



**SYSTEM, METHOD AND APPARATUS FOR ALLOCATING
RESOURCES BY CONSTRAINT SELECTION**

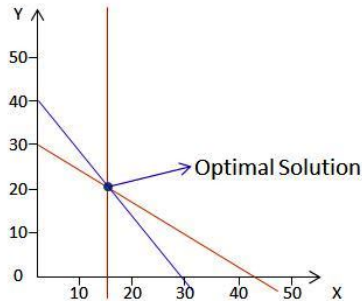
UTA (05-24)

Technology Need:

Linear programming is the most widely used computational decision-making model in both business and science. For example, it is used by a GPS to find the shortest route to a destination and by airlines to determine an optimal flight schedule. A number of linear programming solvers are available for computers. The current standard approach is the simplex method. In today's ever accelerating world, neither the simplex method nor other existing solvers are fast enough.

Solution/ Offering:

UTA researchers have developed a new computational approach (COST-Constraint Optimal Selection Technique) that solves large problems at least ten times faster on the average than existing methods. A COST utilizes the fact that relatively few constraints of a linear programming problem are needed to determine the answer. It uses a numerical measure of the likelihood that a constraint is actually needed. In this way, more than 99% of them may not be used. Hence, the size of a large problem is dramatically reduced, allowing it to be solved much faster.



Value Proposition:

- ✓ Solution of large problems previously unsolvable
- ✓ Generation of near real-time solutions
- ✓ Retention of simplex method features

Industrial application:

- ✓ Computer Modeling
- ✓ Multi-variable optimization

Patent Status:

- ✓ Patent Number :
US Patent# [8,082,549](#)

Current Stage:

- ✓ Prototyped and Tested



Meet the Inventors

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