NASA SBIR/STTR Technologies

Remote Data Exploration with the Interactive Data Language

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Identification and Significance of Innovation

How to access vast amounts of data produced by NASA missions?

- Use the DAP open standard in the familiar environment of IDL.

IDL: data analysis tool widely used in NASA missions

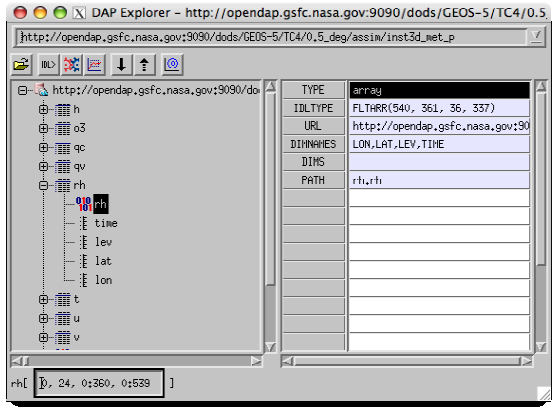
- IDL's DAP bindings are incomplete.

Innovation:

- Improve tools to enable IDL to access sections of large datasets
- Provides same coding interface for open-source GDL
- Targets novice and expert IDL programmers

Significance:

- Scientists get access to open standard for remote data access in a familiar environment



Innovation enables data exploration of remote data.

Technical Objectives

- Speed computations with remote data.
- Improve usability.
- Make toolset market-ready.
- Improve GDL's network capabilities.

Work Plan

Task 1: Create server-side function that can executed IDL scripts.
Task 2: Integrate improved server-side computation technology.
Task 3: Create user-defined operations in the DAP Explorer.
Task 4: Accessing DAP arrays with normal IDL syntax.
Task 5: Access local and remote data sets with the same syntax.
Task 6: Improve GDL network library.
Task 7: Create a pure IDL DAP client.
Task 8: Enhance testing and user documentation.

NASA Applications

- IDL widely used throughout NASA
- Accessing large amounts of data for processing and visualization is a common problem

Non-NASA Applications

- IDL widely used in academia, industry, national labs
- Data analysis in various areas can benefit from accessing remote data, e.g. remote sensing, medical imaging, chemical engineering

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