

# Feeding Your HPMS...

## *GIS-T 2007 Symposium*

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**Highways Division**  
Department of Transportation

*Aloha!*

**INTERGRAPH**

Welcome to "Waterworld"...

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*Aloha!*



**Intergraph** has maintained an excellent working relationship with Hawaii DOT.



1988  
(Vax)

Present



*Web Portal*




# Feeding your HPMS...

- Agenda
  - Hawaii's Approach
  - Demonstration
  - Questions and Answers

# Highways GIS Web Portal

Hawaii State Home | DOT Home | Public Affairs | Airports | Harbors | Highways  
Kauai | Oahu | Molokai | Lanai | Maui | Hawaii




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*Aloha!*

### Highways GIS Portal



The main interface features a central 3D map of a road winding through a lush green valley. Surrounding the map are navigation and data layer controls:

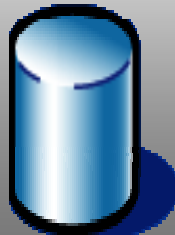
- Island Selection (Left):** Buttons for All Islands, KAUAI, OAHU, MOLOKAI, LANAI, MAUI, and HAWAII. A mouse cursor is positioned over the MAUI button.
- Data Layers (Right):** Buttons for Road Inventory, ADT, Functional Class, Projects, Traffic Stations, Photolog, and About. The Photolog button is highlighted in yellow.



The *Highway Performance Monitoring System* (**HPMS**) requires information from many parts of our organizations.

- Traffic Counts
- Pavement Information
- Roadway Configuration
- Urban Classification
- Geometrics

**HPMS  
Database**



The **HPMS** data is delivered to us in a variety of formats and databases.

- Oracle
- SQL Server
- MS Access
- ASCII File

The background is a smooth blue gradient, transitioning from a lighter blue at the top to a darker blue at the bottom. On the left side, there is a bright sun flare that creates a white and yellow glow, with rays of light extending across the sky. The overall effect is a serene, oceanic atmosphere.

# The Problem



None of the formats match the  
**HPMS** database.

HELP!



# 2 Big Issues



*Issue 1:* Moving the data from the source database to the **HPMS** database...

## Data Issues

- Missing or null data
- Wrong data
- Mismatched data
- Mismatched date formats
- Inconsistent data types

*Issue 2:* Modifying the data to match the resolution of the **HPMS** data...

## Data Issues

- Data doesn't match the defined **HPMS** section intervals
- Mismatched data units

Meter vs. Feet



The background of the slide is a serene landscape. The top half shows a bright blue sky with wispy, white clouds. The bottom half shows a deep blue ocean with gentle ripples. A bright sun is positioned on the left side of the horizon, creating a shimmering white reflection that extends across the water's surface.

# The Solution

# *Data Flow Manager*

Moving data to where you want it ...



# Benefits of the *Data Flow Manager*...



- Easy to **Use**
- Handles **Reoccurring Data Transfers**
- Automates **Most Tasks**
- Assists with **Matching up Database Schemas**
- **SMART!**  
(It **Remembers Transfer Details** from a **Year Ago**.)

# Primary Goals of the *Data Flow Manager*...

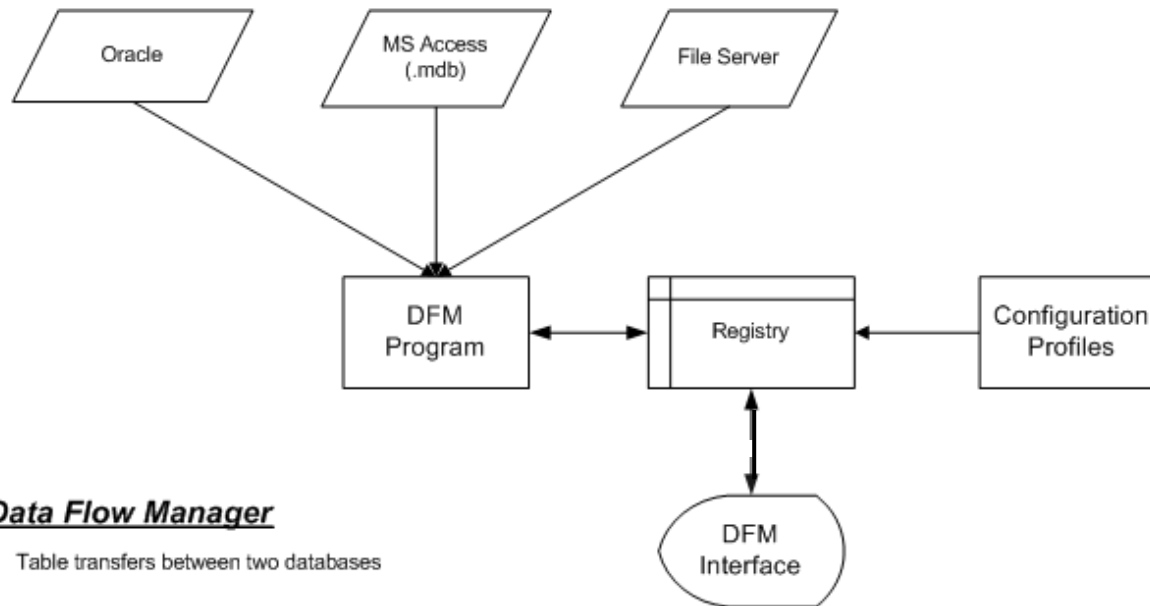


- Assist in the maintenance and integration of **HPMS** data.
- Primary focus of the DFM is to move **HPMS** data in and out of databases.
- The tool is used to collect and reformat **HPMS** data that is derived from various sources.



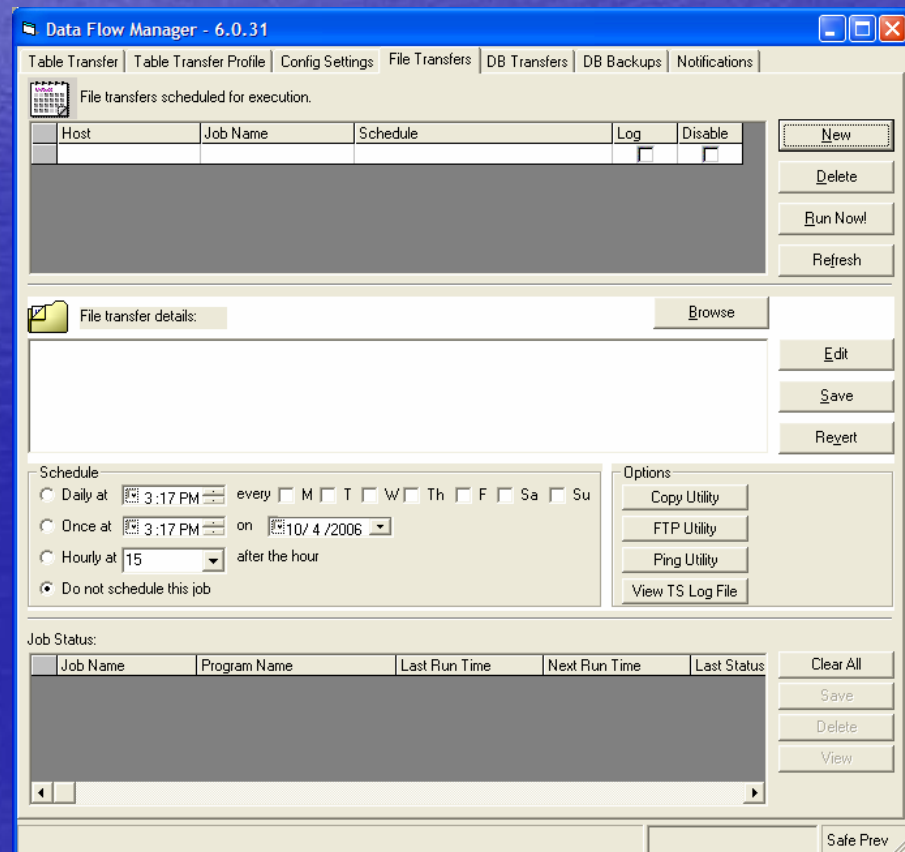
# Data Flow Manager...

## DFM - Architecture



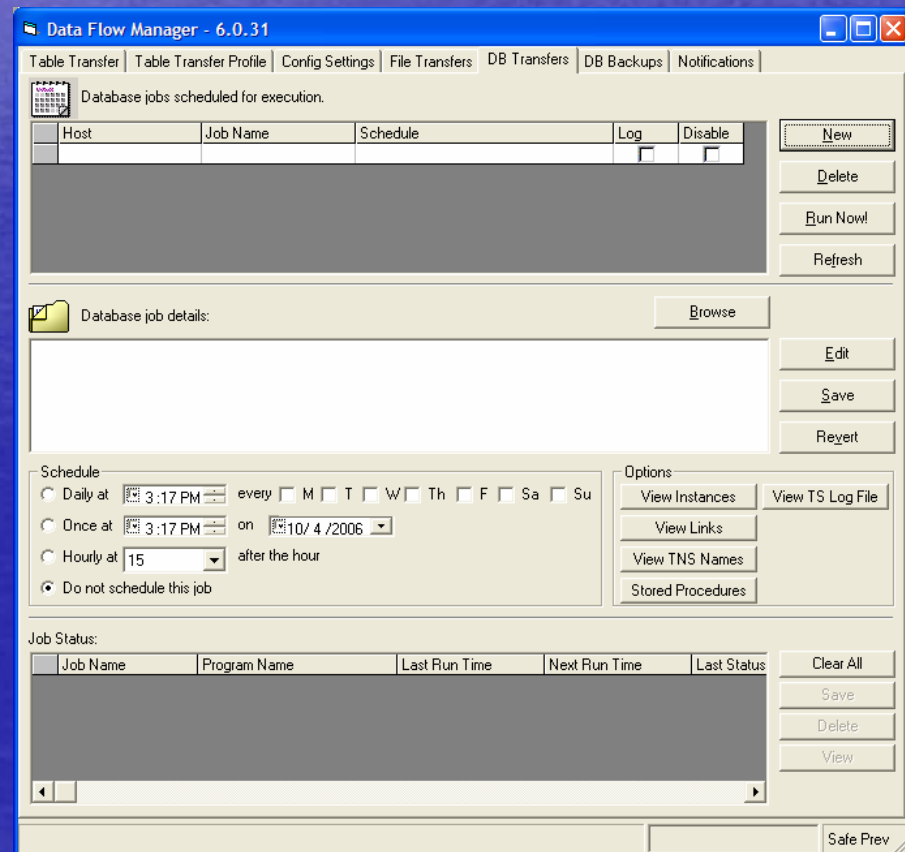
# Data Flow Manager...

- File Transfers
  - Executes a scheduled ftp-type transfers



# Data Flow Manager...

- DB Transfers
  - Executes scheduled stored procedures and batch scripts





# Data Flow Manager...

- DB Backups
  - Database backups

The screenshot shows the 'Data Flow Manager - 6.0.31' application window. The 'DB Backups' tab is active, displaying a table of scheduled backups and configuration options.

Backups scheduled for execution.

Host	Job Name	Schedule	Log	Disable
			<input type="checkbox"/>	<input type="checkbox"/>

Buttons: New, Delete, Run Now!, Refresh

Backup details:

Schedule:

Daily at 3:17 PM every  M  T  W  Th  F  Sa  Su

Once at 3:17 PM on 10/4/2006

Hourly at 15 after the hour

Do not schedule this job

Options:

Job Status:

Job Name	Program Name	Last Run Time	Next Run Time	Last Status
----------	--------------	---------------	---------------	-------------

Buttons: Clear All, Save, Delete, View

Safe Prev

# Data Flow Manager...

- Notification

- Email to selected personnel based on success or failure of a task

Data Flow Manager - 6.0.31

Table Transfer | Table Transfer Profile | Config Settings | File Transfers | DB Transfers | DB Backups | Notifications

Backups scheduled for execution.

Host	Job Name	Schedule	Log	Disable
------	----------	----------	-----	---------

New  
Delete  
Run Now!  
Refresh

Backup details: Browse

Edit  
Save  
Revert

Schedule

Daily at 3:17 PM every  M  T  W  Th  F  Sa  Su

Once at 3:17 PM on 10/4/2006

Hourly at 15 after the hour

Do not schedule this job

Options

View Instances  
View Links  
View TNS Names  
View TS Log File

Job Status:

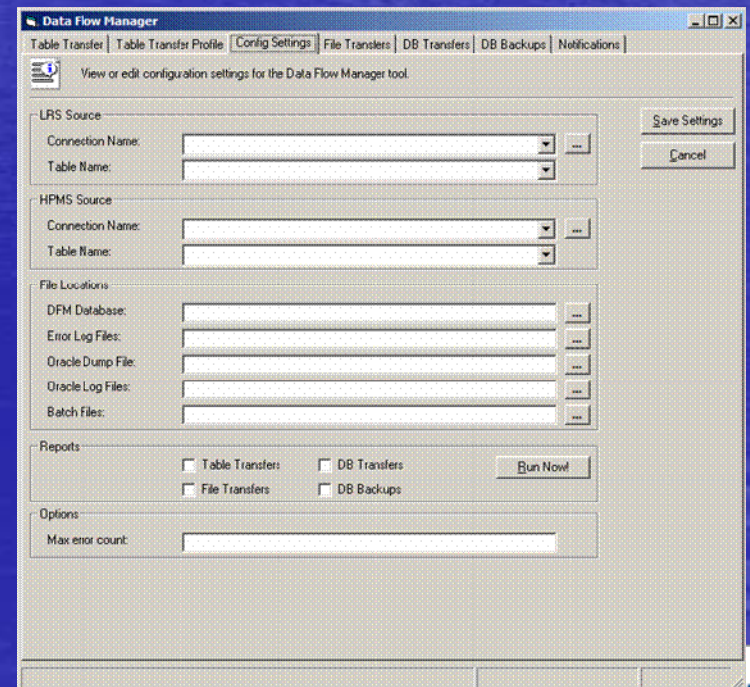
Job Name	Program Name	Last Run Time	Next Run Time	Last Status
----------	--------------	---------------	---------------	-------------

Clear All  
Save  
Delete  
View

Safe Prev

# Data Flow Manager...

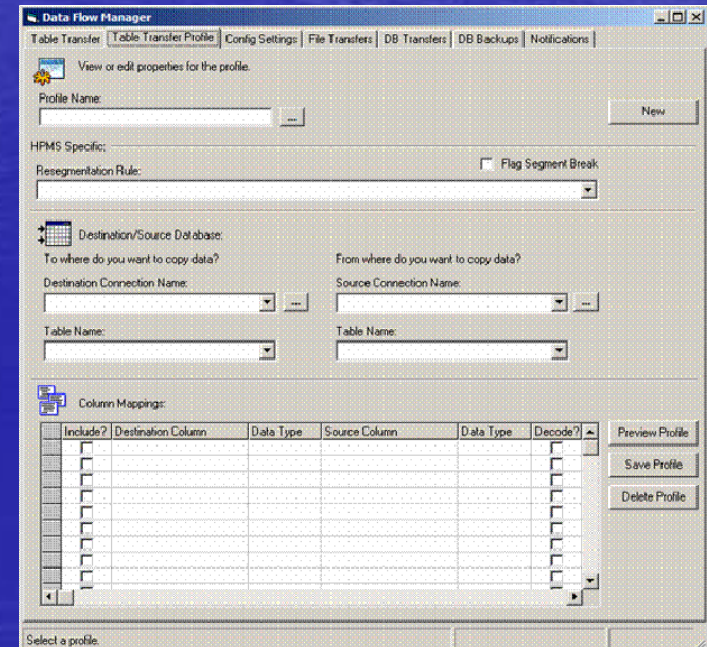
- Configuration
  - Change configuration settings for the DFM tool
    - Location of the config database
    - Specify the segment/  
route table
    - Error log files
    - Batch files
    - SQL database export  
and log files
    - Report locations





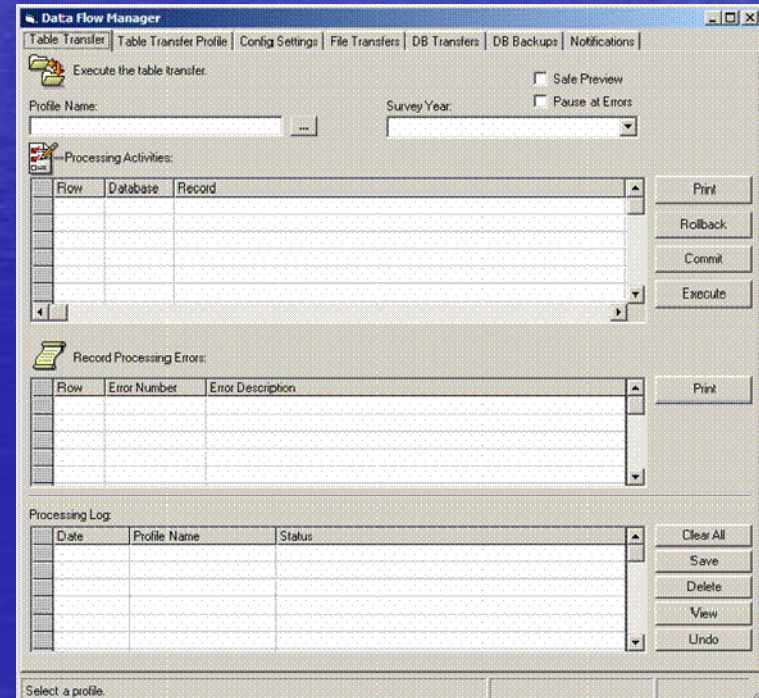
# Data Flow Manager...

- Table Transfer Profile
  - Create or modify an existing **HPMS** table transfer profile
    - Specify the column mappings
    - Optional column decoding between the source and destination columns
    - Save, delete, preview profile
    - Auto match of source/destination columns



# Data Flow Manager...

- Table Transfer
  - Executes a **HPMS** table transfer as defined in a table transfer profile
    - Connects to the correct data sources
    - Copies from the source database to the destination database
    - Logs the processing status
    - Logs error status to the screen
    - Preview, rollback, or undo any transaction





# *Data Flow Manager...*

- Live Data Transfer Demo



# *Data Flow Manager...*

- Questions and Answers ...