Subject: CfP 7th Workshop on Virtualization in High-Performance Cloud Computing (VHPC'12)
Posted by VHPC 11 on Wed, 18 Apr 2012 19:46:33 GMT
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CALL FOR PAPERS

7th Workshop on

Virtualization in High-Performance Cloud Computing

VHPC '12

as part of Euro-Par 2012, Rhodes Island, Greece

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Date: August 28, 2012

Workshop URL: http://vhpc.org

SUBMISSION DEADLINE:

Rolling abstract submission
June 4, 2012 - Full paper submission

SCOPE:

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. The cloud concept includes the notion of a separation between resource owners and users, adding services such as hosted application frameworks and queueing. 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 resources 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 data centers 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.

The workshop will be one day in length, composed of 20 min paper presentations, each followed by 10 min discussion sections. Presentations may be accompanied by interactive demonstrations.

TOPICS

Topics of interest include, but are not limited to:

Higher-level cloud architectures, focusing on issues such as:
- Languages for describing highly-distributed compute jobs
- Workload characterization for VM-based environments
- Optimized communication libraries/protocols in the cloud
- Cross-layer optimization of numeric algorithms on VM infrastructure
- System and process/bytecode VM convergence
- Cloud frameworks and API sets
- Checkpointing/migration of large compute jobs
- Instrumentation interfaces and languages
- VMM performance (auto-)tuning on various load types
- Cloud reliability, fault-tolerance, and security
- Software as a Service (SaaS) architectures
- Research and education use cases
- Virtualization in cloud, cluster and grid environments
- Cross-layer VM optimizations
- Cloud use cases including optimizations
- VM-based cloud performance modelling
- Performance and cost modelling

Lower-level design challenges for Hypervisors, VM-aware I/O devices, hardware accelerators or filesystems in VM environments, especially:
- Cloud, grid and distributed filesystems
- Hardware for I/O virtualization (storage/network/accelerators)
- Storage and network I/O subsystems in virtualized environments
- Novel software approaches to I/O virtualization
- Paravirtualized I/O subsystems for modified/unmodified guests
- Virtualization-aware cluster interconnects
- Direct device assignment
- NUMA-aware subsystems in virtualized environments
- Hardware Accelerators in virtualization (GPUs/FPGAs)
- Hardware extensions for virtualization
- VMMs/Hypervisors for embedded systems

Data Center management methods, including:
- QoS and and service levels
- VM cloud and cluster distribution algorithms
- VM load-balancing in Clouds
- Hypervisor extensions and tools for cluster and grid computing
- Fault tolerant VM environments
- Virtual machine monitor platforms
- Management, deployment and monitoring of VM-based environments
- Cluster provisioning in the Cloud

PAPER SUBMISSION

Papers submitted to the workshop will be reviewed by at least two members of the program committee and external reviewers. Submissions should include abstract, key words, the e-mail address of the corresponding author, and must not exceed 10 pages, including tables and figures at a main font size no smaller than 11 point. Submission of a paper should be regarded as a commitment that, should the paper be accepted, at least one of the authors will register and attend the conference to present the work.

Accepted papers will be published in the Springer LNCS series - the format must be according to the Springer LNCS Style. Initial submissions are in PDF; authors of accepted papers will be requested to provide source files.

Format Guidelines: http://www.springer.de/comp/lncs/authors.html
Style template:
ftp://ftp.springer.de/pub/tex/latex/llncs/latex2e/llncs2e.zi p
Abstract Submission Link: http://edas.info/newPaper.php?c=11943

IMPORTANT DATES

Rolling abstract submission
June 4, 2012 - Full paper submission
June 29, 2012 - Acceptance notification
July 20, 2012 - Camera-ready version due
August 28, 2012 - Workshop Date

CHAIR

Michael Alexander (chair), TU Wien, Austria
Gianluigi Zanetti (co-chair), CRS4, Italy
Anastassios Nanos (co-chair), NTUA, Greece

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DURATION: Workshop Duration is one day.

GENERAL INFORMATION

The workshop will be held as part of Euro-Par 2012.

Euro-Par 2012: http://europar2012.cti.gr/