NaSS

Data Analyzer-Preprocessor

Inland Navigation CoP Workshop

September 19 & 20

Louisville, Ky

Mark Lisney – USACE

20 Sept 2007

DAPP

- Data Analyzer-Preprocessor is one component of the Navigation System Simulation Model (NaSS)
- NaSS LPMS database is one component of DAPP
- NaSS LPMS database was developed to facilitate analysis of LPMS warehouse data

NaSS LPMS Schema Population

Collection Systems

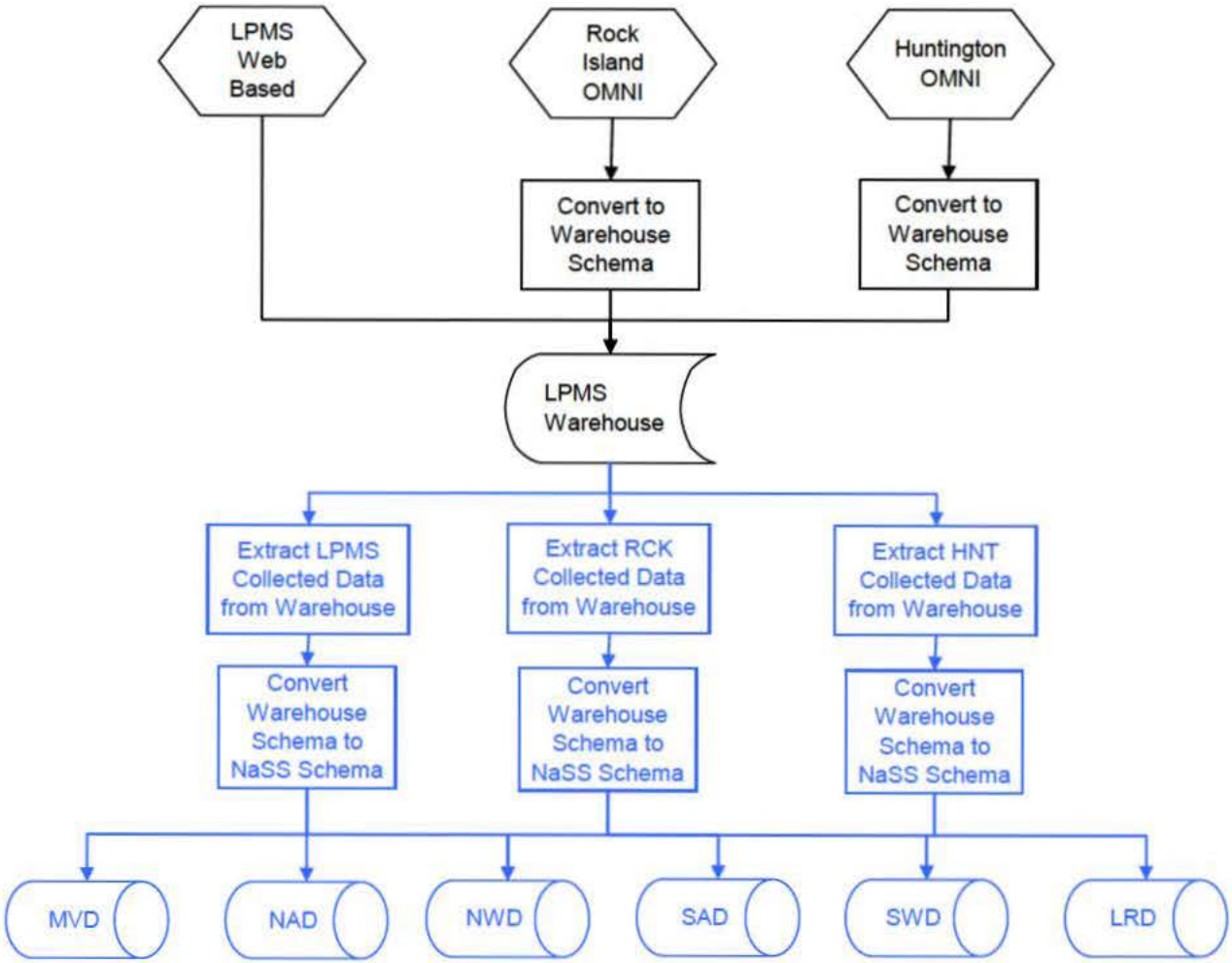
Convert to Warehouse Schema

LPMS Warehouse

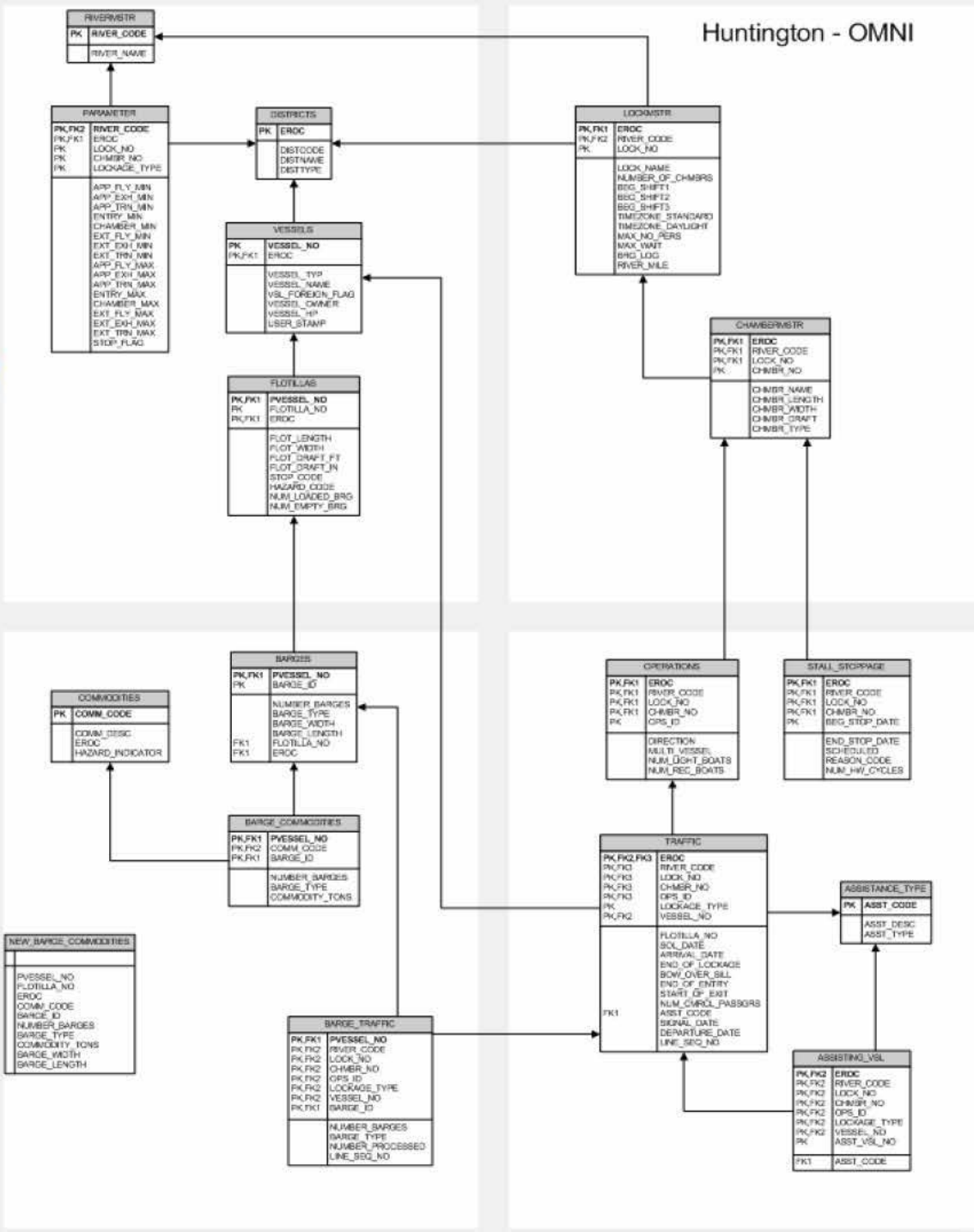
Warehouse Extract

Convert to NaSS Schema

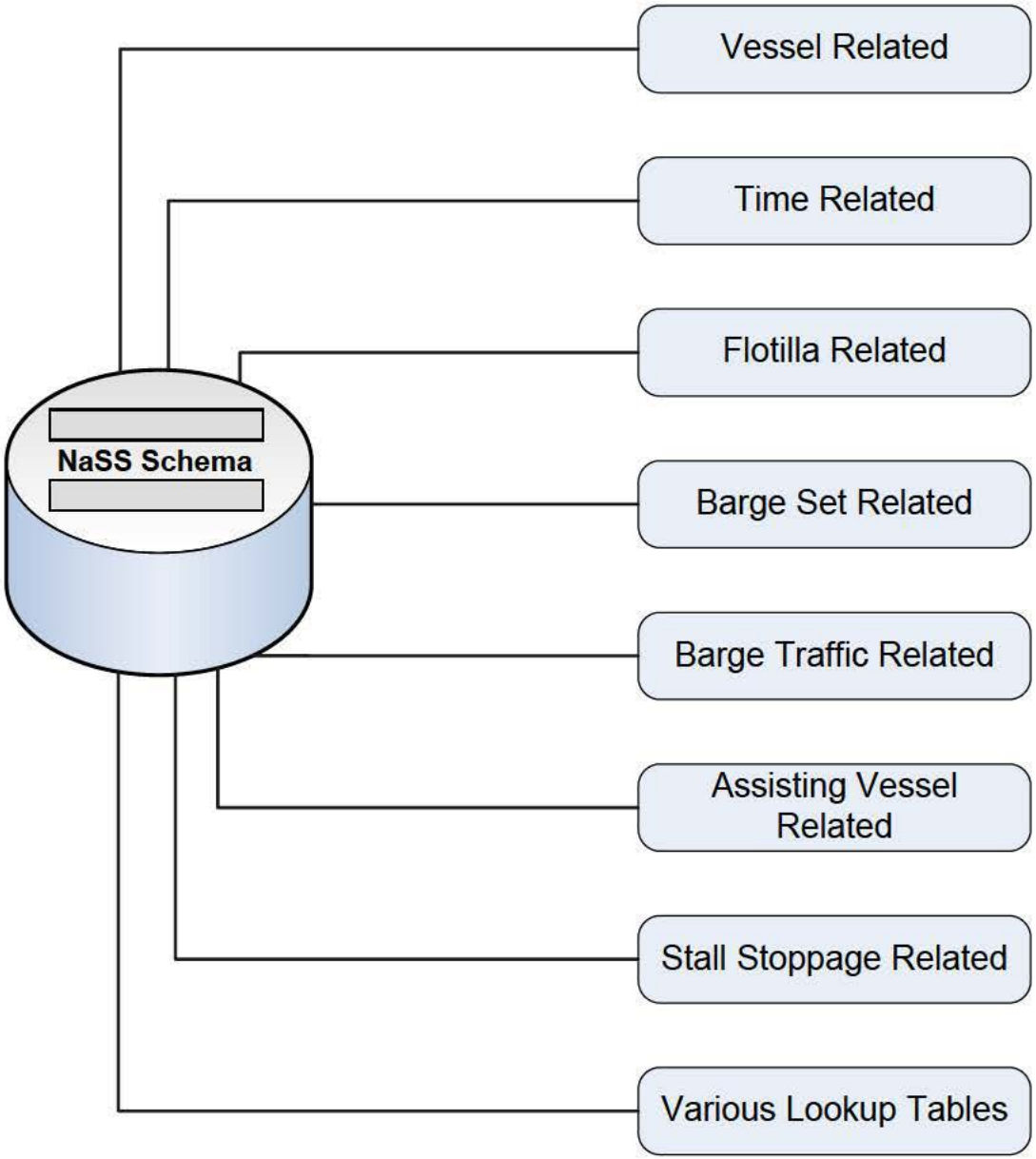
Populate NaSS MS Access Tables



- LPMS Warehouse Entity-Relationship Diagram



NaSS Schema Table Architecture

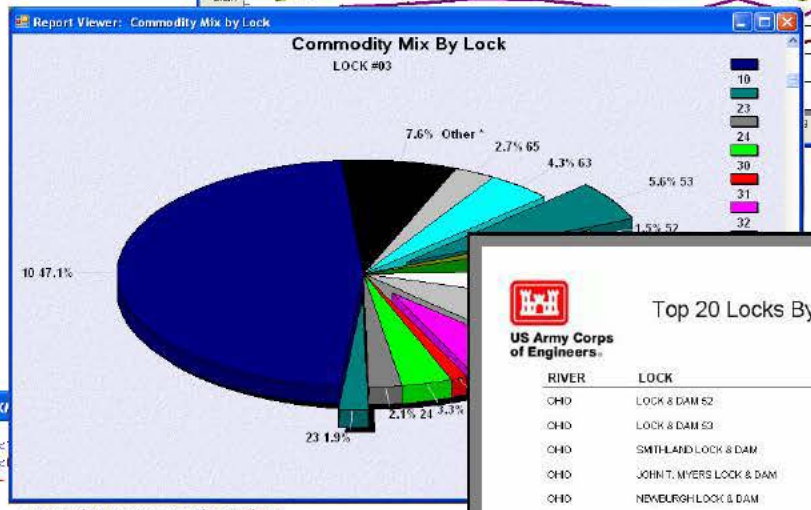


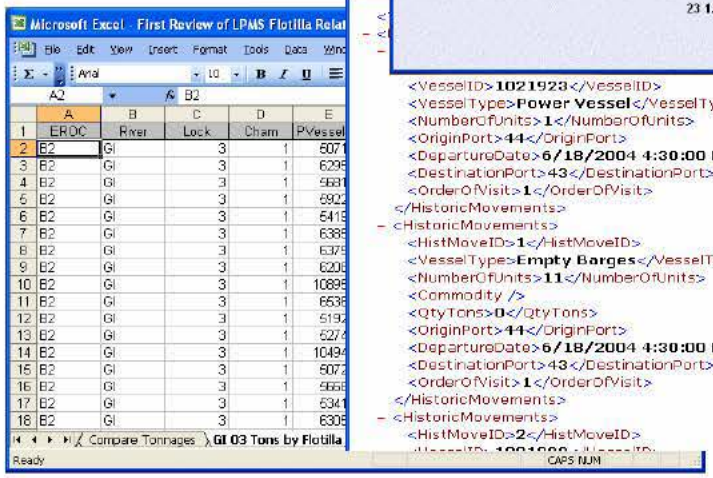
DAPP – Capabilities

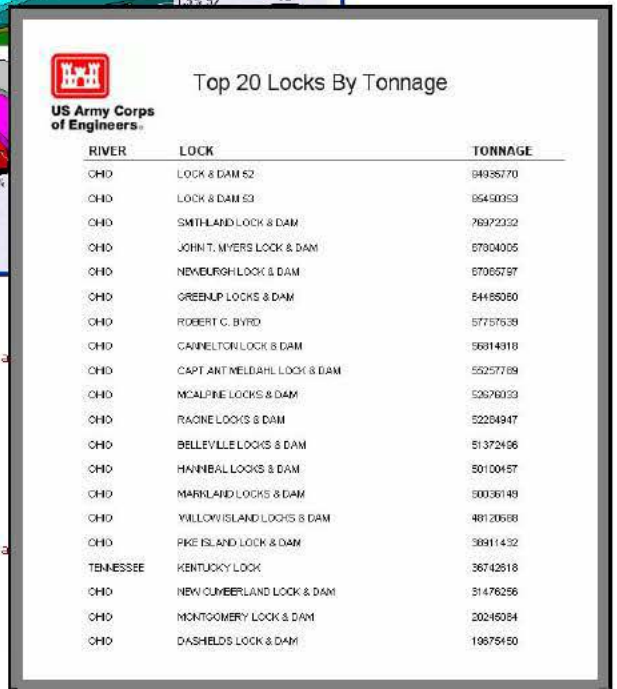
- NaSS Schema Data Import
  - Used to limit working data to a scope relevant to study
- NaSS Schema Data Analysis
  - Generate Basin Model Input Distributions
    - Example: Lock Processing Time Distributions
- INAM Data Generator
- Vessel Movement Generator (in progress)
  - Direct Shipment List Movements
  - Statistically Generated Movements
  - Commodity Demand Driven Movements

DAPP Outputs

- Graphs
- Charts
- Reports
- Generated Files
  - .XML
  - .XLS
  - .CSV







US Army Corps of Engineers

Top 20 Locks By Tonnage

RIVER	LOCK	TONNAGE
OHIO	LOCK & DAM 52	94935770
OHIO	LOCK & DAM 53	85450353
OHIO	SMITHLAND LOCK & DAM	76972332
OHIO	JOHN T. MYERS LOCK & DAM	67804005
OHIO	NEWBURGH LOCK & DAM	67065797
OHIO	GREENUP LOCKS & DAM	64485060
OHIO	ROBERT C. BYRD	57757539
OHIO	CANNELTON LOCK & DAM	56814318
OHIO	CAPT ANTWELDAHL LOCK & DAM	55257769
OHIO	MCALPINE LOCKS & DAM	52976033
OHIO	RACINE LOCKS & DAM	52264947
OHIO	BELLEVILLE LOCKS & DAM	51372456
OHIO	HANNIBAL LOCKS & DAM	50100457
OHIO	MARKLAND LOCKS & DAM	50036149
OHIO	WILLOW ISLAND LOCKS & DAM	48120568
OHIO	PIKE ISLAND LOCK & DAM	38911432
TENNESSEE	KENTUCKY LOCK	36742618
OHIO	NEW CUMBERLAND LOCK & DAM	31476256
OHIO	MONTGOMERY LOCK & DAM	20246084
OHIO	DASHIELDS LOCK & DAM	19675450

Next Steps

- The extraction, conversion, and population process must undergo Independent Technical Review and Certification
- An installable user friendly application must be finalized
- Additional “canned” analysis and pre-processing routines must be developed
- New data needs to be added periodically and a process for sharing “user’s findings” needs to be developed

DVDs

- Thoughts document which lead to NaSS LPMS schema design
- Documentation of the Warehouse to NaSS conversion process
- NaSS Schema documentation
- Actual databases organized by Division
  - 1/1/2000 through 7/13/2007

Questions/Comments

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