

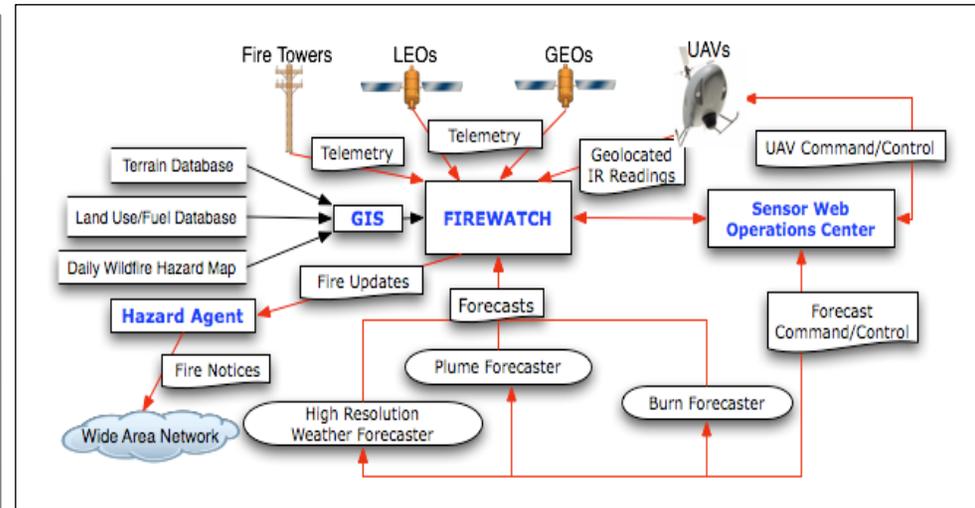


# Flow Webs: Mechanism and Architecture for Sensor Webs

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## Objective

- **Prototype** and **demonstrate** the *flow web*
- Simple, novel architecture that captures the conflicting demands of sensor webs
- Emphasizes dynamic adaptation for ease of experimentation, recovery from failure, automated command and control, and incremental development and deployment
- Integration at multiple levels, in many places, at different times throughout the internet.



Firewatch Sensor Web Concept.

## Approach

- *Continuous data transfer among peers*: Flow sink may adjust the reliability of data transfer in keeping with sink-specific semantics, the rate of data generation, and the bandwidth of the network connection between the flow source and the sink
- *Selective exchange*: Flow sink may select from the flow exactly the data that it requires for its purposes
- *Arbitrary intermediation*: Intermediate components may be inserted anywhere within flows at any time for transformation and translation, buffering, re-sampling, or augmentation.

## Co-I's/Partners

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## Key Milestones

- Sensor simulation, modelling, agent and data requirements defined 03/2007
- Demo 1: Basic architecture and component interfaces 06/2007
- Initial implementation tested 07/2007
- Demo real-time static flows with streaming video 07/2007
- Demo real-time flow receiver mobility 11/2007
- Demo full Firewatch scenario with agent control 12/2007

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