

**Date:** 6/19/2019

**To:** James Ahrens

**cc:** David Pugmire, David Rogers, Hank Childs, Berk Geveci

**From:** Kenneth Moreland, WBS 2.3.4.13 / ECP/VTK-m

**Milestone Deliverable – STDA05-19**

**Milestone Due Date:** June 30, 2019

**Milestone Completion Date:** June 12, 2019

**Description of Milestone:**

The STDA05-19 P6 Activity has the following 1 task.

*Point Movement 2:* Point movement is the basis for deformations, transformations, and projections of geometric and image data inside VTK, ParaView, and VisIt. Further, the fundamental concept also can be used to apply transformations, and warps to arbitrary fields. This milestone will ensure that VTK-m will provide sufficient point movement algorithms for the needs of ParaView and VisIt.

**Completion Proof of the Milestone:**

The predefined objective completion criteria of this P6 Activity for all the tasks were the following items:

- Implementation is merged to the master branch of the central VTK-m repository.
- Documentation is added to the VTK-m User’s Guide working document.

The following table provides evidence for each implemented feature with links to the completed merge requests (evidence that the implementation is merged into the master branch) and a link to the excerpt from the VTK-m User’s Guide documenting the feature.

<b>Deliverable</b>	<b>Merge Requests</b>	<b>Documentation</b>
Point Movement 2	<ul style="list-style-type: none"> <li>• <a href="#">Add a warpScalar worklet and filter</a> (!1276)</li> <li>• <a href="#">Add a warpVector worklet and filter</a> (!1268)</li> <li>• <a href="#">Expose vtkm point transform filter</a> (VTK !4605)</li> <li>• <a href="#">Expose vtkm coordinate transform filter</a> (VTK !4630)</li> </ul>	<a href="https://jira.exascaleproject.org/secure/attachment/18557/Warp%20Filter%20Pages%20from%20VTKmUsersGuide.pdf">https://jira.exascaleproject.org/secure/attachment/18557/Warp%20Filter%20Pages%20from%20VTKmUsersGuide.pdf</a>

- [VTK-m respects the VTK custom library suffix](#) (VTK !4817)

**Tasks to Complete the Milestone:**

In the case for each of the tasks, implementation started in a private topic branch. That branch was later submitted as a merge request where the code was run through regression tests across multiple test platforms. The merge requests were also subjected to human reviewers for approval. After necessary modifications were made, the code was merged to VTK-m's master branch. Subsequently, documentation was written for the VTK-m User's Guide.

**Person(s) Responsible for Completing the Milestone:**

Kenneth Moreland (SNL), Robert Maynard (Kitware)

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