

# **Network Infrastructure Services as part of Cloud Computing**

## **(NetCloud)**

In conjunction with the 3<sup>rd</sup> IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2011)

### **Introduction**

The Cloud computing emerges as a new computing paradigm which aims to provide secure and reliable, on demand QoS guaranteed computing environments for the end-users. Cloud computing services usage in both academia and industry, changed the way of thinking on how users' needs can be satisfied by computational infrastructures. However, with the increase of data transferred among different places, it became critical how to support distributed computing resources with advanced network infrastructure services. It is envisioned that network infrastructure services provisioned on-demand could be managed and reconfigured dynamically by Cloud operators and user applications to achieve optimal usage criteria. Such dynamic infrastructures reveal new aspects in network virtualization, service delivery automation and general infrastructure resources management that should be supported by well-defined information models and related middleware. New components of the required network infrastructure for Cloud services and applications should create an integrated self-management environment that can react to changes in workloads and other events with minimal human interference. Security issues should be addressed as a part of the general service delivery framework/workflow and support both infrastructure provisioning process and secure virtualised services/infrastructures operation.

The workshop will discuss issues of optical network virtualisation to create internal distributed datacenter network infrastructure and provide dedicated inter-cloud network connectivity on-demand.

### **Objective**

NetCloud, collocated with IEEE CloudCom 2011, attempts to address the problem of how the underlying network infrastructure is capable of supporting advanced cloud computing cases. The workshop is intended to bring together network research community, commercial network operators and industry with the major cloud computing players, including IT specialists, researchers and commercial providers.

### **Topics of Interest**

The workshop includes, but is not limited to the following *topics*:

- Dynamic infrastructure services for Clouds
- Heterogeneous network architectures and frameworks for distributed and high performance computing

- Information modeling for combined network and IT resources infrastructure services
- New services provisioning/delivery models for multi-provider business environment
- Network virtualization technologies
- Virtual networking and network services in Clouds
- Network infrastructure provisioning and management as a part of cloud computing workflows
- Network interfaces for clouds
- Performance and reliability issues
- Service Level Agreement and QoS guarantees in the network layer
- Dynamically provisioned security infrastructures (integration with provider and customer legacy services and service provisioning workflow, security policy definition, security context management)
- End-to-end techniques for autonomic management of cloud resources
- Policy based infrastructure services management
- Experimental platforms that support network management in Cloud computing
- Experimentation testbeds and measurements studies

## **Call for papers:**

Papers describing original research on both theoretical and practical aspects of dynamic network services for cloud computing are solicited.

### **Important Dates:**

Paper Submissions: August 28, 2011 → **Extended to September 10, 2011**

Author's Notification: September 21, 2011

Camera-ready paper submission: October 1, 2011

## **Paper submission instructions:**

This workshop will only accept for review original papers that have not been previously published. Papers should be formatted based on the IEEE Transactions journals and conferences style; maximum allowed camera-ready paper length is six (6) pages. Submissions must be in Adobe PDF format, including text, figures and references.

Accepted papers will be published in the CloudCom2011 proceedings, for further information see IEEE CloudCom 2011 web page <http://2011.cloudcom.org/>.

## **Review procedure**

All submitted paper will be reviewed by international program committee.

## **Workshop Organizers**

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## **Technical Program Committee**

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