



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

Stefan Gollowitzer

Université de Vienne, Autriche / University of Vienna, Austria



“OPTIMIZATION TOOLS FOR LAST MILE ACCESS NETWORKS”

Résumé / Abstract:

Improving the quality of broadband connections has become one of the main fields of investments for telecommunication providers. State-of-the-art strategies for covering the so-called last mile are based on replacing existing copper connections with fiber-optic networks. If replacing the existing copper infrastructure with fiber-optic connections is not profitable, the Fiber-To-The-Curb (FTTC) strategy is often applied: Fiber-optic cables run to a cabinet serving a neighborhood, end users connect to this cabinet using the existing copper connections and switching devices are installed in these cabinets which change optical to electrical signals and vice versa. In this talk we present several mathematical models for the FTTC strategy. They cover a large number of planning aspects including the location of switching devices, assignment of customers to switches, the incremental deployment of networks subject to coverage constraints, reliability constraints and capacity planning. Based on a thorough analysis of the problems at hand we propose efficient solution algorithms based on branch-and-cut, valid inequalities, decomposition techniques and modeling the problems at hand on extended graphs.

Note: M. Stefan Gollowitzer effectue présentement des études doctorales sous la direction des professeurs Ivana Ljubic et Immanuel Bomze, au département de statistique et recherche opérationnelle de l'Université de Vienne. Du mois d'avril à décembre 2011, il a séjourné au CIRRELT en tant que stagiaire, sous la supervision de Bernard Gendron. Il a obtenu sa maîtrise à l'Université technique de Vienne en 2010. / Mr. Stefan Gollowitzer is a Ph.D. student at the Department of Statistics and Operations Research of the University of Vienna, under the supervision of Professors Ivana Ljubic and Immanuel Bomze. From April until December 2011, he was a visiting researcher at CIRRELT under the supervision of Bernard Gendron. He obtained his M.Sc. from the Vienna University of Technology in 2010.
stefan.gollowitzer@univie.ac.at

MERCREDI / WEDNESDAY

**2 mai 2012 /
May 2nd, 2012**

10h30

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

Bienvenue à tous / Welcome to all

*Responsable/Organizer : Jean-François Cordeau
Information : Pierre Marchand
Responsable des communications du CIRRELT
pierre.marchand@cirrelt.ulaval.ca*

