

NATIONAL UNIVERSITY OF SINGAPORE

School of Computing

C S S E M I N A R

Title: Use of Incentives' Mechanisms for Managing Internet and Cloud Resources, and Energy Goods

Speaker: Prof. George D. Stamoulis
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Chaired by: Dr Ma Tianbai, Richard, Assistant Professor, School of Computing
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Abstract:

Economic mechanisms (including pricing, SLAs and auctions), address the incentives of users and service providers, each of whom responds according to his own best interest. Thus, when appropriately designed, economic mechanisms are a powerful distributed tool for the efficient allocation, management, and sharing of network resources (bandwidth, spectrum), cloud resources, digital goods (content and sensor data), and even energy goods (e.g. NegaWatts) in smart grids.

In the introduction of this talk I will present a brief overview of the relevant research carried out in the Network Economics and Services (NES) Group (<http://nes.cs.aueb.gr/>) of AUEB.

In the second part of this talk I will consider the problem of the formation of an economically sustainable federation of resources by Cloud Service Providers. I will introduce a relevant queueing model that can be employed to derive the optimal federation policy that maximizes the total profit (revenue minus cost) of CSPs while also taking into account the incentives of individual CSPs. This work is being carried out in the context of EU-funded project SmartenIT.

In the third part I will briefly present a model for NegaWatt markets developed within EU-funded project Wattalyst, in which a utility operator wishes to curtail some amount of demand load during peak hours, in order to save energy generation costs, as well as economic mechanisms applicable for such NegaWatt goods.

Biodata:

George D. Stamoulis (<http://nes.aueb.gr/users/gd.html>) received the Diploma in Electrical Engineering (1987, with highest honours) from the National Technical University of Athens, Greece, and the MS (1988) and PhD (1991) degrees in Electrical Engineering from the Massachusetts Institute of Technology, Cambridge, Massachusetts, USA. He is a Professor in the Department of Informatics of Athens University of Economics and Business (AUEB). His research interests are in economic and business models for networks for clouds and smart grids, auction mechanisms for bandwidth and digital goods, demand response in electricity consumption, Internet traffic management, telecommunications and power regulation, and reputation mechanisms for electronic environments. He has been extensively involved in several European projects covering these topics. He has also collaborated several times with the Greek Regulatory Authorities for Communications and Power on regulatory issues and on auction design, as well as with several telecom companies on service pricing, techno-economic and cost analysis of service deployment, design of smart services etc.