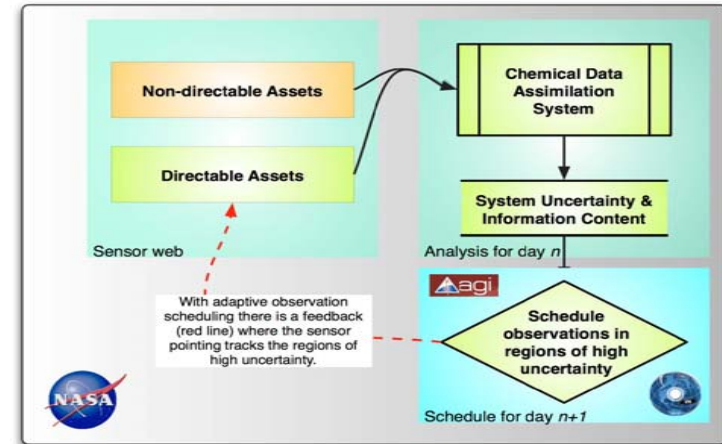


An Objectively Optimized Sensor Web

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Objective

Our aim is to develop a key technology currently missing in sensor web implementations, an autonomous Objectively Optimized Observation Direction System (OOODS). The OOODS will objectively optimize the observation schedules of a set of assets. This project concentrates on the generic principles of how such an OOODS would operate, its architecture, and development as a plug-in for a sensor web simulator/controller. The goal of the sensor web OOODS described is to employ an objectively optimized data acquisition strategy for integrated observing systems that is responsive to environmental events for both application and scientific purposes.



Schematic of the Objectively Optimized Observation Direction System

Approach

The system will be implemented by extending two existing technology components:

- Analytical Graphics Incorporated (AGI) Satellite Tool Kit (STK), which will be used to develop the sensor web test bed
- NASA award winning AutoChem system, another application could use a different component supplying the uncertainty and information content metrics.

Collaborators/Partners

- Michael Seablom / GSFC
- Mark Schoeberl / GSFC
- Stephen Talabac / GSFC

Key Milestones

- | | |
|---|-----------|
| • Sensor Web Data Interface and Preparation | Dec/2006 |
| • Interim report for Simulator Component 1 | Dec/2008 |
| • Interim report for Simulator Component 2 | Dec/2008 |
| • Sensor Web Simulator Component 1 | July/2009 |
| • Sensor Web Simulator Component 2 | July/2009 |

TRL_{in} = 4

