VHPC 2010: Fifth Workshop on Virtualization in High-Performance Cloud Computing

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Foreword

Virtualization has become a common abstraction layer in modern data centers, enabling resource owners to manage complex infrastructure independently of their applications. Conjointly virtualization is becoming a driving technology for a manifold of industry grade IT services. Piloted by the Amazon Elastic Computing Cloud services, the cloud concept includes the notion of a separation between resource owners and users, adding services such as hosted application frameworks and queuing. Utilizing the same infrastructure, clouds carry significant potential for use in high-performance scientific computing. The ability of clouds to provide for requests and releases of vast computing resource dynamically and close to the marginal cost of providing the services is unprecedented in the history of scientific and commercial computing.

Distributed computing concepts that leverage federated resource access are popular within the grid community, but have not seen previously desired deployed levels so far. Also, many of the scientific datacenters have not adopted virtualization or cloud concepts yet. This workshop aims to bring together industrial providers with the scientific community in order to foster discussion, collaboration and mutual exchange of knowledge and experience.

This year's workshop featured 10 papers on diverse topics relating to HPC virtualization. Papers of note include Han et al. examining adverse effects of non-uniform memory latency in NUMA architectures along with a proposed soft real-time scheduler by Cucinotta et al. The guest speaker Chris Kemp, IT CIO of NASA, provided an overview of the NASA Nebula cloud environment.

The chairs would like to thank the Euro-Par organizers and the members of the program committee, Mr. Chris Kemp along with the paper presenters and attendees, whose interaction contributed to a stimulating environment. VHPC is planning to continue the successful co-location with Euro-Par in 2011.