1. **Cloud Computing and QuakeSim**

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We will review the current status of cloud computing and the different opportunities they offer to Quakesim. We describe initial work on FutureGrid that defines a generic machine image (for each QuakeSim service) that can be deployed on a variety of platforms including both basic raw HPC hardware and cloud management environments including Eucalyptus and OpenStack. We offer a demonstration of dynamic deployment on demand of QuakeSim.

1. **Radar Informatics**

Geoffrey Fox

We propose a new initiative for ACES and QuakeSIm in supporting a library of high performance data analytics programs that support processing of SAR radar images. We give examples from analysis of SAR radar from ice and snow sheets (from Kansas University led CReSIS project) and point out analogies to medical imagery. We describe the cloud and HPC architecture that will allow the library to be both interoperable and get high performance. We cover MPI, Multicore and general purpose GPU architectures.