

SCHEDULEMISER®

The Optimised Timetable development system for railway planning and near real time decision support

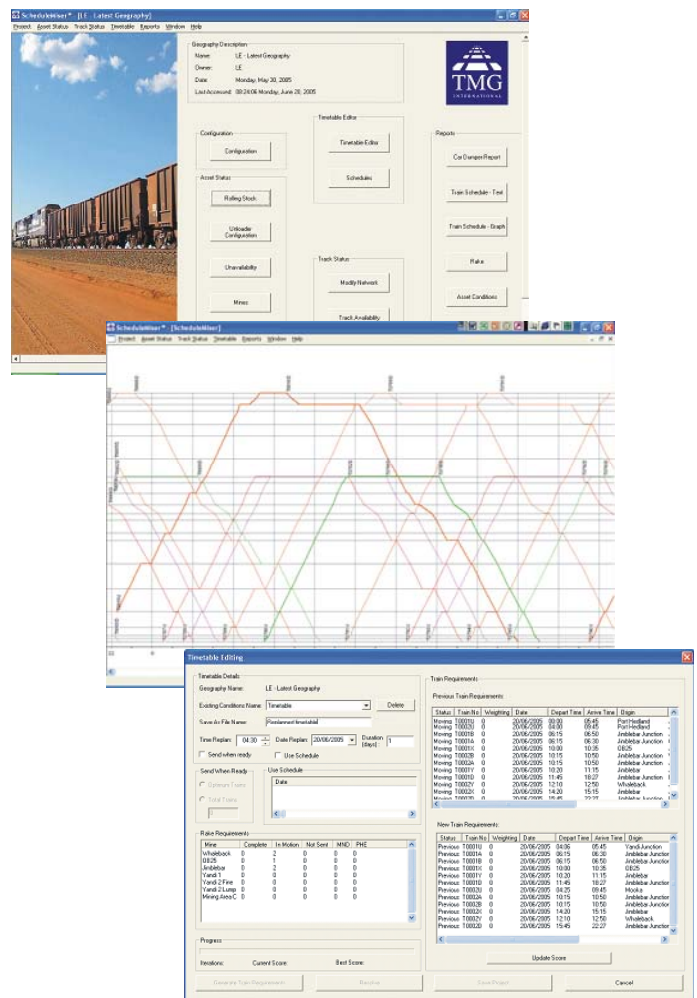
Benefits

- Provides shorter planning lead times thus allowing late changes to train requirements to be optimised;
- Provide greater planning capacity that allows all what ifs to be explored and analysed quickly;
- Reduces delays in service through minimising the delays in meets and crosses through out the timetable;
- Provides reliability and robustness of service by ensuring that all timetables are efficiently resources;
- In summary better train plans increased revenue and lower costs.

Key Features

SCHEDULEMISER® product provides rail planners/dispatchers with a tool that prepares an optimised feasible timetable in near real time. The key features of the system are:

- It prepares optimised feasible timetables and train;
- It provides a means for the optimisation of train planning and scheduling requirements based on a set of timetable quality attributes for a given infrastructure;
- It provides a tool for quickly analysing the effects of train changes and/or infrastructure requirement;
- It quickly analyses the effects of Infrastructure availability issues such as TSR's, possession, curfews and infrastructure outages etc;
- It produces monthly, daily and dispatch timetables on demand;
- It assists in train dispatching decisions;
- Provides analysis of theoretical line capacity verses and replanning line usage for a given time period.



SCHEDULEMISER®

Methodology

The complete SCHEDULEMISER® system is made up of several parts. The first allows the train planner to configure the system assets with constraining business rules to reflect the network to be simulated. These rules then allow a set of input train requirements to be created.

The Train Planner then loads these new or existing train requirement records and network configuration files into the SCHEDULEMISER® tool. This patented search engine takes the network configuration and train requirements files and produces a series of feasible timetables. The search is run until the output statistics show that an optimised solution has been found.

The resulting timetable can be saved and/or a train graph of the timetable plotted against the timetable output file. Other outputs can be created as required.

Powerful and New Optimisation

SCHEDULEMISER® incorporates a next generation optimisation technique developed by the University of South Australia and TMG with the support of the Australian Rail Cooperative Research Centre

Days of Operation Codes

SECTION 1	16-Z	18-18	20-20	22-22	24-24	26-26	28-28	30-30	32-32	34-34	36-36	38-38	40-40	42-42	44-44	46-46	48-48	50-50
Monday to Friday	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Active & Depart Times

Form & Destination	Passing Indicators	Terminator Lines	Divide or Shunt	Leader Dets
...

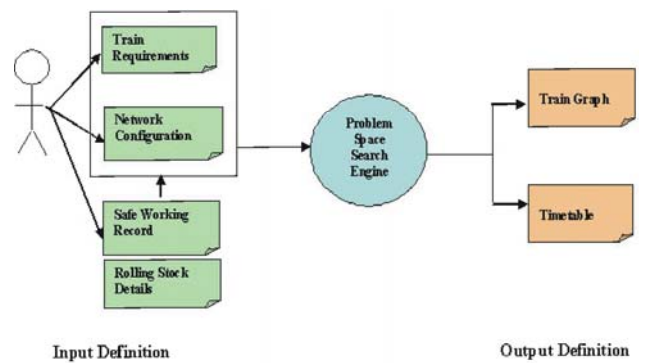
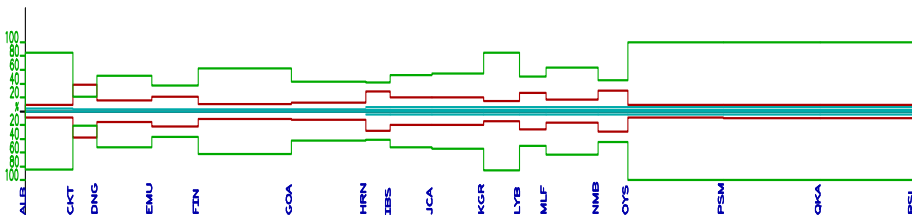


Figure 1 System Diagram

AUSTRALIAN MINERAL RAILWAY NETWORK
 Albatross - Bandicoot - Cockatoo - Honeyeater - Gecko - Wallaby
 National 12 Train Schedule
 Sectional Graphical Line Capacity and Usage Display Prepared on 16-Jun-04



Legend : Line Capacity, Actual Use and Percentage Usage all to a common linear scale between linearly located Sectional Break Points

