

# Databases, Files, and “Technologists”

A Presentation to an Ocean Technology Workshop

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## Barrodale Computing Services Ltd. (BCS)

- Develops customized software for “technologists” (scientists, engineers, medical researchers, health care administrators, defense and civilian technicians, university professors, financial services analysts, etc.)
- Has completed 450+ software projects in the past 33 years
- Is going to market with plug-in products that significantly extend and enhance databases for complex and high volume data applications

# Why don't more technologists use databases?

Based on a recent customer survey that BCS conducted with technologists, the main criticisms of DBMSs\* were:

- “Loading my files into a database is not a simple task.”
- “Databases don't have the features that I need.”
- “Databases are slow and my files are large and complex.”

\* DBMS = DataBase Management System

# BCS Database Solutions for Technologists

A DBMS equipped with BCS extensions (plug-ins) can be faster and easier to use than writing code to organize, analyze and query multiple files

BCS **DaL** makes it simple to load technologists' data files into a database

BCS **Grid DataBlade** easily meets the sophisticated requirements of meteorologists, atmospheric scientists, oceanographers, aviation authorities, military personnel, and others to 'slice and dice' 4D gridded datasets

BCS **DBXten DataBlade** column compression gives impressive performance improvements over the performance of the most recent versions of DBMSs using row compression

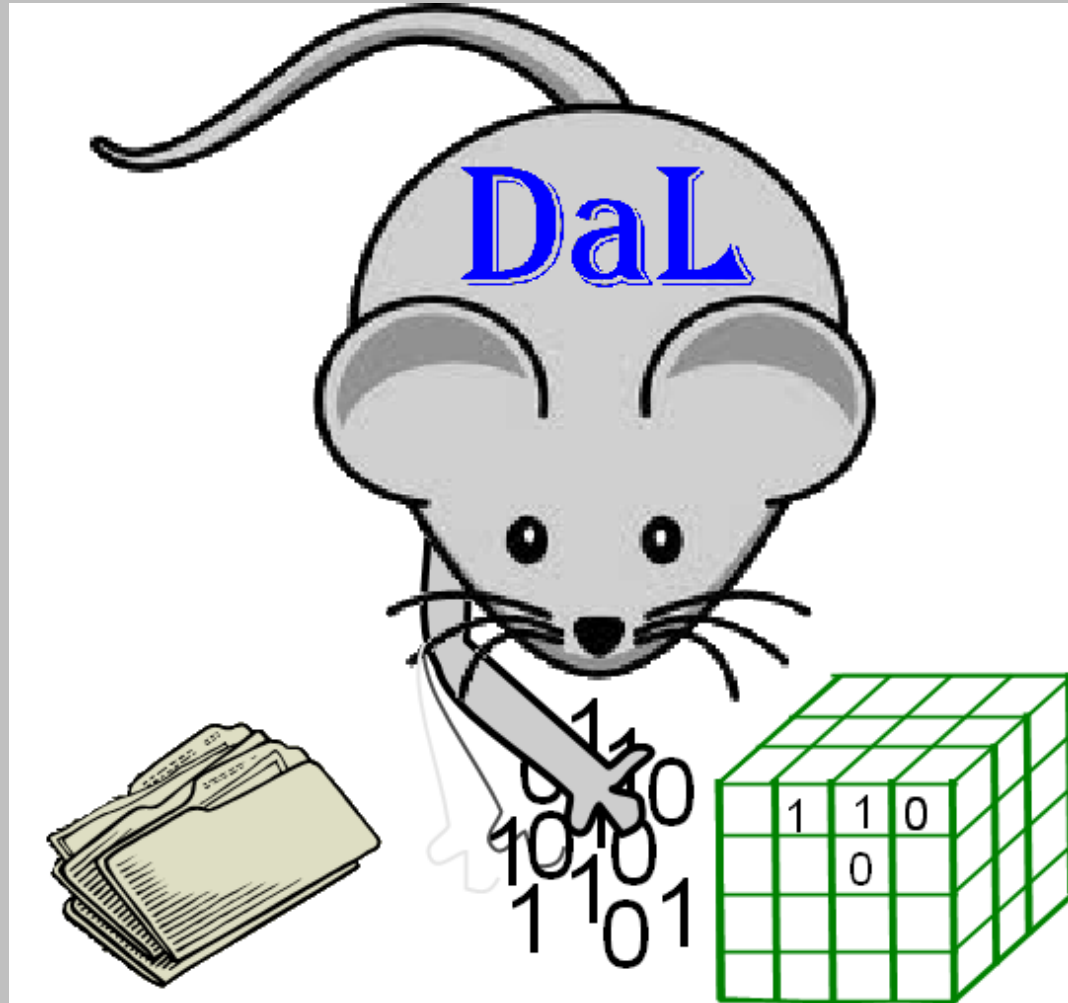
Still don't want to load your files into a DBMS - but need to query them?

Then **BCS UFI** combined with a free DBMS might be just what you need!

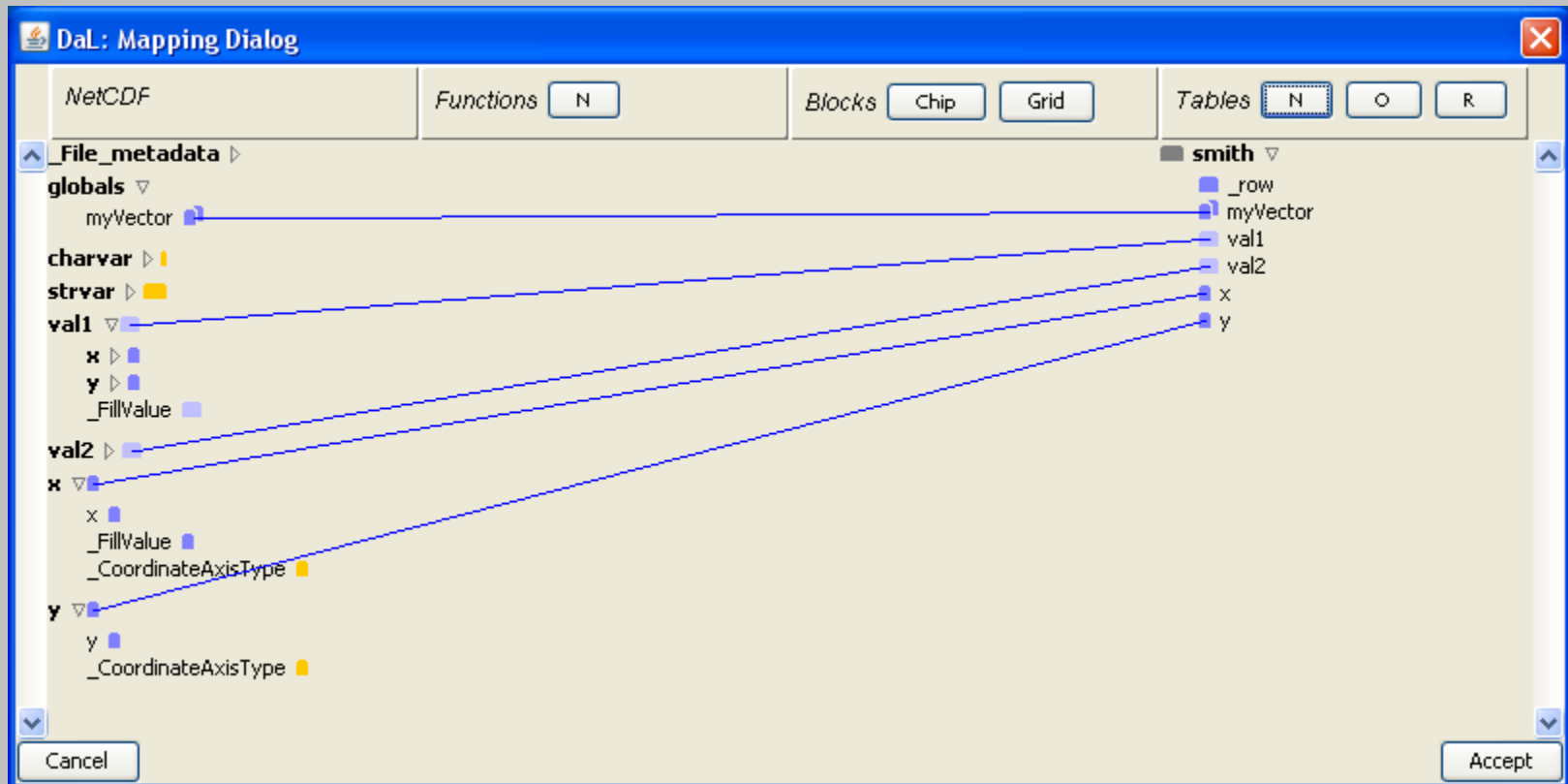
See [www.barrodale.com](http://www.barrodale.com) and/or contact [ian@barrodale.com](mailto:ian@barrodale.com)

**BCS**

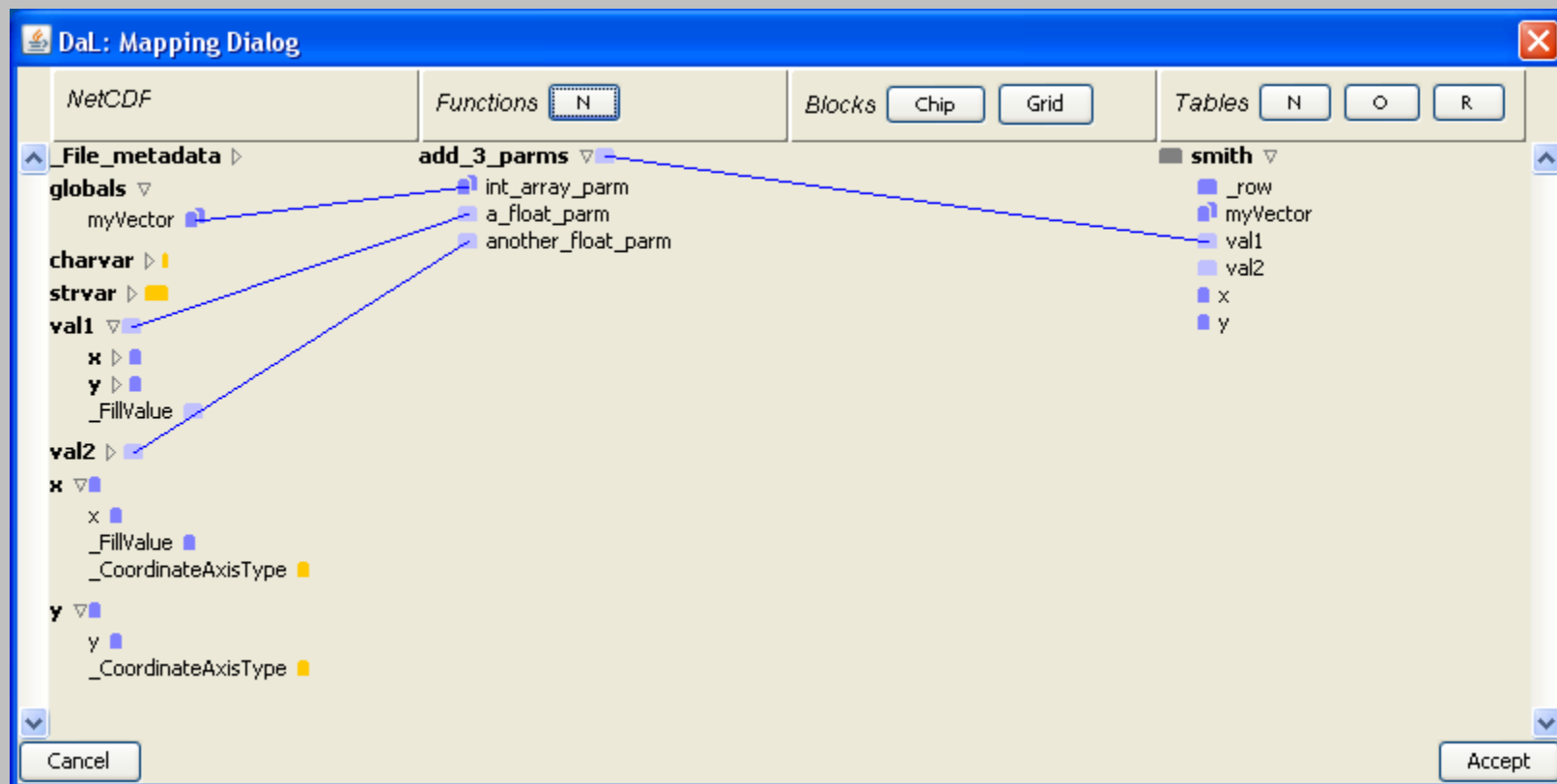
# DaL makes it easy to load technologists' data files into a database



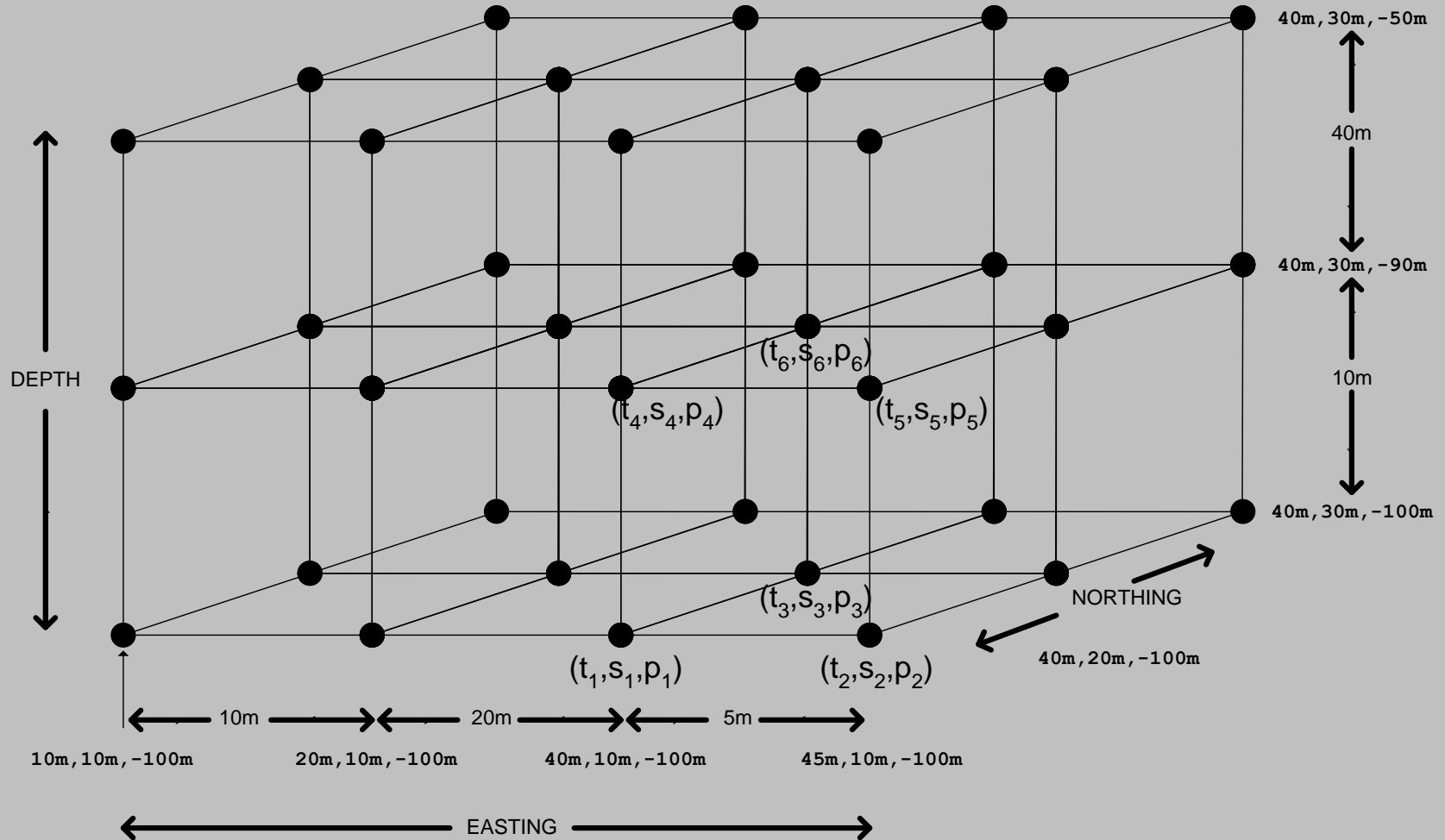
# Using your mouse, you can draw lines between graphic nodes that represent file contents and database tables



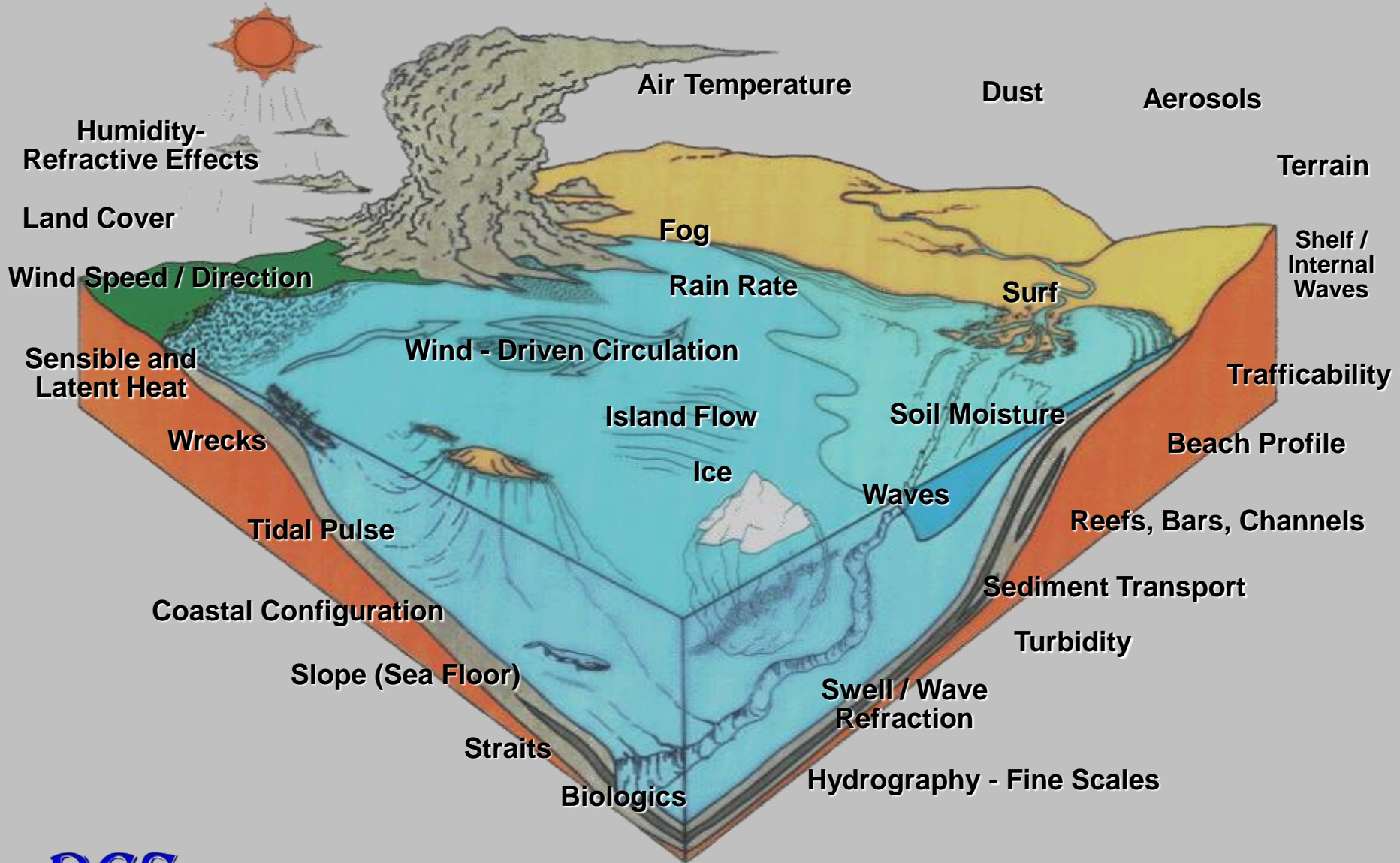
# DaL also provides functions: currently, ID generators, table lookup functions, general SQL expressions, and built-in functions



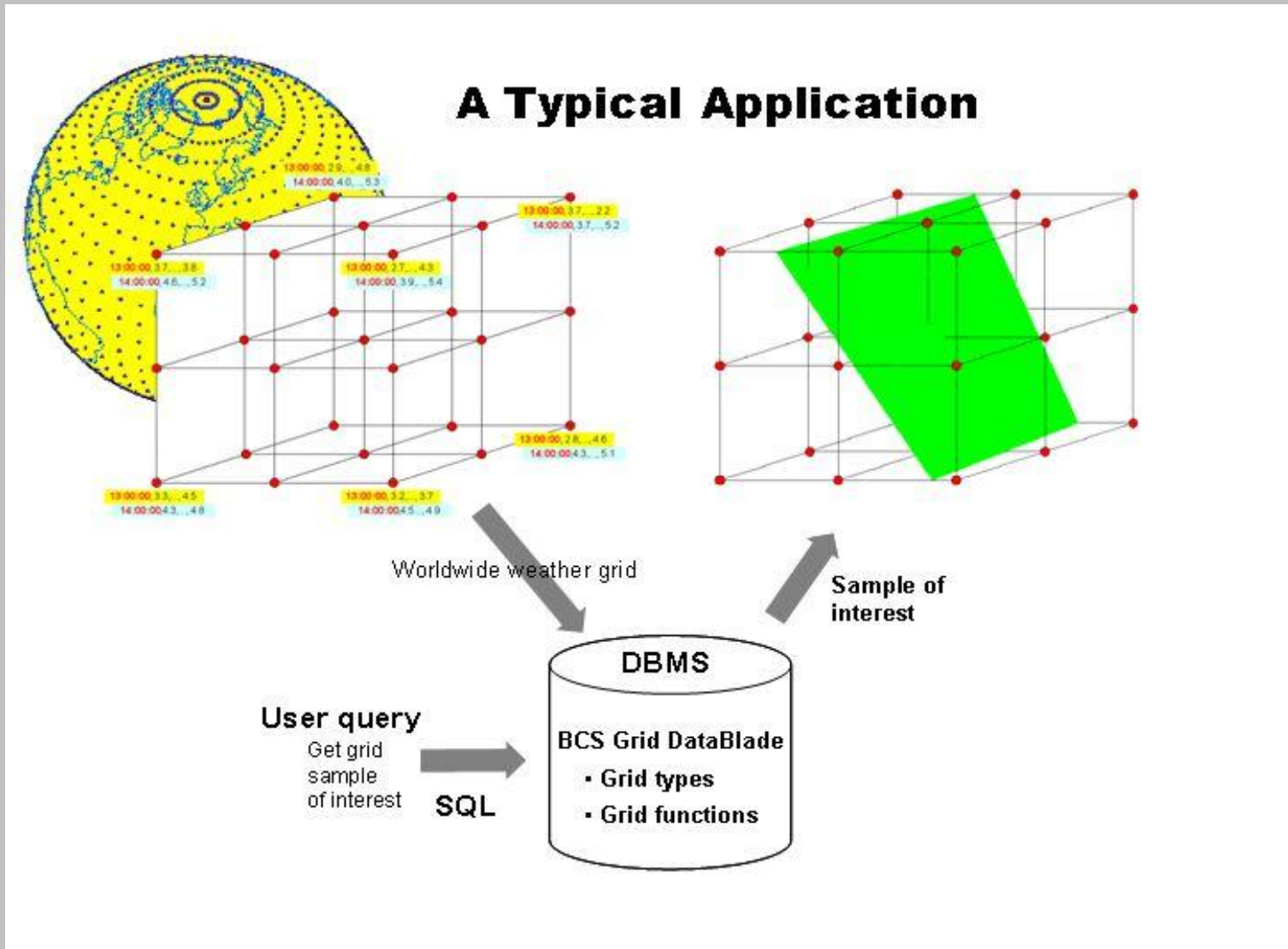
# Multidimensional gridded data arises in many technology applications, but DBMSs didn't really accommodate grids – prior to the Grid DataBlade



# Typical Navy environmental gridded datasets



# Navy deployment of the Grid DataBlade



# Medical Application demo using the Grid DataBlade

([http://www.barrodale.com/grid\\_Demo/GridBladeApplet.html](http://www.barrodale.com/grid_Demo/GridBladeApplet.html))

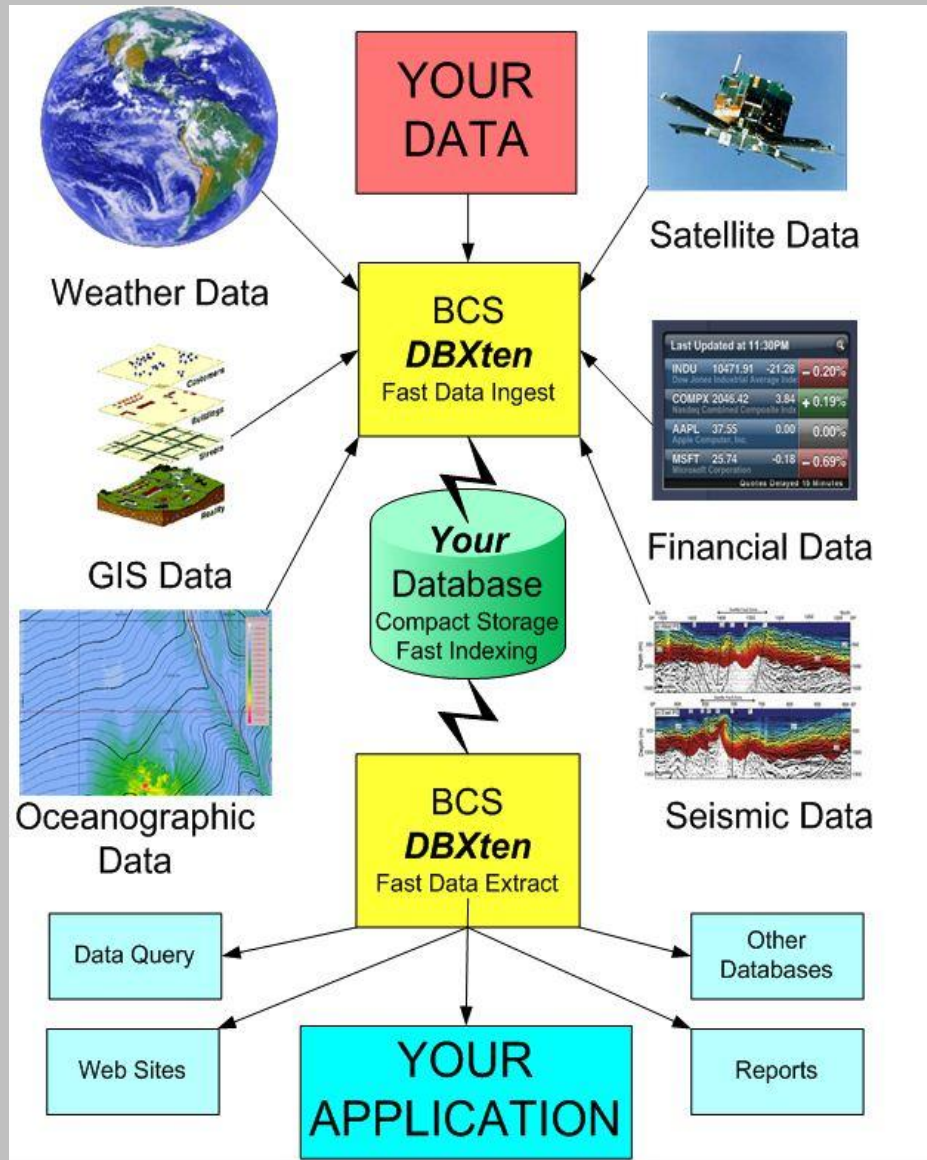
top edge bottom edge right edge



interpolate hide blue

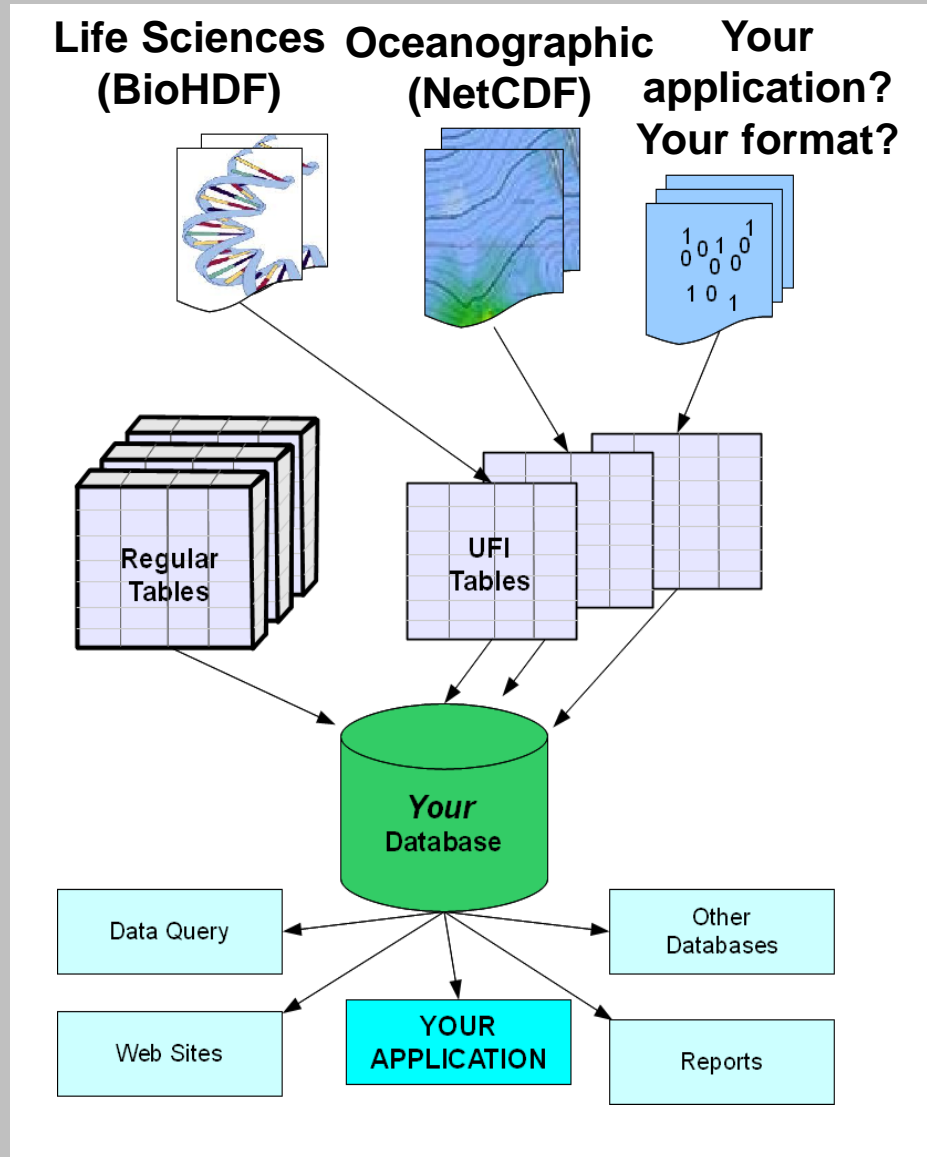
Fetch Reset beads

# DBXten significantly improves DBMS performance whenever fast streams of complex data are involved

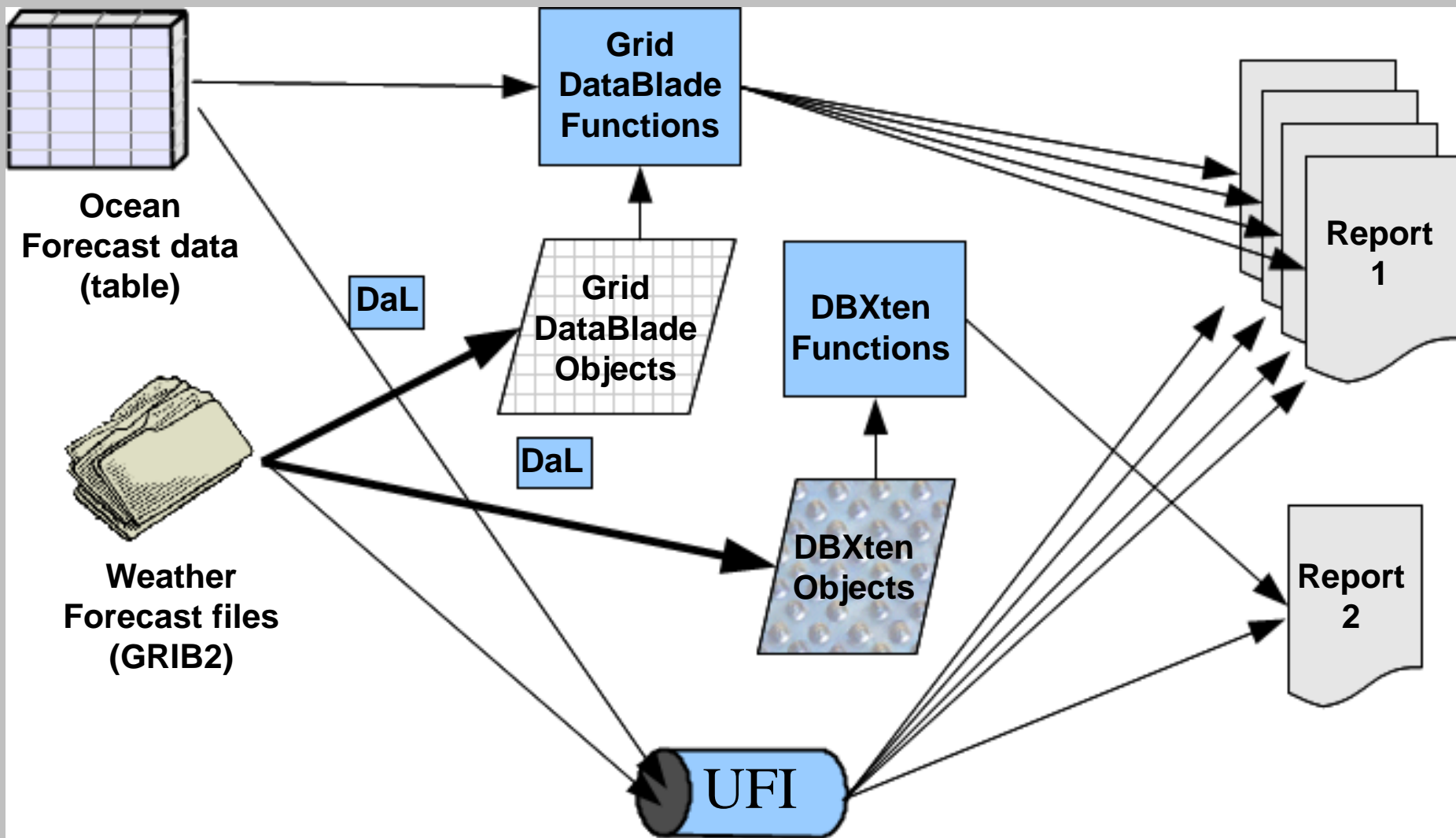


**Update: US Patent  
#8077059  
granted to BCS in  
December 2011**

# UFI allows users to index and query complex files without having to load them into a DBMS



# A depiction of how a complete solution might employ all four BCS products



# Summary: BCS Product List

Current BCS database plug-in products include:

the **DBXten DataBlade** - for fast and compact storage of large quantities of measurement/sensor data

the **Grid DataBlade** - for storing, resampling, and retrieving multi-dimensional gridded datasets (weather, ocean, atmosphere, oil & gas)

the **Universal File Interface (UFI)** - for indexing and querying files as if they were database tables

and, in addition,

**Draw and Load (DaL)** – a GUI-based tool for loading binary data files into database tables

The URLs for these products are:

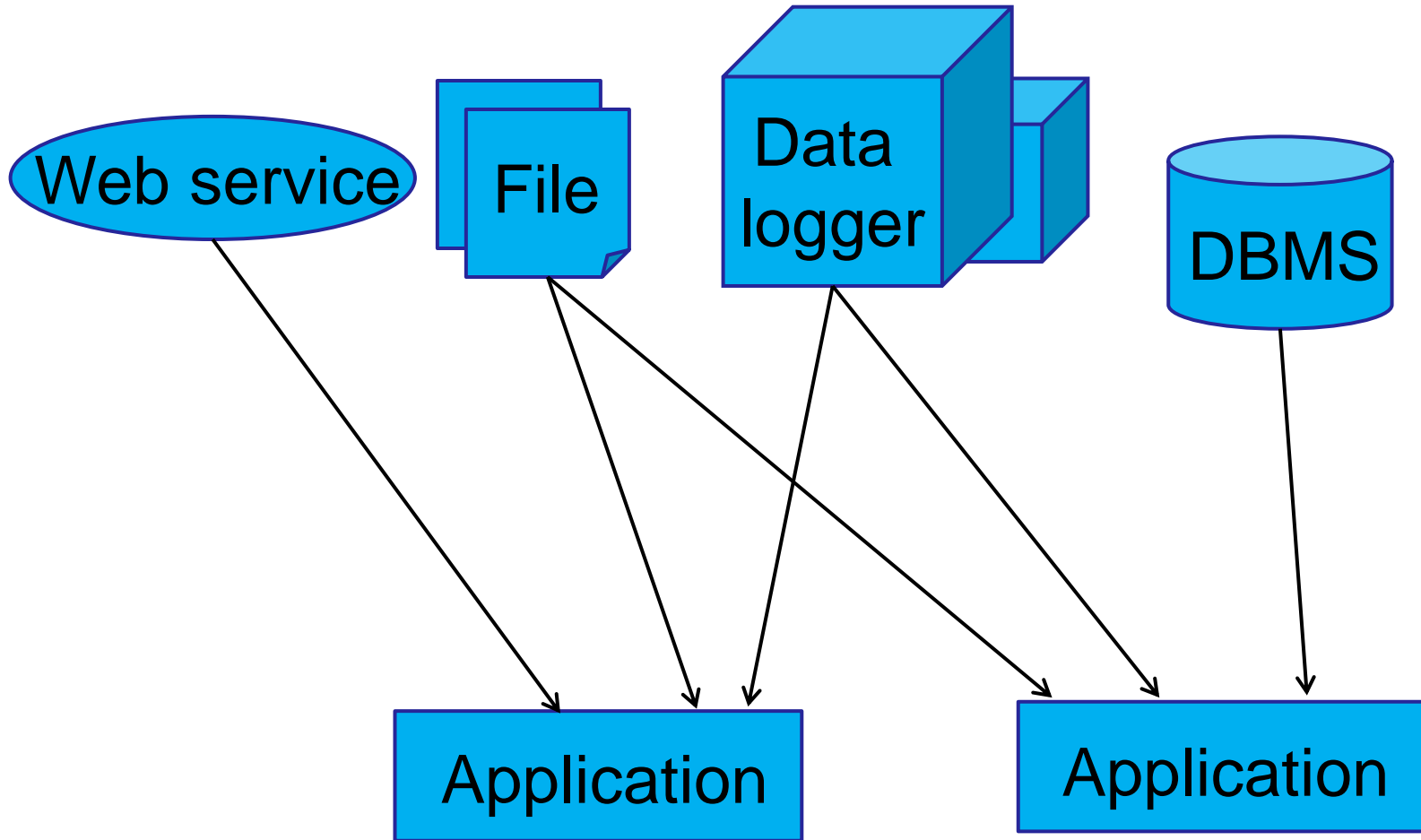
<http://www.barrodale.com/bcs/dbxten>

<http://www.barrodale.com/bcs/bcs-grid-datblade>

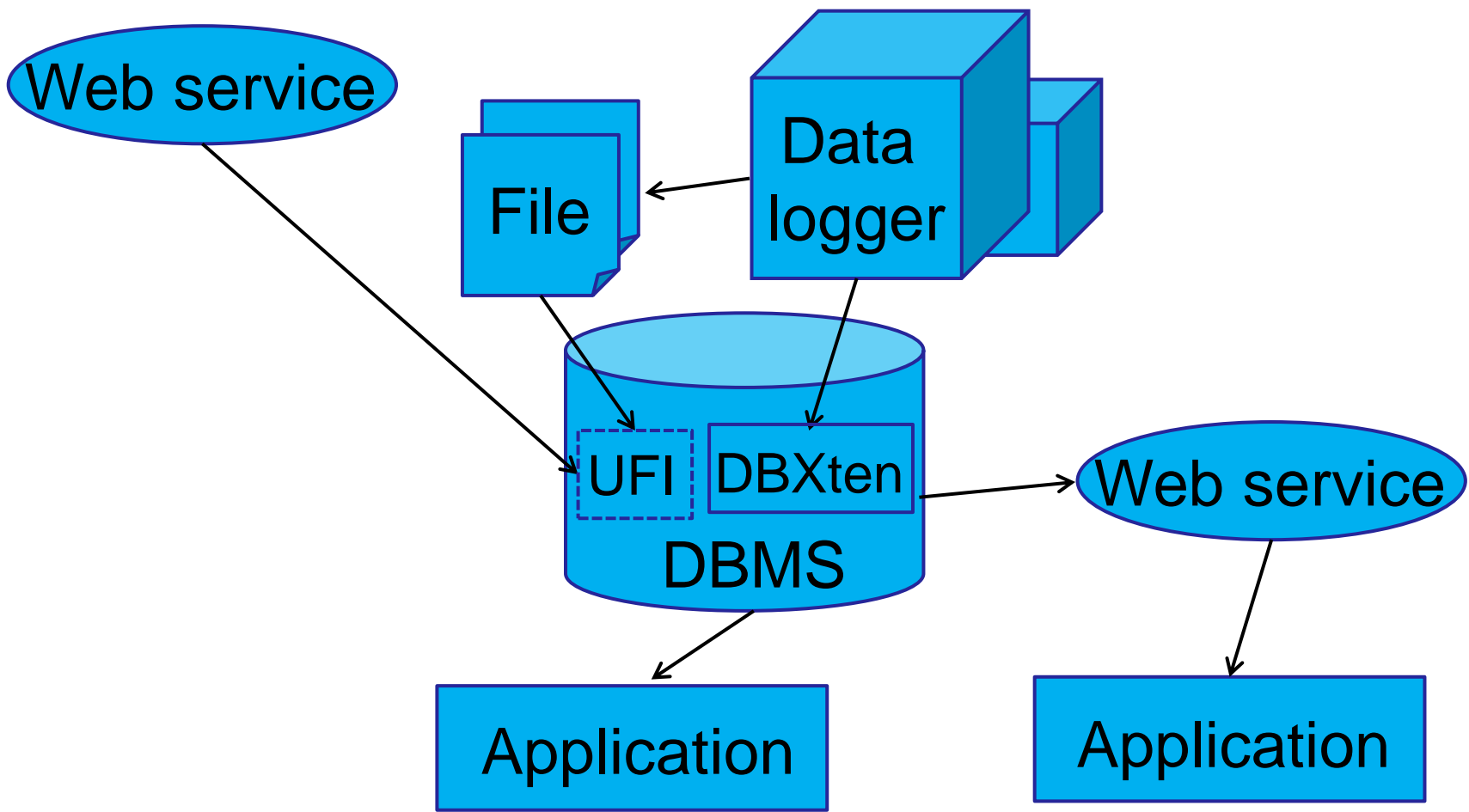
<http://www.barrodale.com/bcs/universal-file-interface-ufi>

<http://www.barrodale.com/bcs/dal-draw-and-load>

# Summary: The Traditional (Non-Federated) Setup



# Summary: The New (Federated) Setup using a DBMS



*Thank you for your interest in this presentation*

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