**Séminaire étudiant conjoint
CIRRELT/GERAD*/MORSC
Joint Students Seminar**

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On the Interplay Between Network Function Mapping and Scheduling in VNF Based Networks: A Column Generation Approach

ABSTRACT: *Middleboxes (i.e, firewall, cache, proxy, etc.) are hardware appliances designed to enforce security and performance policies. Being an integral part of today's cloud and enterprise networks, these middleboxes are expensive, hard to manage and to maintain. Network Function Virtualization (NFV) has emerged as a promising technology that replaces these hardware appliances by software ones known as Virtual Network Functions (VNFs). VNFs can be instantiated and deployed on Virtual Machines (VMs) running on commodity servers which ensures their flexibility, manageability and cost-efficiency However, efficiently processing services through an ordered chain of VNFs is not trivial. It requires solving three inter-related sub-problems; the network functions (NFs) mapping sub-problem, the traffic routing sub-problem and the service scheduling sub-problem.*

We first highlight the existing interplay between the three sub-problems and then present a formulation of the service function chaining scheduling (SFCS) which exploits the interactions between them. Given the complexity of the SFCS problem, we present a novel column generation approach that solves exactly a relaxed version of the problem and can serve as a benchmark approach. We evaluate numerically our method and show that it can attain optimal solutions substantially faster.

LUNDI / MONDAY

15 janvier 2018, 11h
January 15th, 2018, 11:00

Salle / Room 3.309
Engineering, Computer Science and
Visual arts building
Concordia University

Pizza et boissons gazeuses fournies
Pizza and soft drinks offered

Réservé aux étudiants
For students only

Maximum : 25 participants

Inscription obligatoire au plus tard le 15 janvier / Registration required no later than January 15th

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