GRID COMPUTING AND ITS PROSPECTS FOR MALAYSIAN NUCLEAR PHYSICS & ENGINEERING RESEARCH

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Abstract

Grid computing in principle provides all the needed facilities, software, hardware, high speed internet, communication interface and secure environment for collaboration of research activities and projects around the scientific and engineering communities. It provides fast compute engine for those engaged in highly technical research projects and business/commercial purposes which are required heavily compute intensive and/or process huge amount of data. Grid computing also offers a possibility of using a very advanced and sophisticated methodologies, simulation models, expert system and treasure of knowledge around the research and business world under the umbrella of knowledge sharing. Quantum and nuclear researches are expensive and dangerous (i.e. risk of ionizing radiations, hazardous materials, extreme condition such as cryogenic etc.). Thus, grid computing makes possible for quantum and nuclear including related areas of R&D to be designed in the most details and complex configurations. The problems can be modeled and simulated with incorporation of vast information and knowledge available around the globe. It also provides optimal safety prediction and analysis for each new research requirements. This poster describes some issues and beneficial prospects in utilising grid computing power for Malaysian quantum and nuclear physics and engineering research communities in pursuing the related science, engineering and technology, in particular in areas of high-energy physics and quantum science and engineering.

Summary

1)The QuantumGRID has great importance
2)Heterogeneous, supports the joint of different types of clusters and supercomputers
3)Gives a high-performance and high-throughput Grid for the parallel applications as well as sequential modes
4)Software licensing needs to be resolved
5)MIMOS-MOSTI need to provide stable nodes linked to QuantumGRID RIG members

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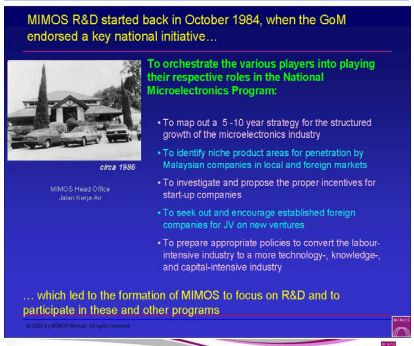
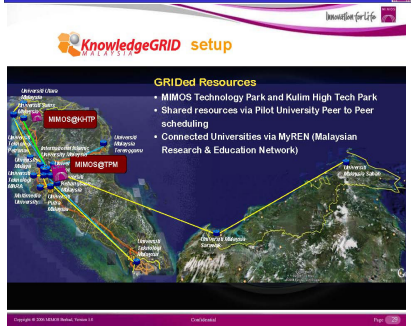
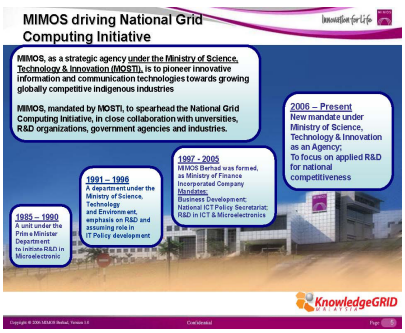
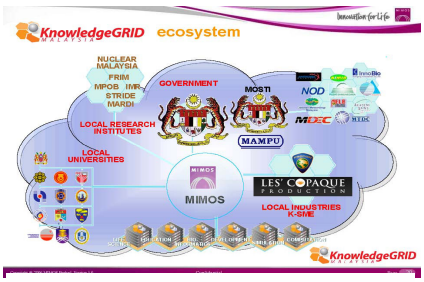
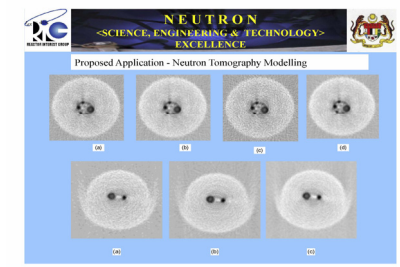
About MIMOS



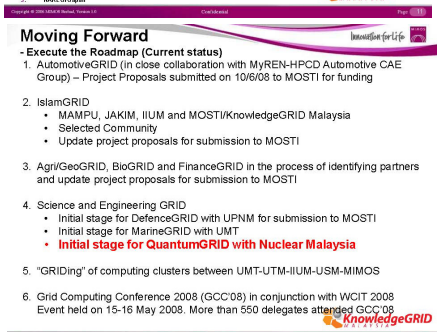


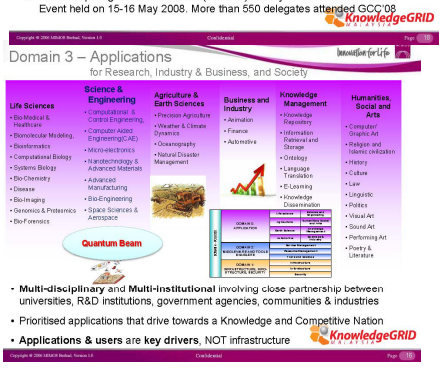


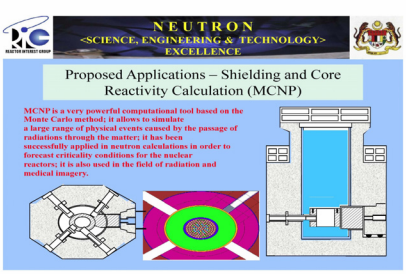




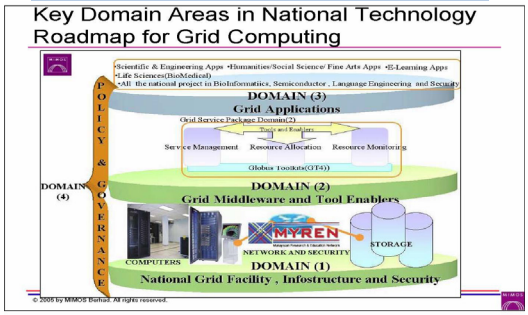
QuantumGRID powered by RIG

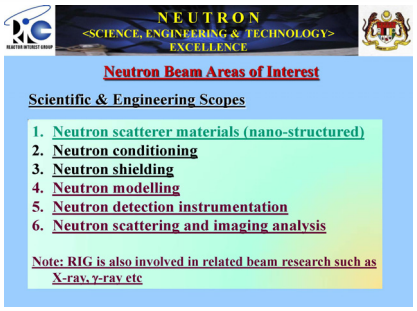


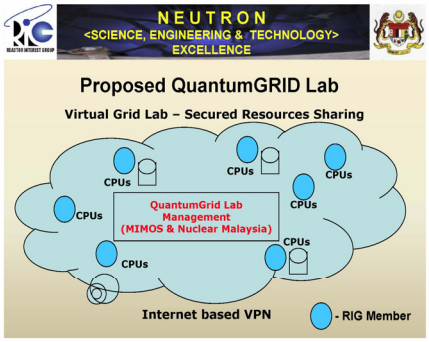


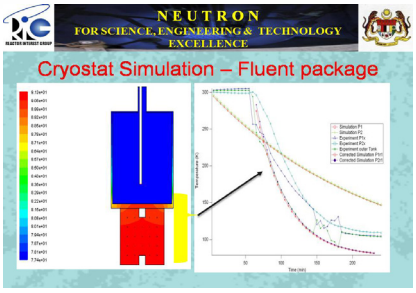


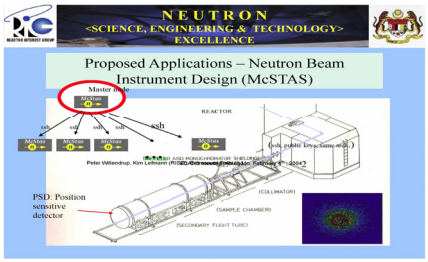
Quantum R&D – Neutron /related rays











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