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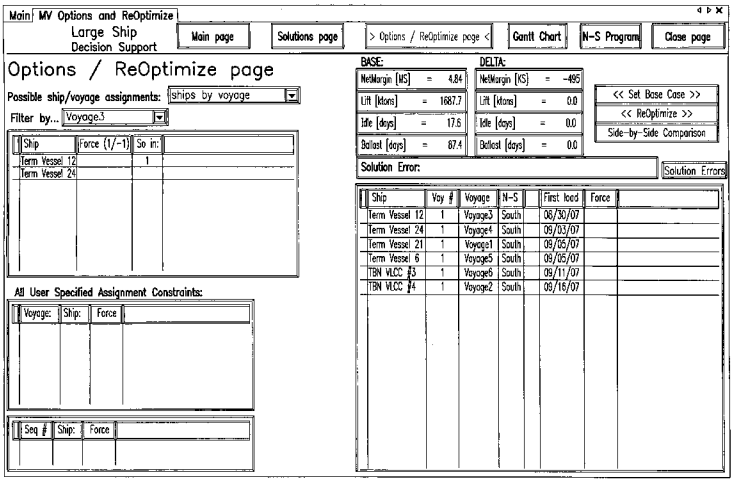


FIG. 3X

(57) Abstract: A computer modeling application is disclosed for finding the optimal solution to maximize total net margin, for the assignment of vehicles (e.g., especially vessels) in an available fleet to perform a set of voyages to transport cargo comprising one or more bulk products during a planning period, as well as an apparatus and method employing the same. The fleet can include term vehicles and spot vehicles. The vehicles, voyages, and cargos can be heterogeneous. In one embodiment, the vehicles are crude carrier vessels and the bulk products are different grades of crude oil. To increase speed, the model is broken into linear programming and mixed integer (linear) programming problems. The model can be run on a real-time basis to support complex scheduling operations.

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