Framework Testing Core: Requirements and Design

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Chapter 1

Summary

Presently MPAS lacks a robust testing mechanism for a lot of the capabilities that framework and operators provide. This document introduces the concept of a framework testing core. This core is intended to function only based on the union of all of the other cores (i.e. things that are deemed required by all other cores). The purpose of this core is to exercise shared parts of MPAS, and provide reassuance to the developer/user community that those parts of MPAS are functioning properly.

Chapter 2

Requirements

To support the growing framework and operators code bases within MPAS, the framework testing core capabilities in MPAS must meet the following requirements.

1. MPAS must provide a framework testing core that may run using any mesh that can be input into any MPAS core. This means the core must only take as input variables which are required by all other cores.

2. MPAS must provide testing routines to exercise the shared parts of the MPAS code base. Namely framework and operators.

3. Tests must be built in such a way that there is a clear pass/fail metric.

Chapter 3

Design and Implementation

Chapter 4

Testing