Range Scheduling Aid (RSA)

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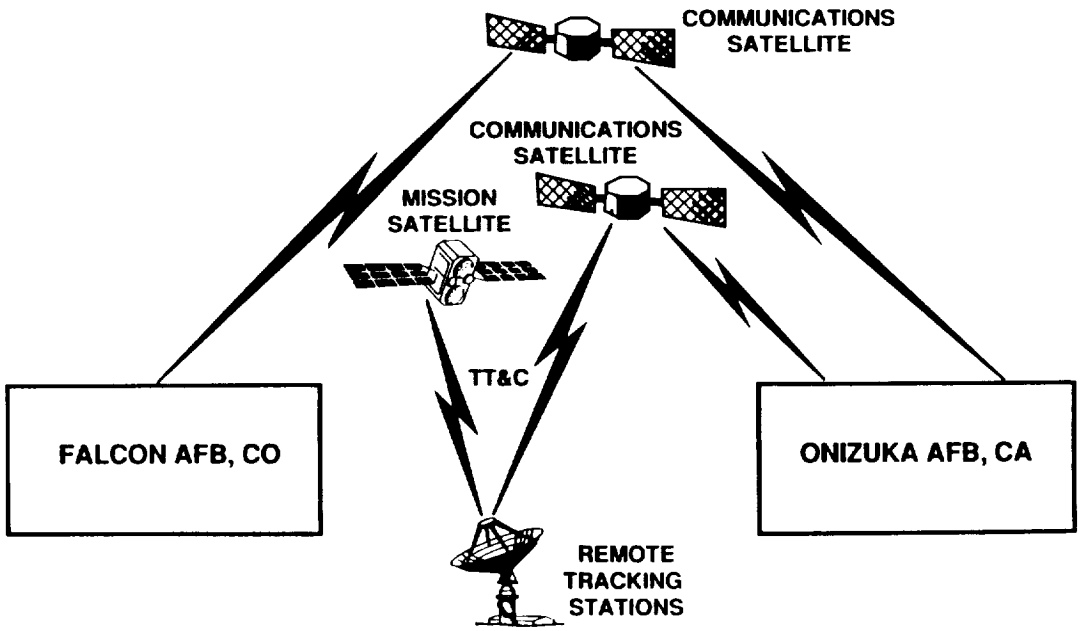
Satellite Control Network



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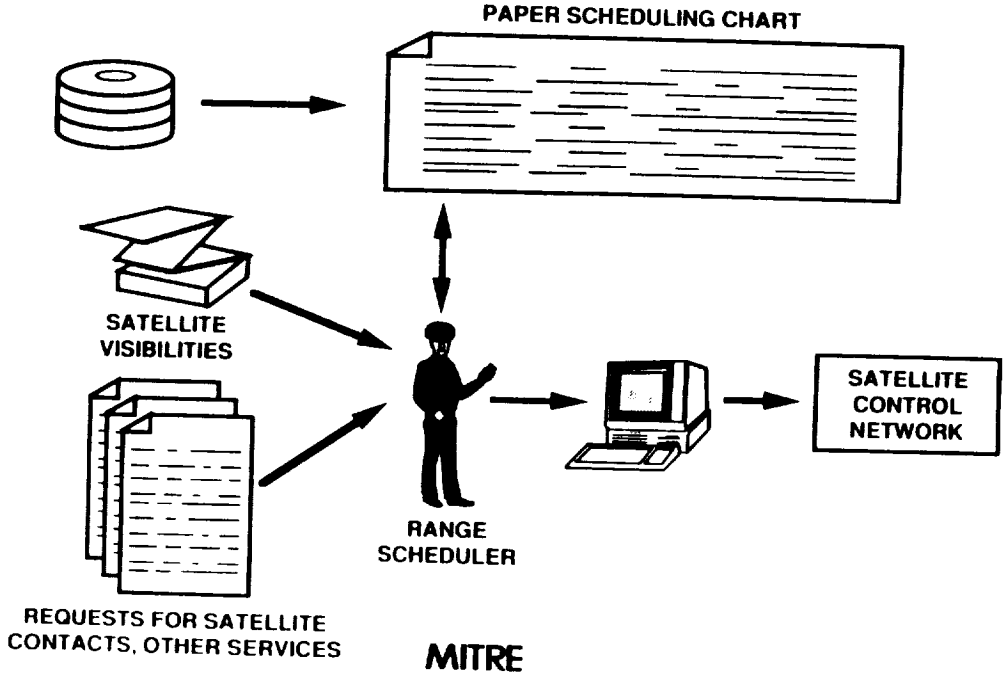
Range Scheduling - Current Approach



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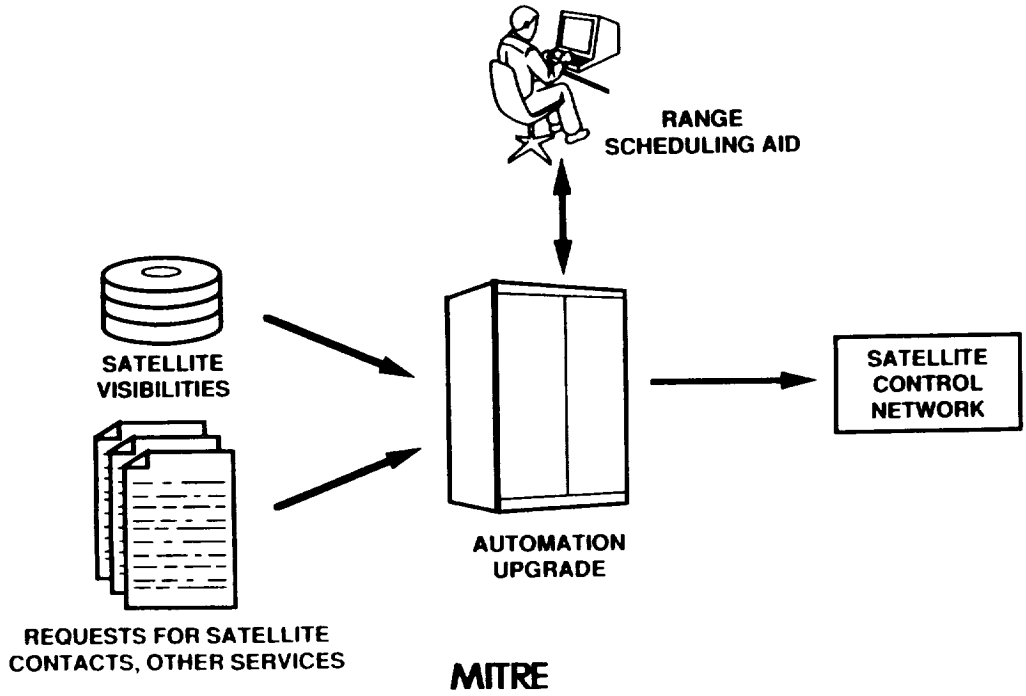
MITRE Tasking

- "Investigate the feasibility and utility of developing a knowledge-based scheduling aid..."
- Approach:
  - Replicate current scheduling in automated environment
  - Develop prototype with user interaction
  - Create user-friendly, graphical interface

Range Scheduling - New Approach



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RSA Features

- Graphical User Interface
  - Similar look and feel to paper based approach
  - Real-time response to schedulers
- Constraint Based Analytical Capability
  - Provides scheduling tools
  - Automates scheduler heuristics
- Multi-user
  - Architecture supports real-time multi-user capability
- Portable
  - Sun, Symbolics, TI Explorer, and Mac II

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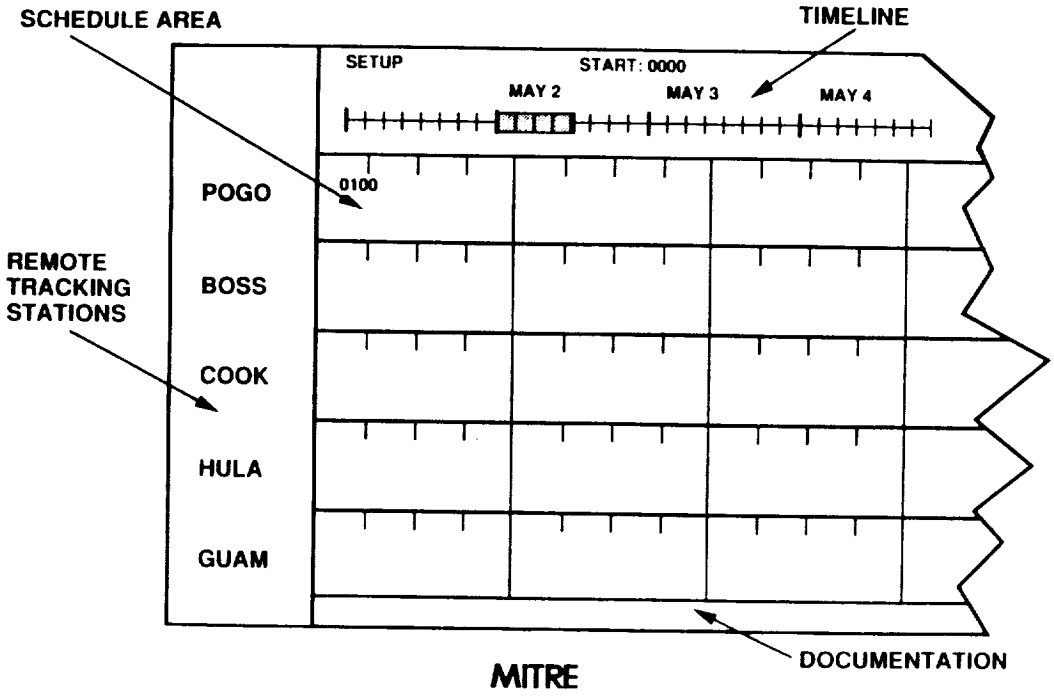
Range Scheduling Aid Display



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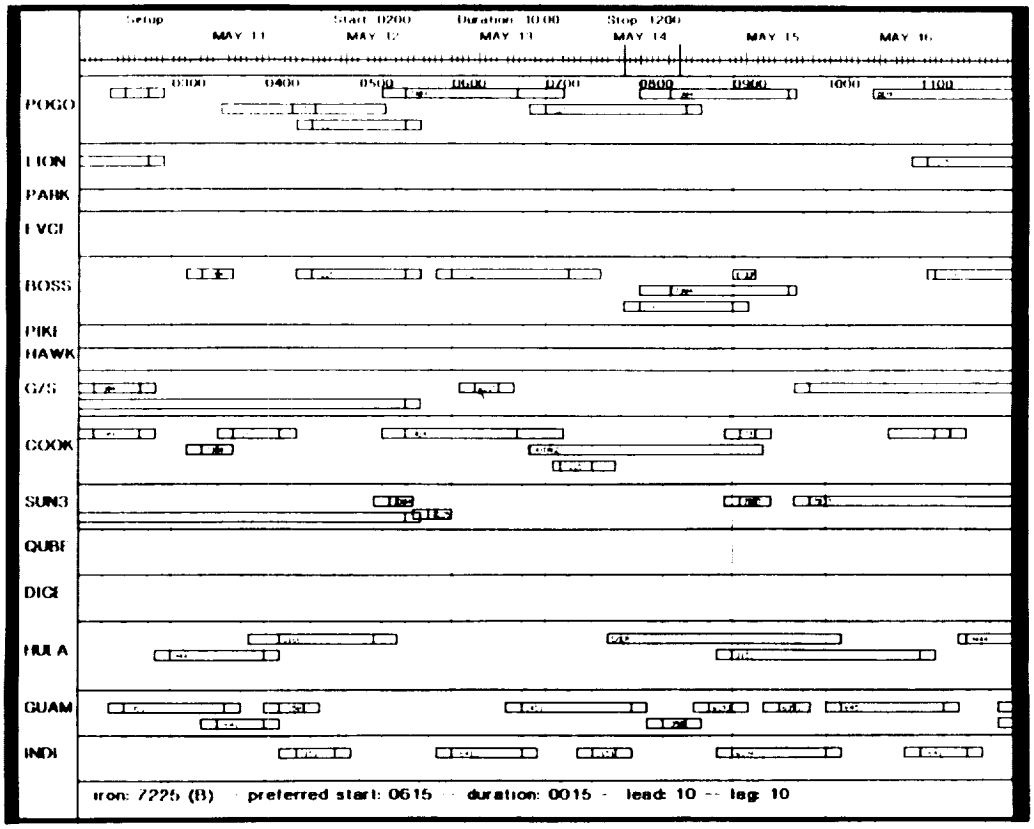

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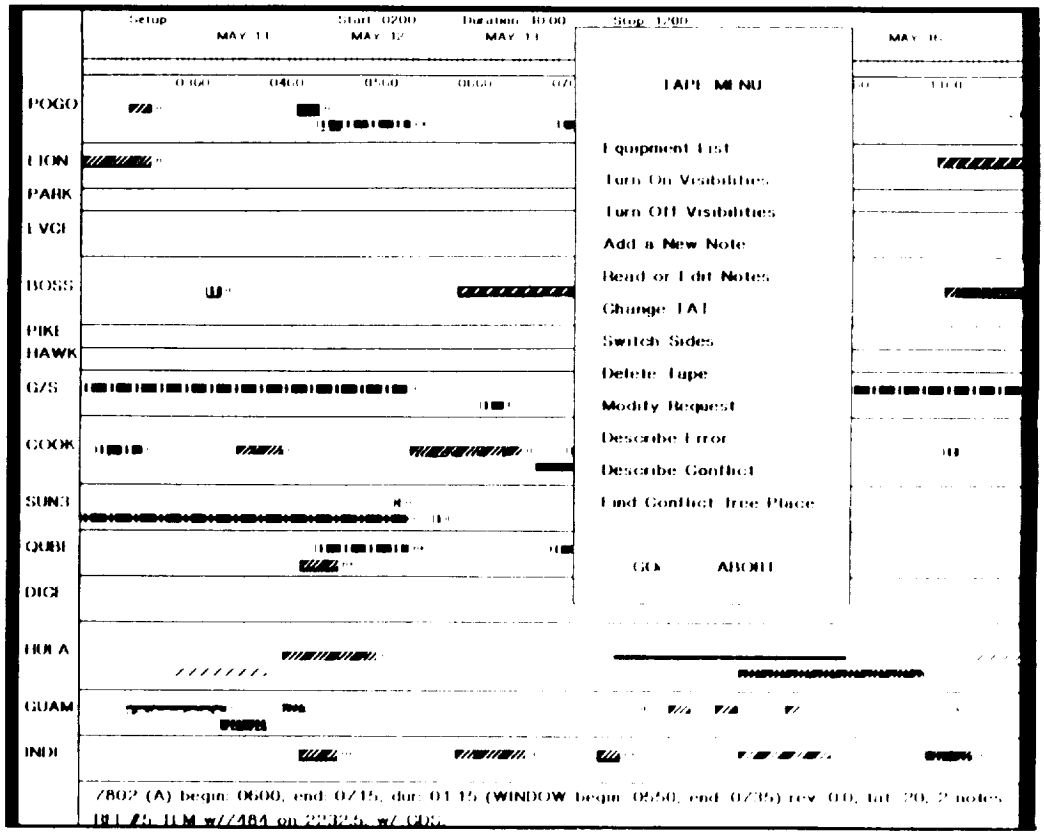

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Constraint Based Analytic Capability

- Conflict Identification
  - Oversubscribed resources?
    - At local Remote Tracking Station
    - Across AFSCN
  - Adequate turnaround time
- Conflict Explanation
  - Type of conflict
  - Specific resources and times associated with conflict

Constraint Based Analytic Capability (concluded)

- Conflict Resolution
  - For single task (list of possible solutions)
  - Globally across time slice
- Error Checking
  - Satellite visible?
  - In requested time window?
  - At proper RTS?

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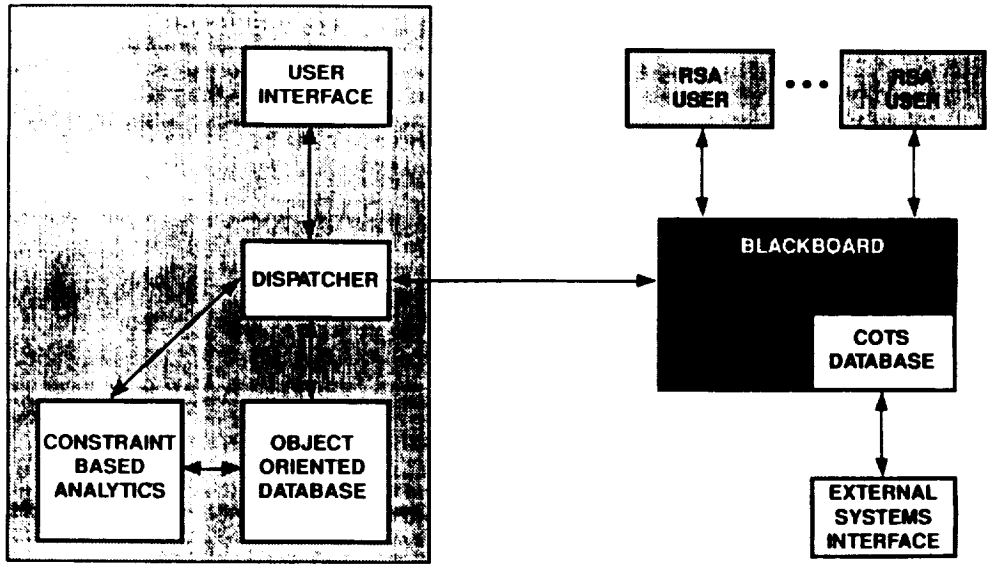
RSA Architecture



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Range Scheduling Aid Benefits

- Automated scheduling
- Electronic schedule dissemination
- Simultaneous scheduling
- Extensible system
- Reduced training time

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