

AGI USER EXCHANGE

EAST • WEST 2006

2006 AGI User Exchange

A Novel Approach: Large Scale NGA Product Manipulation



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Riverside Research Institute



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PROGRAM OVERVIEW



- Build a capability to:
 - Automatically load **NGA products** for a **large number of targets**
- Application:
 - To support collection planning
 - To support an operational campaign
- Starting Point:
 - Use NGA Products
 - STK is already used to support the application
 - Will show examples

*How do I **QUICKLY** populate the targets in my STK scenario?*



STARTING POINT

- Initial Information
 - NGA provides **geo-rectified** support products
 - **DTED**: Digital Terrain Elevation Data
 - **CIB**: Controlled Image Base (1m, 5m, 10m)
 - etc
 - These NGA products are:
 - Large
 - Many
 - Not easily handled
 - STK accepts these NGA products
 - Provides tools to **convert** to an STK format
 - Provides tools to **manage** these products

CHALLENGES



- The Problem

- STK works great for a **focused** analysis
 - Single Area
 - Close Targets
 - Custom built scene to make a point on a small scale
 - If time is not an issue
- But how do we handle many targets
 - Need to load **50-???** **targets**, spread over a country/continent
 - How do you **find** all the NGA Products
 - NGA Naming Convention is **not intuitive**
 - Where **time** is an issue
 - After converting, how do I store, name, reference?

SOLUTION

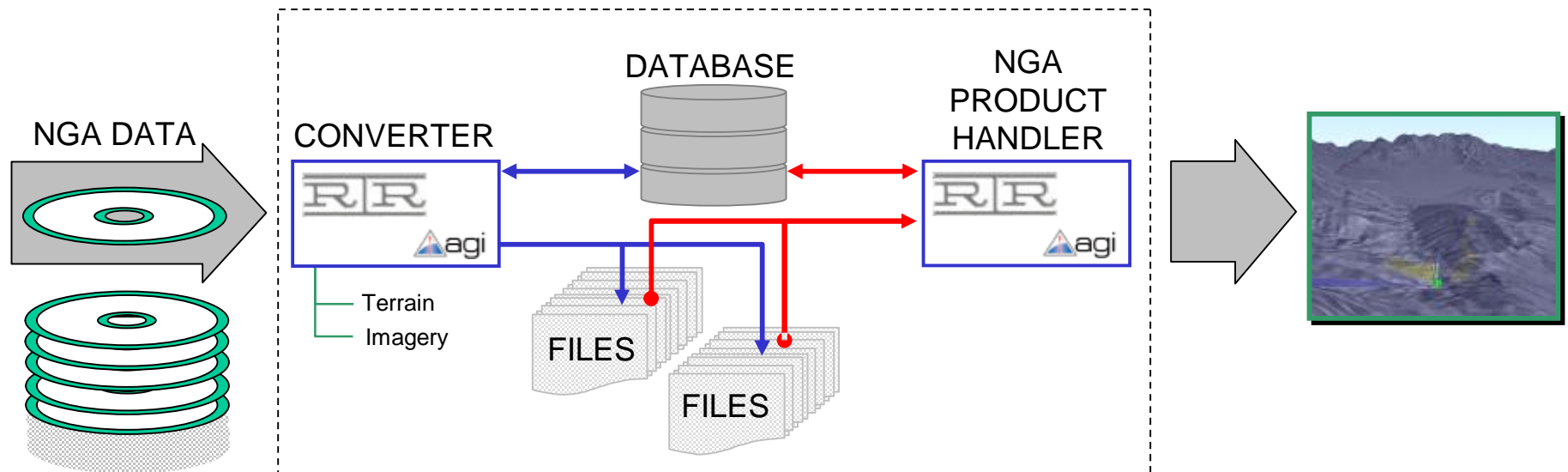


- RRI built a **custom interface**
 - Use HTML, JAVA, Visual Basic, etc
- AGI STK was the **analytical** and **visual** engine
 - “**Connect**” was used to interface with STK/X
 - STK/X provided the **visualization** thru ActiveX
- NGA products were provided on Terabyte drives
 - Used DTED and CIB

SOLUTION



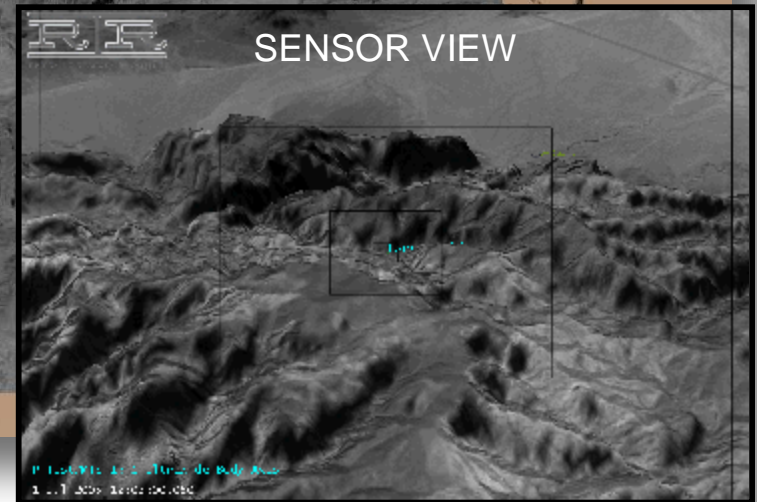
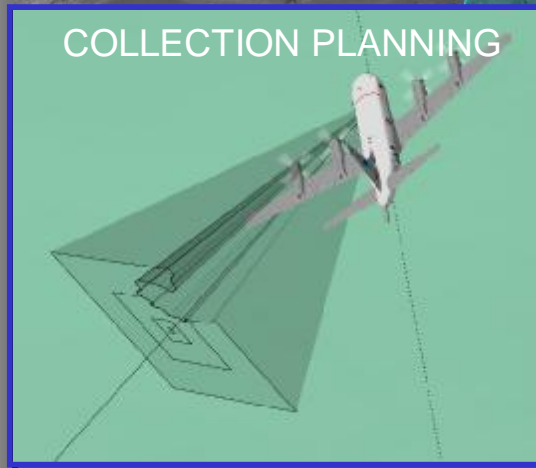
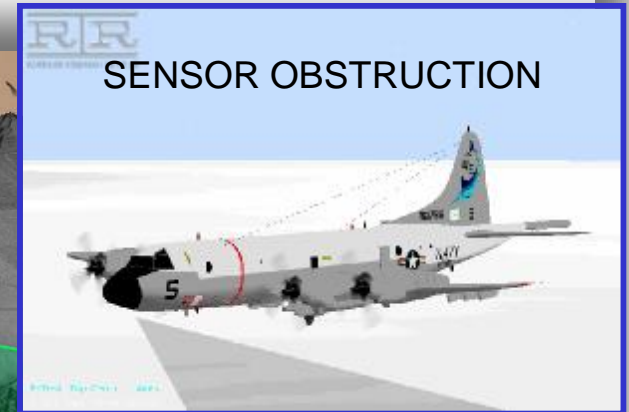
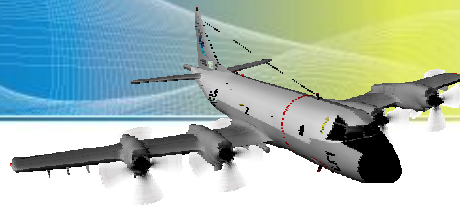
- Build a capability to **Manage** the raw NGA Product
 - Convert the applicable dataset (DTED, CIB)
 - Save and reference in a database (via position)
- Build an interface to **Associate** products to targets



EXAMPLE



EXAMPLE



EXAMPLE



DEMONSTRATION

RESULTS



- STK is a **critical part** of this RRI solution
- This NGA data manipulation capability was designed for **reuse** in many future RRI products to support the U.S. government
- The benefit to STK:
 - It allows the user to **customize** the application
 - This application **saved days** of manual labor
 - **Minimizes** human **error** and **fatigue** due to repetition

Contact



If you have Questions,
Contact Riverside Research Institute

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