Foreword

In recent years, great efforts have been made to reduce waste in supply chains. These mainly focused on industry while efforts spent in the transport sector have been much smaller. This is surprising because margins in the transport sector are relatively small. Hence, aligning activities in an intermodal transportation chain should be a "must" for the parties involved. One way to become more cost effective is *collaborative planning*, where the timing and/or quantities to be shipped are negotiated among all parties involved resulting (ideally) in a win-win situation for each participating partner.
This is the starting point of the PhD thesis of Carolin Puettmann. She considers a transportation chain consisting of four parties: a carrier in region A, another carrier in region B, a liner service connecting the terminal in region A with that in region B and an intermodal operator. The liner service is a long-haul operation (e. g., crossing the ocean). The transportation of goods (e. g., containers) within a region is executed by trucks in pickup and delivery tours starting and ending at the terminal. The intermodal operator receives transportation orders from his customers for transporting goods from A to B and vice versa. In order to run this transportation chain at lowest costs, the activities of all parties have to be coordinated.
Although this is an idealised setting, its transfer to an actual business case seems most appealing as computational tests have shown considerable cost reductions.
Furthermore, this PhD thesis is the first that converts and extends the findings of Martin Albrecht (2010) regarding coordination schemes and mechanisms to the field of transportation. Many new ideas have been introduced by Carolin Puettmann to make the scheme work for mixed-binary mathematical programming models.
She is the first to investigate the suitability of collaborative planning in light of stochastic demands. The reason for considering stochastic demands is the long time lag between starting the execution of a transportation order (e. g., in region A) followed by a long-haul oper-

ation (e. g., by ship) to its destination region B. Once having arrived in region B, the pickup orders which can be combined with delivery orders probably will have changed resulting in uncertainty at the time at which collaborative planning takes place (i. e., prior to the start of the transportation order).
Interested in the solution of this problem? Then continue reading the PhD thesis - it will be worth the effort!
May I add that this is one out of three very remarkable PhD theses which were created in collaboration with the SAP AG, Walldorf, and which were funded by the EU as part of the project "Innovation, Coordination and Collaboration in Service Driven Manufacturing Supply Chains".[1]

Hamburg, July 2010 Hartmut Stadtler

[1] I. e., Albrecht (2010) and Scheckenbach (2010).