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## **Internet over a Bi-Directional Satellite Link**

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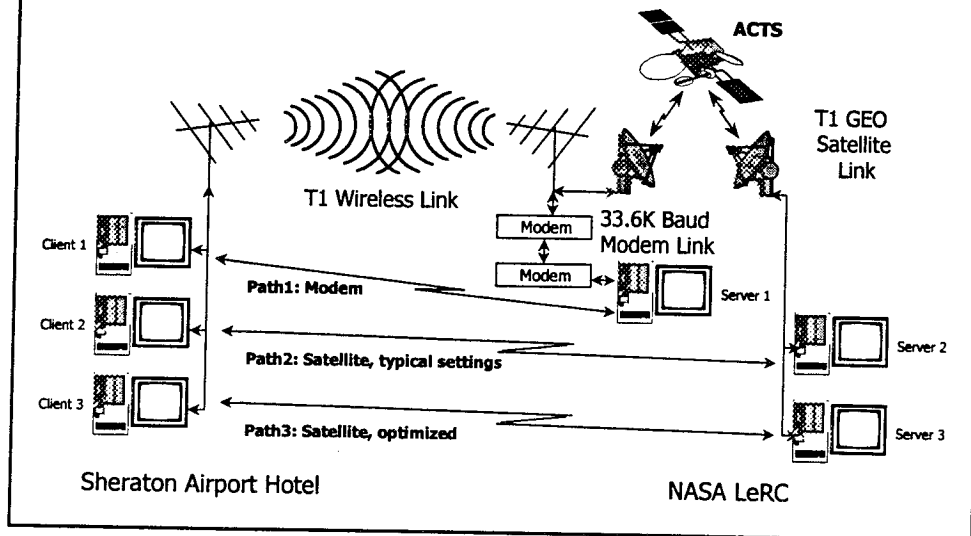
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## **Internet over a Bi-Directional Satellite Link**

- Comparison of HTTP over several network channels
  - 33.6k modem connection
  - Satellite connection, standard TCP stack and typical application settings
  - Satellite connection, optimized for satellite networks
    - larger window sizes
    - larger initial congestion window
    - TCP bug fixes
    - new versions of the HTTP protocol
- By using appropriately tuned applications and TCP settings, we demonstrate improved performance of HTTP when compared to today's off-the-shelf software

**Optimizations are based upon findings from experiments conducted between satellite research networks at NASA Lewis Research Center and Ohio University.**

## Internet over a Bi-Directional Satellite Link Demonstration Setup



## Internet over a Bi-Directional Satellite Link

- HTTP Comparison Pages
  - 20 pages gathered from several Ohio related sites
  - Pages with varying attributes
    - Number of images from 1 to 27
    - Image sizes from 177 bytes to 360 kilobytes
- Demonstration setup in Dulles
  - Three computers, one for each of the network channels
  - Pages are synchronized to start at the same time
  - The computers will pause for one minute, before moving on to the next page
  - The 20 pages will repeat continuously, for the duration of the workshop