

EVALUATION OF THE [CASSINI] RESOURCE TRADING BOARD SYSTEM

Randii R. Wessen
MS 301-2501
California Institute of Technology
Jet Propulsion Laboratory
4800 Oak Grove drive
Pasadena, California 91109
(818) 354-7580
fax (818) 393-5074

David Porter
California Institute of Technology
Pasadena, California 91125
(818) 3954487
fax (818) 7938580

The Resource Trading Board System was developed to assist the Cassini Science instrument Manager with the management of the spacecraft's science payload. This system, unlike previous development approaches, allocated the entire mass, power and budget for the science instruments to the Principle Investigators. The result removed the Cassini Project from solving instrument development issues. Problems that did occur were resolved by the Principle Investigators themselves through the use of a "trading board". This trading board allowed Principle Investigators to submit "bids" (i.e., a request for resources) to a data base. Any other Principle investigator with their own resource issue could swap resources with investigators in the data base. The resulting trade could alleviate both instrument problems.

To date, a number of trades have been made solving many Cassini instrument development mass, power and budget issues. Trades were made between watts and dollars, dollars and kilograms, and kilograms and watts. Examples of these trades and their impact on the overall science return for the mission will be discussed. A summary of the Resource Trading Board System's strengths and weakness will be presented highlighting the systems overall usefulness. Finally, recommendations will be made that could increase the utility of the system.

KEY WORDS: Spacecraft, Cassini, Instrument, Development