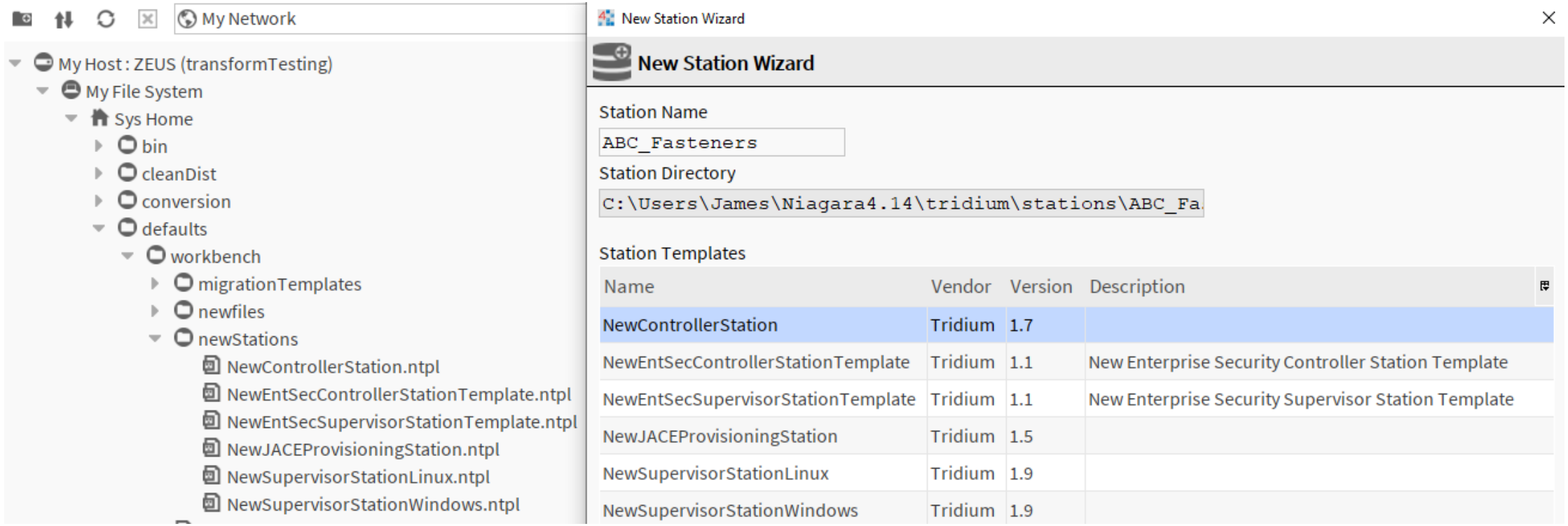
Template File – Example Contents

```
<?xml version="1.0" encoding="UTF-8"?>
<template id="d5fc928d-c7d0-4e37-97b8-a0a00b0c7152" version="1.3" vendor="Tridium" title="AHU_01" description="VT8600 AHU 2H/2C Econ" state="20" buildVersion="4.14.0.118"

  <info i="Viconics VT8600 AHU 2H/2C with Economizer"/>

  <revisions>
  </revisions>

  <settings>
    <p n="uID" req="true" typ="str"/>
    <p n="version" req="true" typ="str"/>
    <p n="versionDate" req="true" typ="str"/>
    <p n="deployed" req="true" typ="bool"/>
    <p n="propagated" req="true" typ="bool"/>
    <p n="pxEditBindings" req="true" typ="str"/>
    <p n="address" req="true" typ="str"/>
    <p n="objectId" req="true" typ="str"/>
    <p n="enabled" req="true" typ="bool"/>
    <p n="OccCoolStpt" req="true" units="fahrenheit"/>
    <p n="OccHeatStpt" req="true" units="fahrenheit"/>
    <p n="UnoccCoolStpt" req="true" units="fahrenheit"/>
    <p n="UnoccHeatStpt" req="true" units="fahrenheit"/>
    <p n="ConfigBinding" req="true" typ="str"/>
    <p n="ConfigBinding1" req="true" typ="str"/>
    <p n="ConfigBinding2" req="true" typ="str"/>
    <p n="ConfigBinding3" req="true" typ="str"/>
    <p n="ConfigBinding4" req="true" typ="str"/>
    <p n="ConfigBinding5" req="true" typ="str"/>
    <p n="ConfigBinding6" req="true" typ="str"/>
    <p n="relate" req="true" typ="str"/>
  </settings>

  <links>
    <p n="OccCommand_in16" req="true" dir="in" typ="str"/>
    <p n="OutdoorTemp_in16" req="true" dir="in" units="fahrenheit"/>
  </links>

  <bindings>
  </bindings>

  <resources>
    <r n="ahuGraphic.px" type="px" sourceOrd="file:^px/deploy/ahu_01/ahuGraphic.px"/>
    <r n="Header.px" type="px" sourceOrd="file:^px/Header.px"/>
```



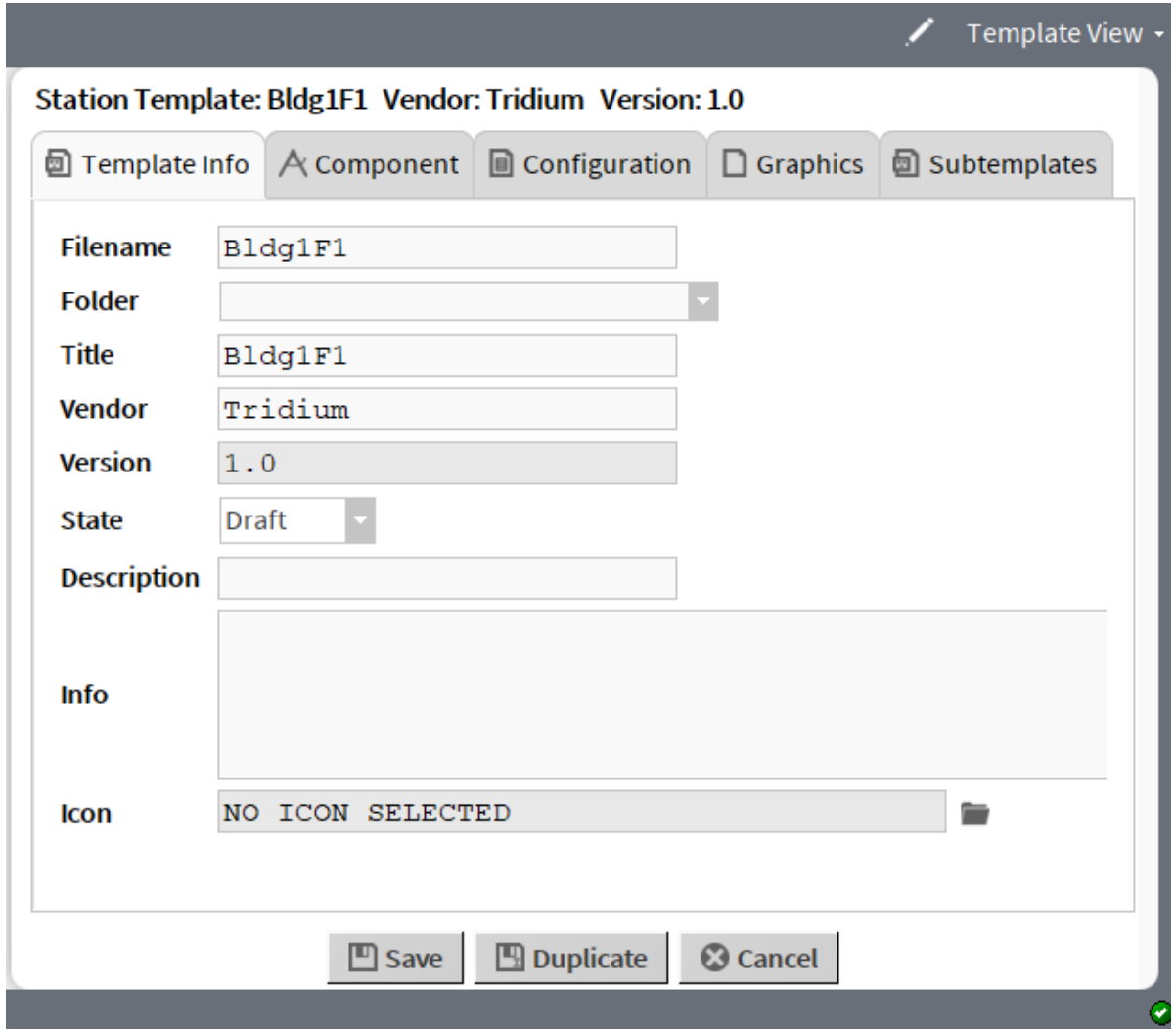
Station Templates

- Complete station used with **New Station Wizard**
- Easier to use and less bloat than trying to clean an existing station with extraneous drivers, services, images, px, etc.



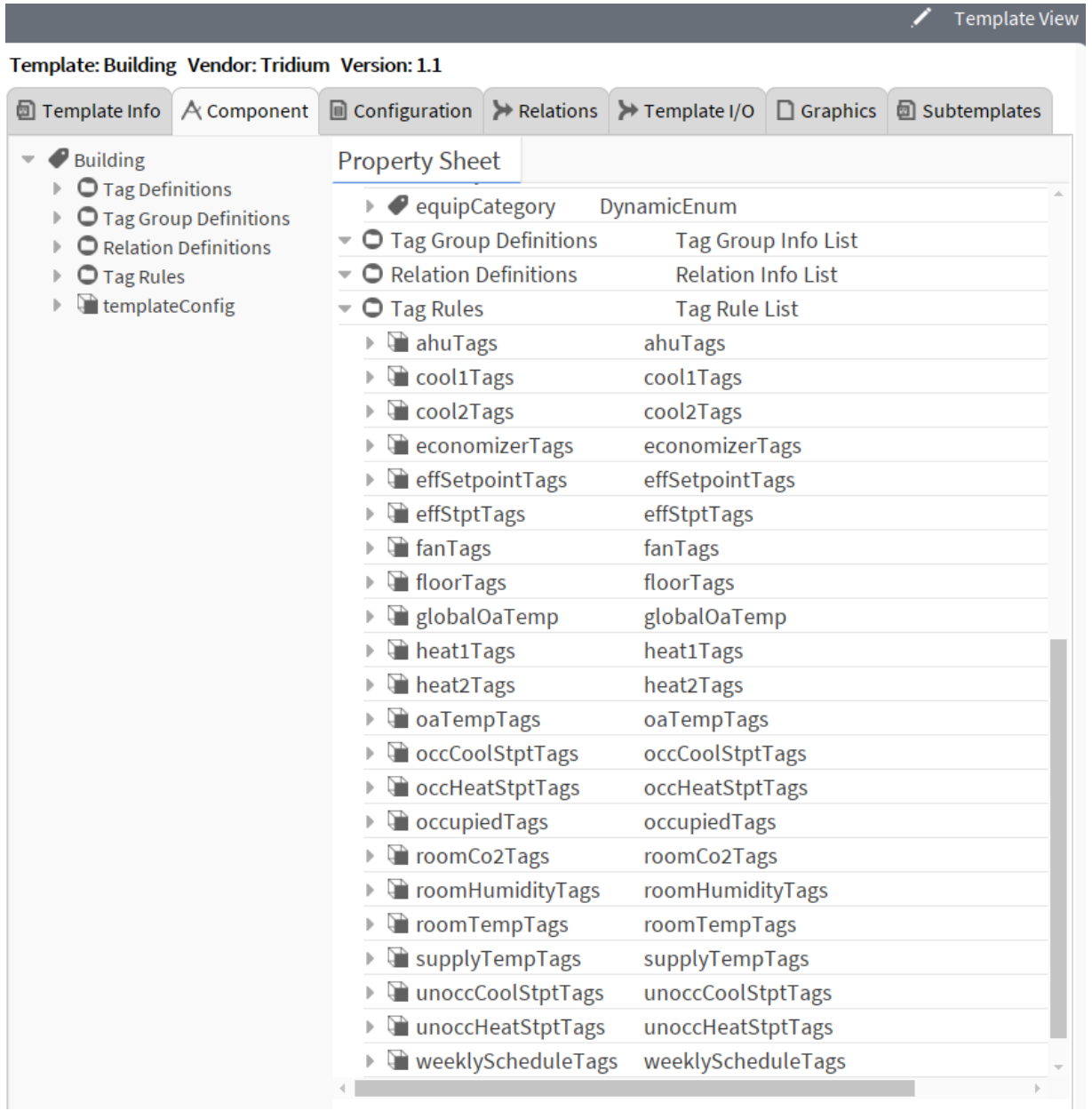
Creating Station Templates

- Click the **Duplicate** button in the Template View of an existing station template to generate a new station template with the same components but a different UUID
- From a running station by right clicking the root Config node and selecting Templates → Make Station Template



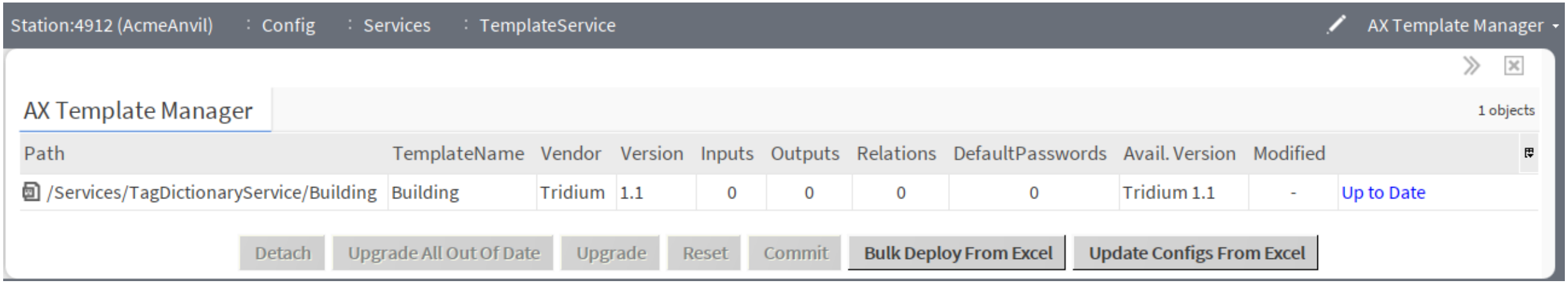
Component Template

- Could be a single component or group of components
- Can be deployed by drag and drop from the template side bar, bulk deployment from the Template Service, or bulk deployment using Niagara Provisioning



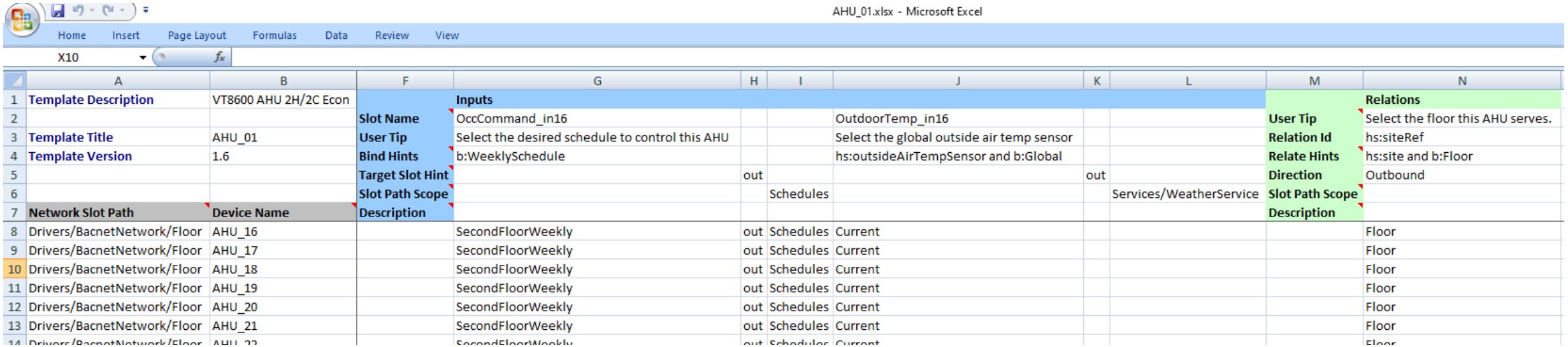
Template Manager

- Displays status for all deployed instances of component and device templates in the station
- Allows upgrading, downgrading or redeploying a deployed instance
- Allows using an Excel spread sheet to either bulk deploy new instances or update configuration properties of existing deployed instances



Template Export Configs

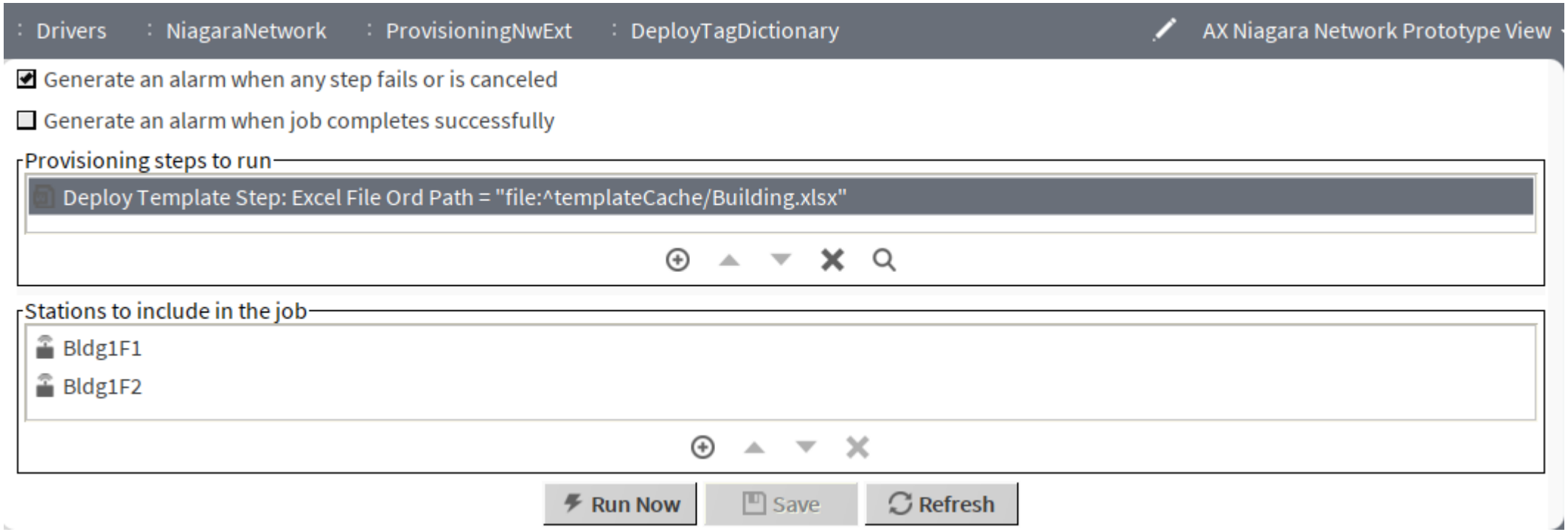
- Command available on template which generates a XLSX spreadsheet which is used by the bulk deploy process and provisioning jobs
- Spreadsheet allows defining component slot path, name, display name, configuration property values, data links and relations
- Typically, more efficient than using individual property sheets to make changes or manually creating data links and relations



	A	B	F	G	H	I	J	K	L	M	N
1	**Template Description**	VT8600 AHU 2H/2C Econ		**Inputs**							**Relations**
2			**Slot Name**	OccCommand_in16			OutdoorTemp_in16			**User Tip**	Select the floor this AHU serves.
3	**Template Title**	AHU_01	**User Tip**	Select the desired schedule to control this AHU			Select the global outside air temp sensor			**Relation Id**	hs:siteRef
4	**Template Version**	1.6	**Bind Hints**	b:WeeklySchedule			hs:outsideAirTempSensor and b:Global			**Relate Hints**	hs:site and b:Floor
5			**Target Slot Hint**		out			out		**Direction**	Outbound
6			**Slot Path Scope**			Schedules			Services/WeatherService	**Slot Path Scope**	
7	**Network Slot Path**	**Device Name**	**Description**							**Description**	
8	Drivers/BacnetNetwork/Floor	AHU_16		SecondFloorWeekly	out	Schedules	Current				Floor
9	Drivers/BacnetNetwork/Floor	AHU_17		SecondFloorWeekly	out	Schedules	Current				Floor
10	Drivers/BacnetNetwork/Floor	AHU_18		SecondFloorWeekly	out	Schedules	Current				Floor
11	Drivers/BacnetNetwork/Floor	AHU_19		SecondFloorWeekly	out	Schedules	Current				Floor
12	Drivers/BacnetNetwork/Floor	AHU_20		SecondFloorWeekly	out	Schedules	Current				Floor
13	Drivers/BacnetNetwork/Floor	AHU_21		SecondFloorWeekly	out	Schedules	Current				Floor

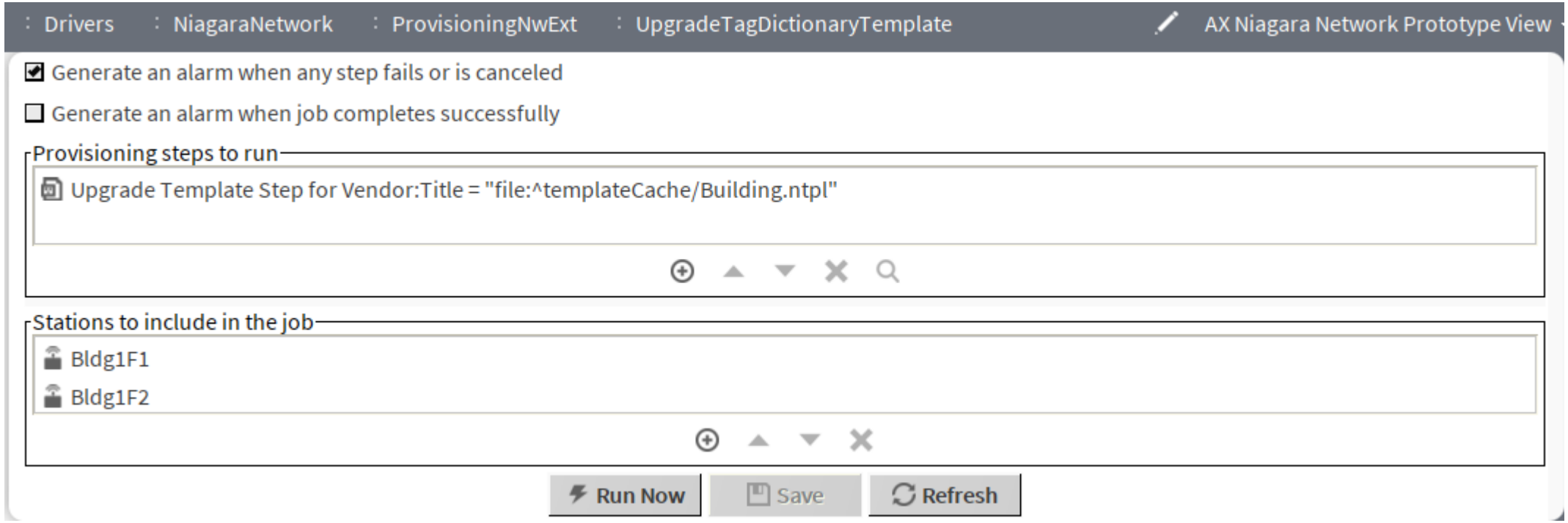
Provisioning Deploy Template

- Used to deploy a component or device template to remote stations
- Job step selects the xlsx file, but the applicable ntpl file must be located in the same directory on the provisioning station



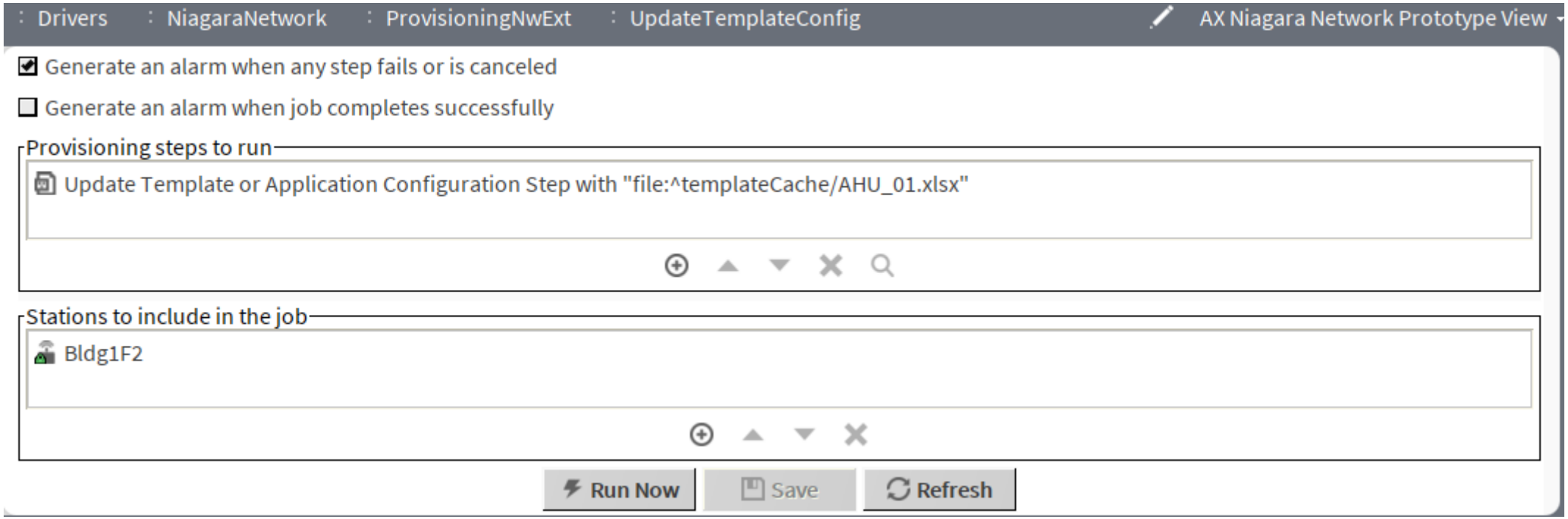
Provisioning Upgrade Template

- Used to upgrade deployed instances of a component or device template in remote stations
- Job step selects the updated ntpl file, the xlsx file is not required



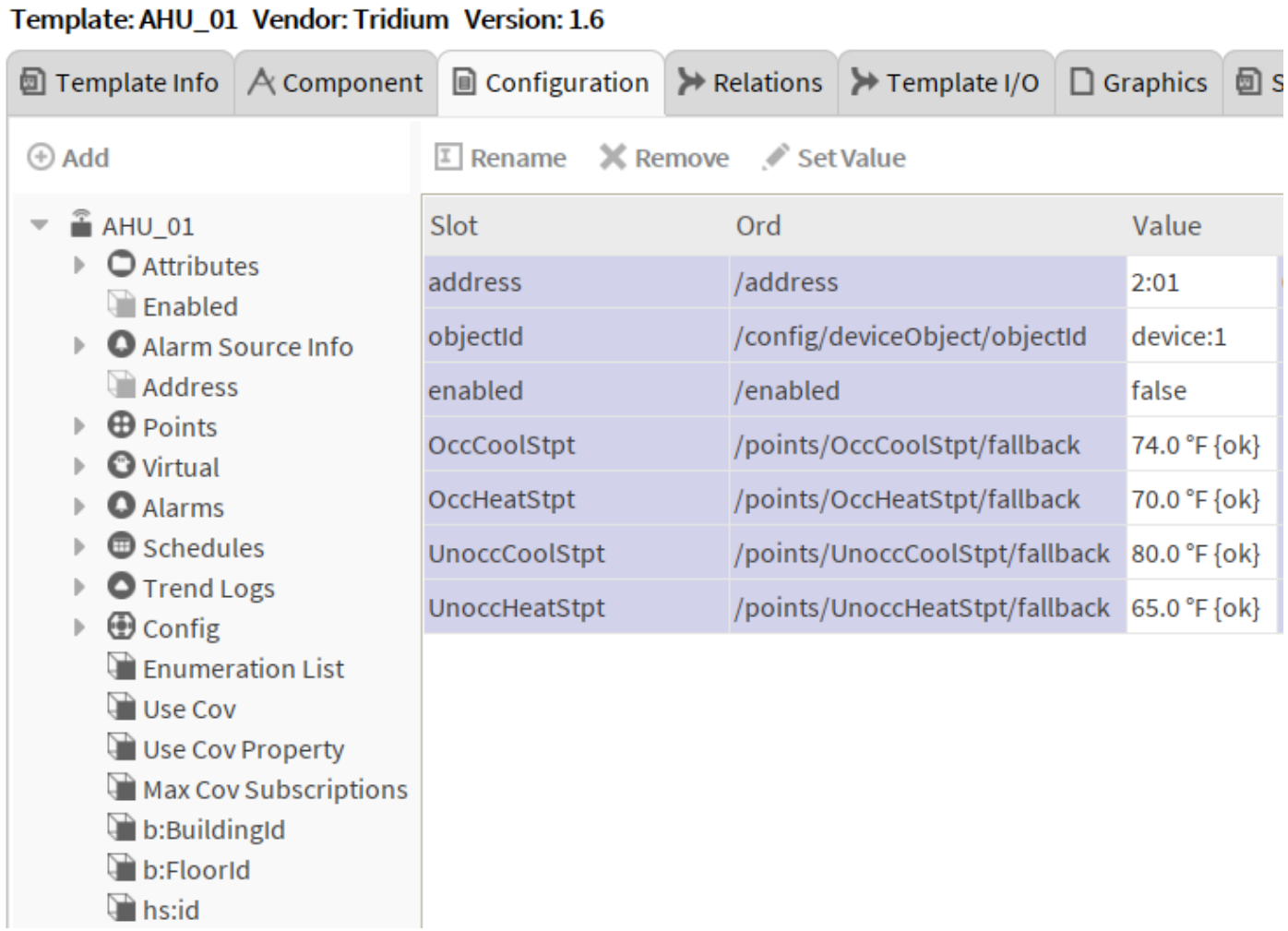
Provisioning Update Template Configuration

- Used to update the configuration property values for deployed instances of a component or device template in remote stations
- Job step selects the updated xlsx file



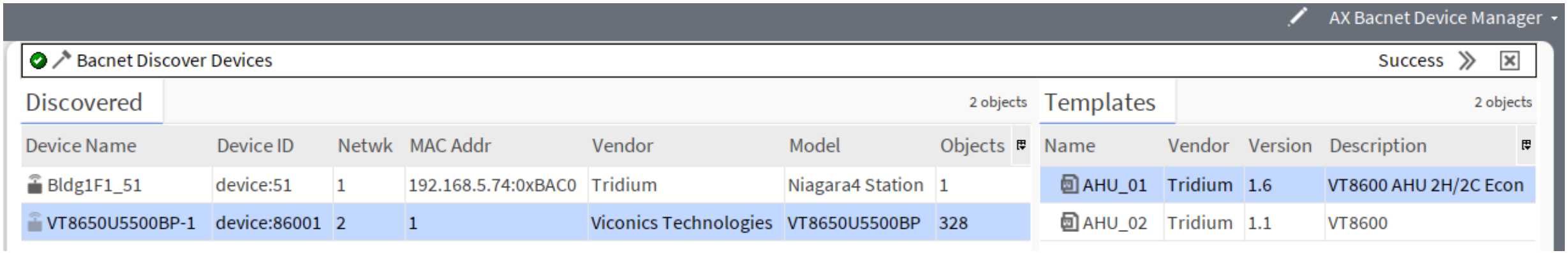
Device Template

- Root component is a specific driver device type
- Can be deployed by drag and drop from the template side bar, matching in the driver device manager view, bulk deployment from the Template Service, or bulk deployment using Niagara Provisioning
- Configuration properties are required for any properties that need to be set with unique values such as device address or setpoints



Device Manager – Dev Template Mode

- Apply device template to newly discovered devices while adding to the network
- Apply device template to new offline devices while adding to the network



Questions