



SÉMINAIRE CONJOINT AVEC / JOINT SEMINAR WITH

La Chaire de recherche du Canada en distributique et La Chaire de recherche du Canada en logistique et en transport /
The Canada Research Chair in Distribution Management and The Canada Research Chair in Logistics and Transportation

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“ Exact Solution of Large-Scale Hub Location Problems with Multiple Capacity Levels ”

Résumé / Abstract

This talk presents an extension of the classical capacitated hub location problem with multiple assignments in which the amount of capacity installed at the hubs is part of the decision process. An exact algorithm based on a Benders decomposition of a strong path-based formulation is proposed to solve large-scale instances of two variants of the problem: the splittable and non-splittable commodities cases. The standard decomposition algorithm is enhanced through the inclusion of features such as the generation of strong optimality cuts and the integration of reduction tests. Given that in the non-splittable case the resulting sub-problem is an integer program, we develop an efficient enumeration algorithm. Extensive computational experiments are reported and analyzed to evaluate the efficiency and robustness of the proposed algorithms.

This presentation is the result of a joint project carried out with Gilbert Laporte and Jean-François Cordeau while the author was working at HEC Montréal and CIRRELT.

Note

Ivan Contreras est professeur adjoint au département de génie mécanique et industriel de l'Université Concordia. Il occupe le bureau 3431 au CIRRELT. / Ivan Contreras is Assistant Professor at the Department of Mechanical & Industrial Engineering at Concordia University. His CIRRELT office number is 3431.

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MERCREDI / WEDNESDAY

**28 septembre 2011 /
September 28, 2011**

10h30

**Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal**

Bienvenue à tous / Welcome to all

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