Technical Note

PVT Setting in GE PACsystems PLC Can Affect Writes by ThingWorx Kepware Server
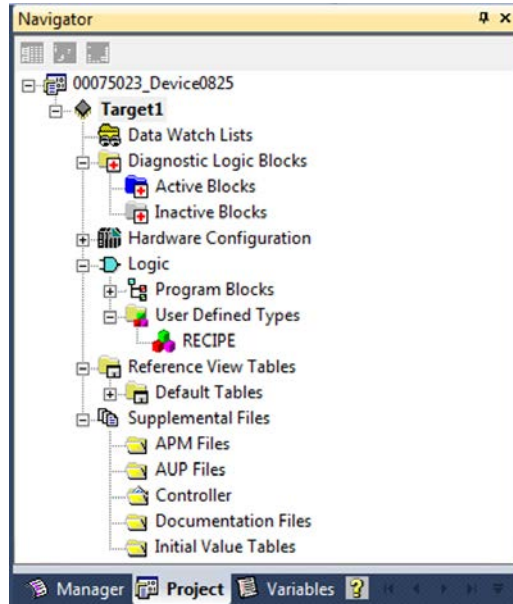
1. Force Compact PVT Property Impacts Writes to Real Arrays in UDTs

When using the GE Ethernet Driver in ThingWorx® Kepware® Server the integrity of writes to elements of Real (Float) Arrays that are members of a User Defined Type (UDT) can be compromised by the configuration within the controller. More specifically, the Force Compact PVT property configured via Proficy Machine Edition. When the target (controller) has the Force Compact PVT property set to False, writes from ThingWorx Kepware Server are **16 bytes rather than 4 bytes**. This results in the three subsequent array elements being overwritten. The value written to the three floats varies with tag definition. With static tags, the three unexpected tags are 0.0; with dynamic tags the results are randomly valid float, non-normalized float, or 0.0.
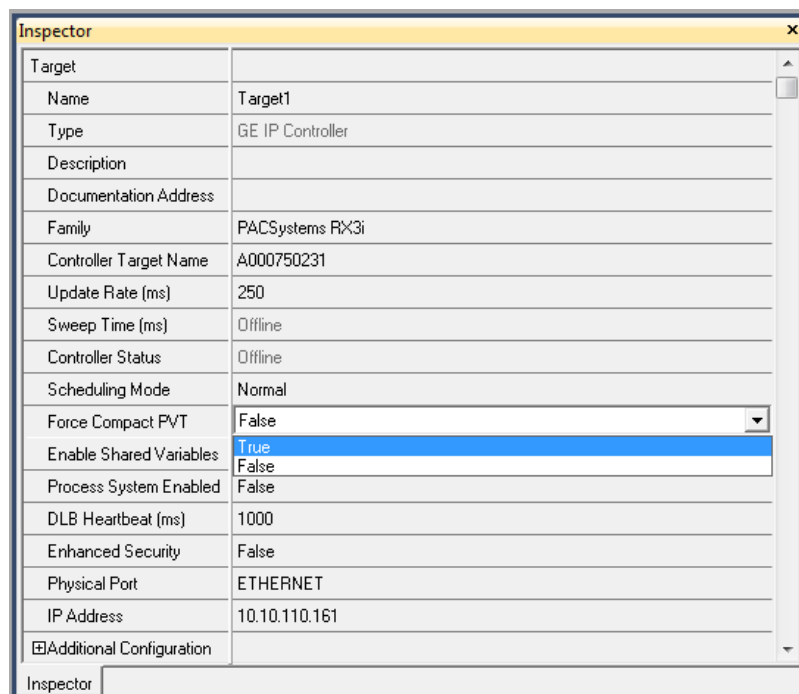
2. Solution

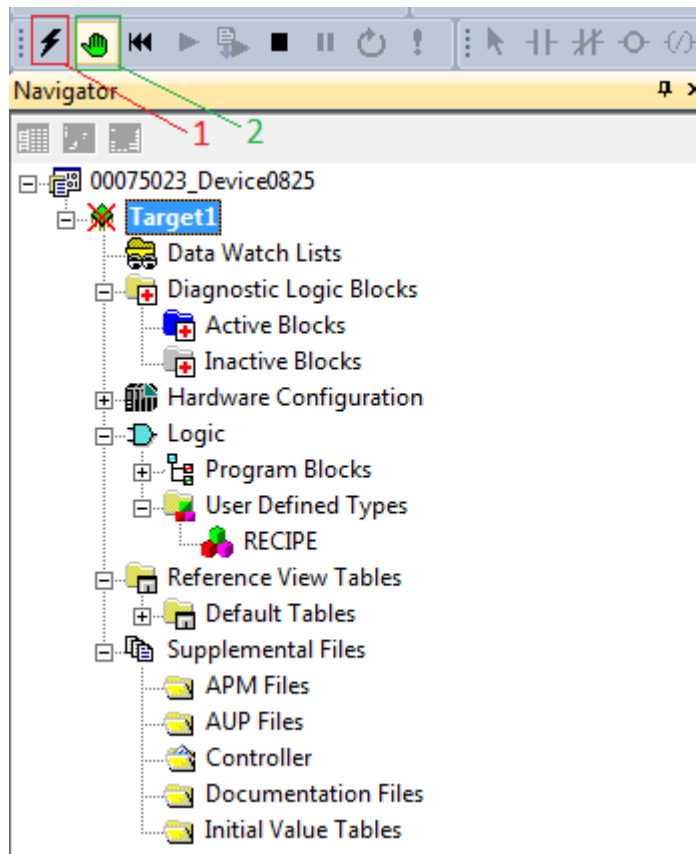Use the following steps to resolve this issue.

1. Open the Proficy ME project running on the controller and use the Project tab in the Navigator to ensure it is not online with the target. The target object should be gray if not online with the target. An example is given below.

2. Right click on the target of interest and select **Properties**.

3. Change the Force Compact PVT parameter to True.

4. Exit the target properties.

5. Save the Proficy ME project.

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6. Select the Online/Offline button (1) followed by the Toggle Online Mode button (2).

7. When the target should turn green with a red X on the target as the project in the controller does not match the project in Proficy ME.

8. Right-click on the target and select **Download to Controller** to push the changes made to the controller and resolve the conflict.

9. Confirm writes to controller from ThingWorx Kepware Server are 4 bytes rather than 16.