Dr. Leonard Lu Biographical Sketch

Dr. Leonard Lu is an external Industry Advisor to Cox Associates, offering expert advice on how best to apply advanced network optimization technologies and operations research modeling to the most important issues facing the industry. He advises Cox Associates' top management, especially Dr. Cox and Professor Kuehner, and is a frequent collaborator and co-author with them on technical papers that advance the state of the art in practical network optimization heuristics.

Dr. Lu is a top expert in telecommunications operations research, with publications in journals such as Mathematics of Operations Research, Management Science, Journal of Heuristics, Telecommunication Systems, and European Journal of Operational Research. He is a frequent reviewer for the Journal of Heuristics and has been on its Editorial Board since 1997. At AT&T Laboratories (formerly AT&T Bell Labs), he has pioneered new techniques in telecommunications network reliability and risk analysis, including methods to quantify the key relation between infrastructure reliability and grades of service perceived by customers. His experience with reliability modeling extends to power systems and Central Office systems, as well as more traditional link reliability. Dr. Lu is also widely recognized for his original contributions to mathematical inventory theory. At AT&T, he has led the development of software for strategic inventory management of service provisioning spares.

Prior to joining AT&T in 1995, Dr. Lu led or contributed to over a dozen highly successful network optimization and inventory and logistics management projects at U S WEST Advanced Technologies. He created heuristics for SONET ring planning that eventually led to a software system credited with saving U S WEST Communications over $20M in its deployment of SONET ring networks. He designed and managed all aspects of development of an optimized logistics planning software tool for minimizing end-to-end life-cycle costs. This effort resulted in a new standard system for logistics planning and purchasing at U S WEST. Dr. Lu's innovative approach via mathematical programming was awarded a U S patent in 1995 (U.S. Pat. # 5,430,317). It helped win U S WEST the prestigious ORSA Prize from the Operations Research Society of America (now INFORMS) in 1994, recognizing the best company in the world at applying operations research in innovative ways having profound business impact. Inside U S WEST, too, Dr. Lu was recognized with numerous awards, including the highly competitive and prestigious U S WEST Chairman's Award (1993) and Special Achievement and Circle of Excellence Awards.

Dr. Lu holds a Ph.D. in Operations Research from Ohio State University and S.M. and A.B. degrees in Mathematics from Fudan University in Shanghai, China. He is an active member of the Institute for Operations Research and Management Science (INFORMS). He has chaired many conference sessions on operations research applications in telecommunications and participated in the 1993 ORSA George E. Nicholson Prize Committee.

Since 1996, Dr. Lu has advised Cox Associates on new directions for software tools and products directed at PCS companies, local exchange carriers, and CLECs. His primary contributions deal with creative ideas and recommendations for applying genetic algorithms and other advanced heuristics to very hard combinatorial optimization problems.