QuakeSim Portal User Validation Document

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Introduction

This document is intended to serve as a supplement to the QuakeSim Portal User Manual, available from:
http://www-aig.jpl.nasa.gov/public/dus/quakesim/QuakeSimPortalUserManual.doc.

Readers should refer to this document.

Validating Portal Applications

The portal testbed deployment at http://complexity.ucs.indiana.edu:8282/ provides validation examples of all applications under a test account with

username:validation
password: validation

The portal's archive is used to provide validation scenarios. Refer first to the User Manual link for more information before testing the validation cases.

To examine a portal validation case, first log in with the username and password above. From the Code Selection Menu, select the desired code. From the application's main menu, select (typically) "Load Project". There should be an archived project called "ValidationExample" in the list. Load this example and step through the submission process. The parameter settings for this application will be loaded from the validation test case, so you may use these values in your own test project.

The code output is available through the "Archived Data" button on most application main menus. Selecting this button will take you to a page that will allow you to download code output(s) for the validation scenario.

Note on Demonstrating GeoFEST with Adaptive Meshing

As required by Milestone J, we supply the instructions for demonstrating the execution of GeoFEST with adaptive meshing through the QuakeSim portal in the appendix below. The demonstration consists of running a parallelized version of GeoFEST installed on losangeles.jpl.nasa.gov and downloading a plot of adaptively refined finite element mesh generated by GeoFEST. This is not included in the QuakeSim Portal User Guide, as a general user will not yet use it.

Note on GeoFEST and MeshGenerator: GeoFEST runs first take the user through the Mesh Generator application, so you may verify both the mesh generator output and the GeoFEST output. For more detail, see the User Manual.

Note on Disloc and Simplex: These applications follow a slightly different project naming convention: projects are named by date/time of creation rather than by a user-supplied name. Any archived projects under the validation user account created before June 1, 2004 may be considered acceptable.

APPENDIX

Please note: this is reproduced from the Milestone J report as a convenience to the review board.

Demonstrating GeoFEST with Adaptive Meshing

Requirements

1. You must acquire an account on losangeles.jpl.nasa.gov. If you do not have one, please contact Charles Norton, Charles.D.Norton@jpl.nasa.gov
2. You must have a PDF viewer such as Adobe Acrobat installed on your desktop. If you do not, you may download and install a free version of Acrobat from http://www.adobe.com/products/acrobat/readstep2.html.
3. Optionally, you may want to acquire a portal account. This is explained in the QuakeSim User Guide. If you prefer, you may instead use one of the default accounts described in the user guide.
4. You should use either Internet Explorer or Mozilla for your web browser.

Running the Demo

1. Log into the QuakeSim portal and select “GeoFEST_Adaptive” from the list of available applications.
2. Set up a problem geometry and generate an initial mesh. You may use the Northridge example as described in the QuakeSim User Manual. This sample problem is also shown in the “validation” account (username and password are validation/validation).
3. Launch GeoFEST. This is done from the screen shown in Figure 1. Pay special attention to the upper right hand corner of the screen. **You must provide the correct username and password for your losangeles account**. If you want email notification when GeoFEST completes, you should also make sure that your email address is correct.

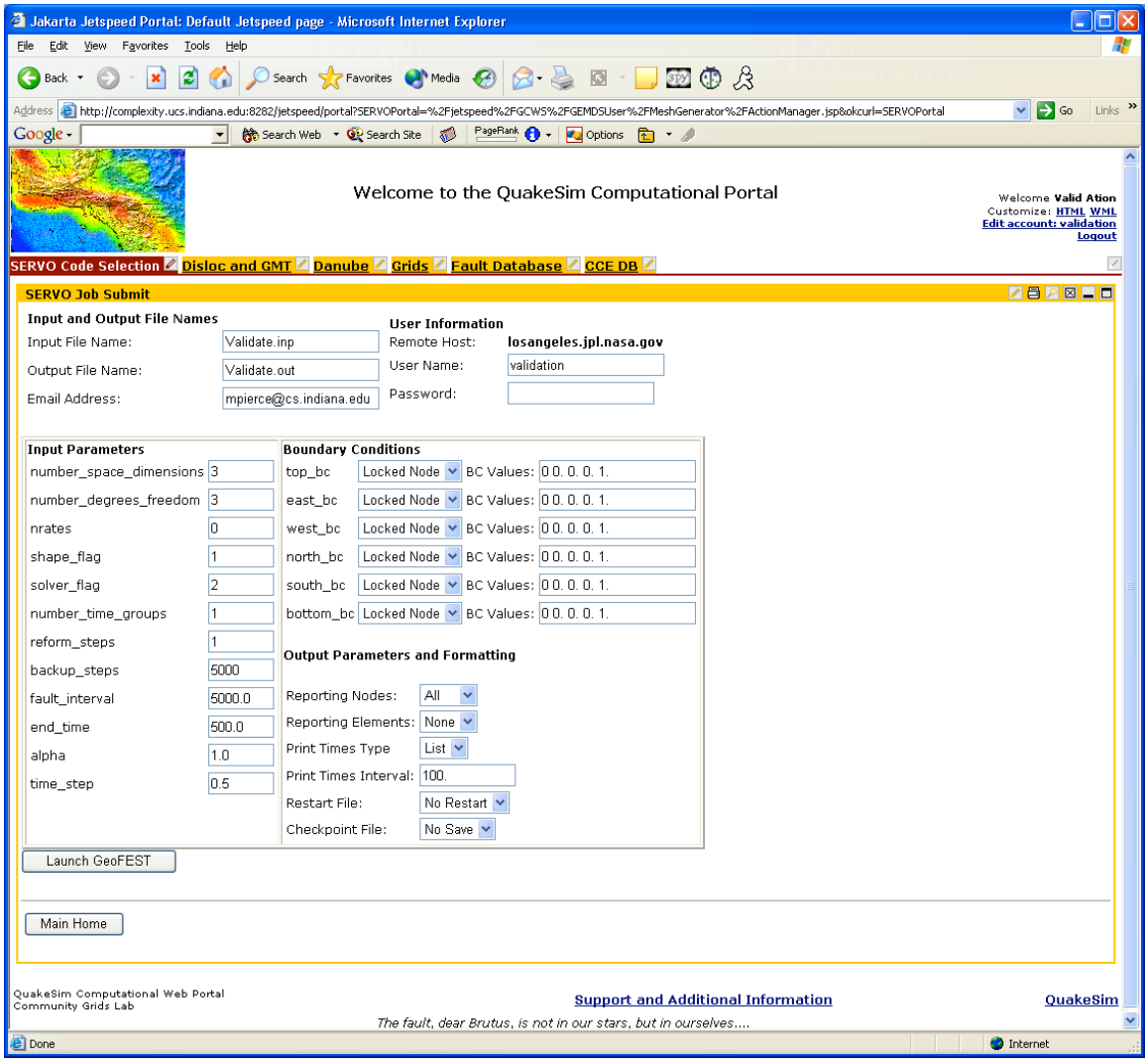

Figure 1. GeoFEST submission form for the adaptive meshing demonstration.

4. When GeoFEST has completed, you will receive an email notification. For the provided parameters, this will take a few minutes.
5. After receiving your email that GeoFEST has completed, click "GeoFEST_Adaptive" from the portal main code menu. You should see the screen shown in Figure 2.

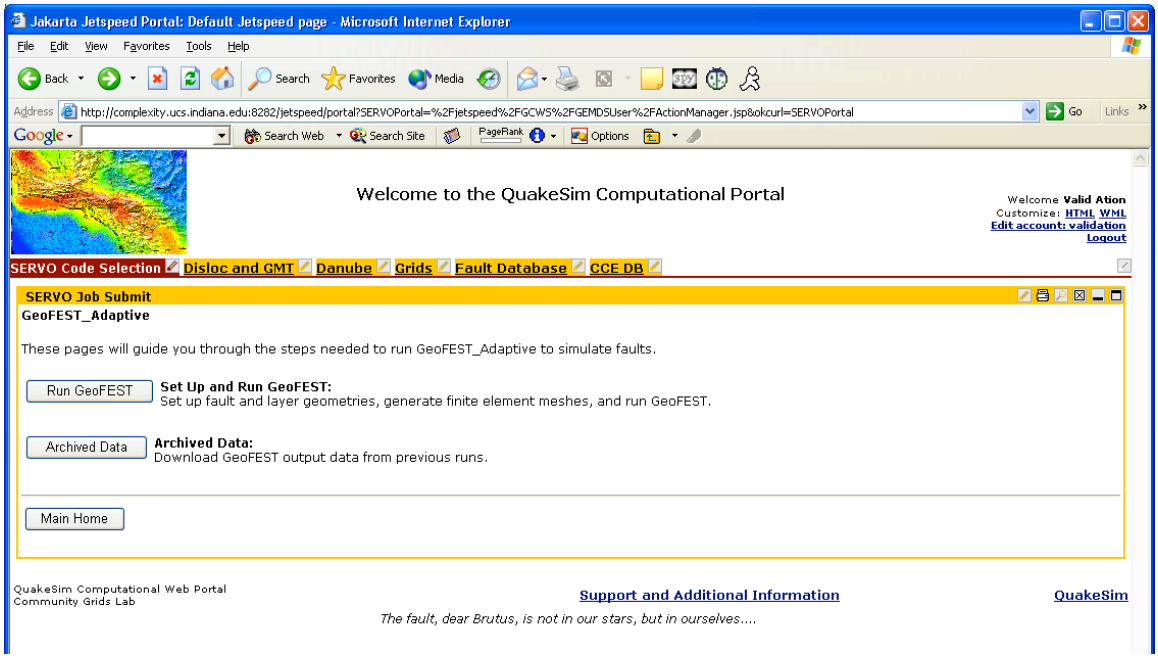

Figure 2. Viewing the output image in the archive.

6. Click “Archived Data” to view a list of archived projects and their meshes. This list will resemble the screen shown in Figure 3. Click the link under “Mesh Image”.

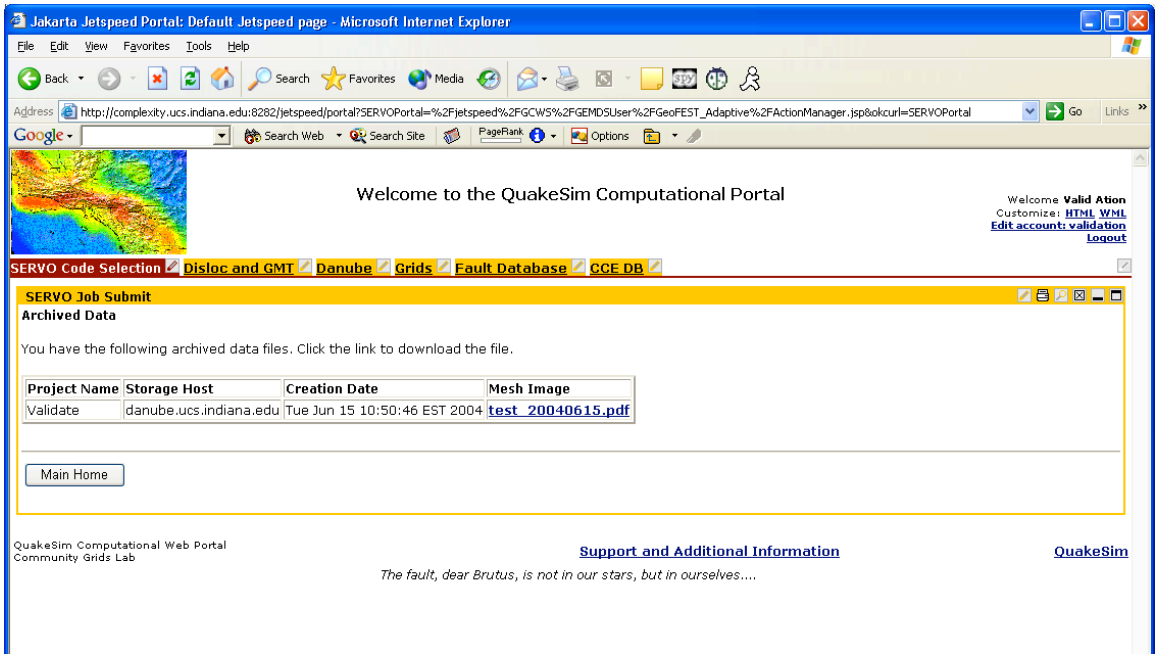

Figure 3. Select a mesh image to view.

7. Your browser may prompt you for an appropriate application for viewing the PDF image. Assuming you have installed Adobe Acrobat, use this application. You should then see a screen similar to Figure 4.

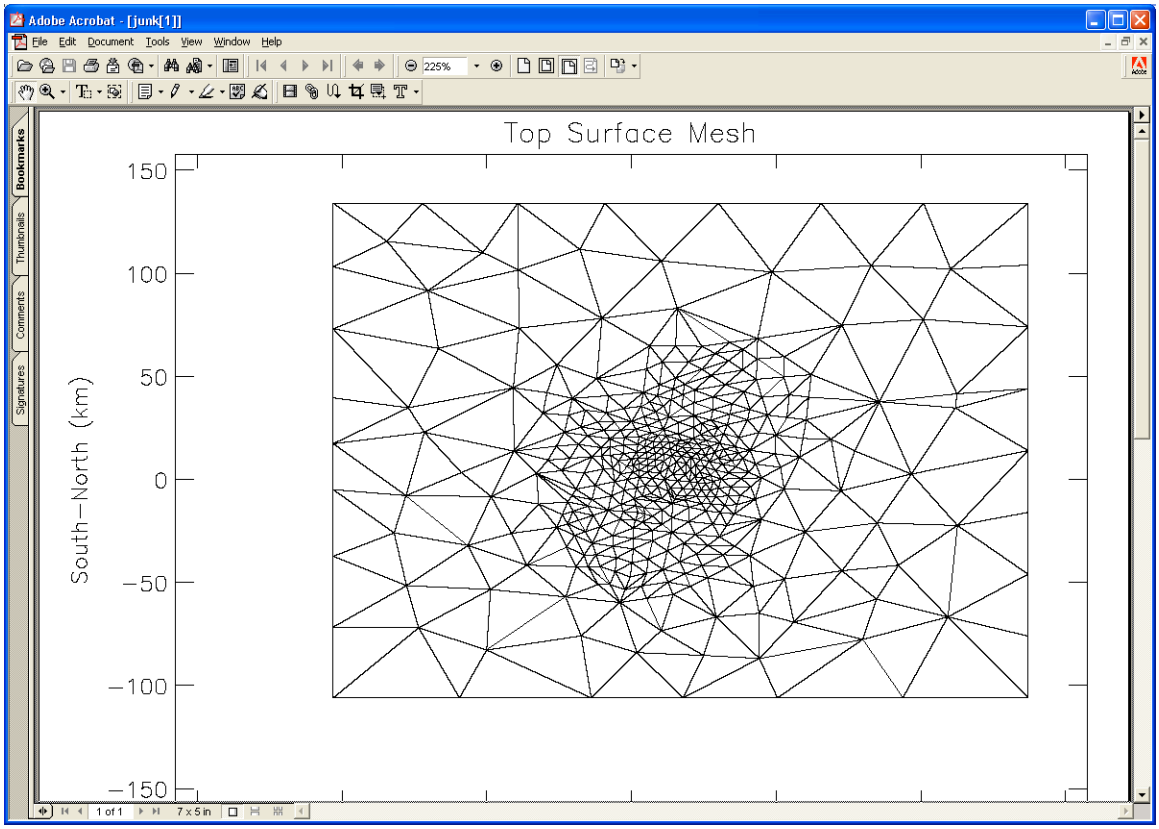

Figure 4. PDF image of the adaptive mesh used by GeoFEST.