Legume™ Manufacturing Data Structure

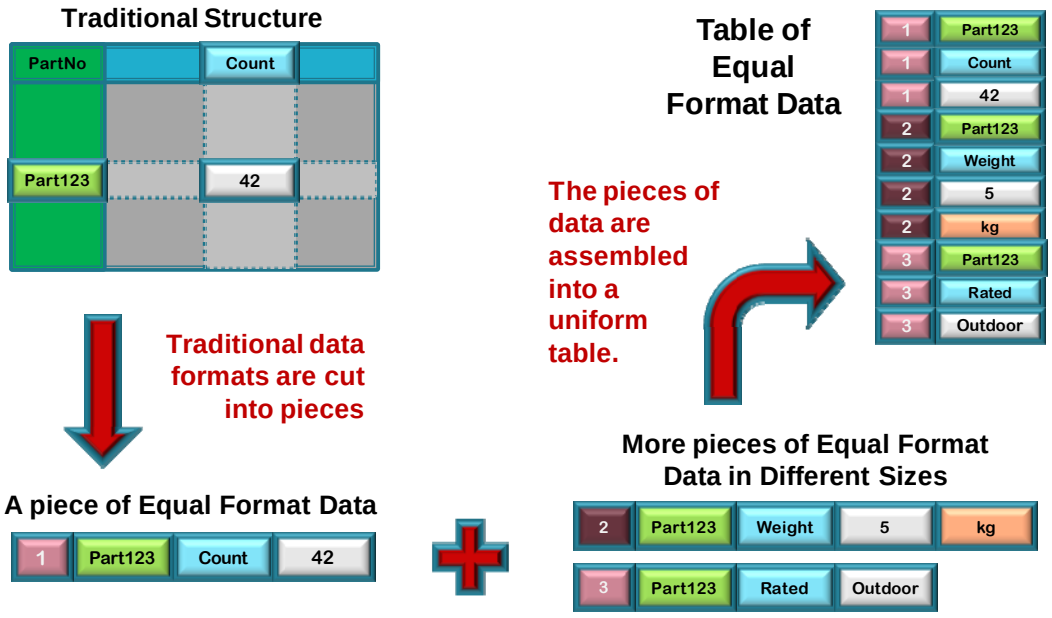
Overview

- Captures all of your data into your **favorite relational database** system
- Manages data in flexible groupings, such as **projects and programs**, libraries and categories
- Merges data from different databases and data sources, holding thousands of different data models in a uniform, **equal format** table design
- Uses **standard SQL**, stored procedures, and other standard database tools
- Updates data non-destructively, providing **point-in-time "snapshots"**, change management, difference-checking, and other powerful capabilities
- Combines data with operational databases, **legacy data**, equipment specifications, documents, facility data, inventory, and other systems
- Creates new relationships and attributes **without reprogramming**
- Uses global key system to easily **exchange data, unaltered**, with other Legume databases

Applications

- Product Technical Specifications
- Project/Program Management
- Change Management and Tracking
- Supply Chain Management
- Customer Relationship Management
- ERP Integration with Legacy Applications

How does the Legume Database work?



Information Technology Enablers

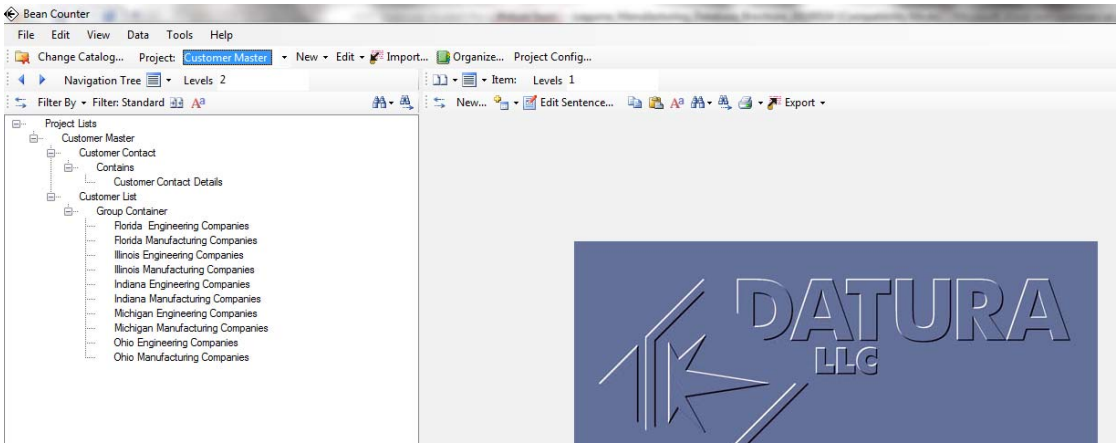
- Equal Format Database services Multi-Tier Environments (Enterprise Service Bus)
- Flexible Storage Layer that simplifies building semantic relationships across Multiple Independent Data Models. (Traditional approach to data modeling requires 100's to 1000's of Tables and Columns in order to store data for Transactional, ODS, Data Warehousing and Data Mart level information. Datura's Data Structure stores information with a limited number of tables and columns without the restrictive nature of a physical data model containing data types, tables, columns and join strategies facing your applications. This technique for storing information requires only the Logical view of your business dimensions and entities. With Datura's Agile Development concepts, application expansion is not dependant on storage.)
- Data Access Layers supports most traditional data formats for:
  - Web Based Applications
  - Bulk and Transactional Applications
  - ETL Processes for Warehousing and Data Marts
  - BI – Analytical and Reporting
- Data Access Layers supports Synchronous / Asynchronous Protocols for:
  - Interactive and Background Processes
  - Request / Reply Integration
  - Distributed Data Concepts for Multi-Platforms
  - Event Driven Architectures
- Minimizes needs for Encoding / Parsing / XML generation for end-to-end XML
- Improves Data Dictionary concepts to Business Topology Registries and Vocabularies (Enables information sharing across environments)
- Simplifies your EAI and SOA initiatives by reducing complexities with RDBMS storage (Datura's transport layer mitigates complexities for sharing information across rdbms vendors)

Case Studies

Customer Master: You have just started your company with a brand new, innovative product. You are aware of the types of problems that your product can handle elegantly that existing products support with less flexibility and efficiency. The immediate challenge you have is to identify the target industries with the target solution based on your product to attain market awareness of what your product is and how it provides solutions for the targeted industries. One of the first steps, which is the focus of this Case Study, is to create an initial Customer Master that will grow with your company as your company gets started. Migration to COTS based solutions is not in the scope of this Case Study. The requirements for your initial solution are as follows:

1) Identify target locations and target industries. The assumed selections for target industries are Engineering and Manufacturing. Selections for locations were Illinois, Michigan and Florida.
2) Identify target solutions for each industry.
3) Establish the target set of Customers based on Dun & Bradstreet Global Database, with a minimum size for each company based on Industry.
4) Using these client sets with the targeted solution, execute a sales and marketing campaign. Capture the results (who was contacted, results of contact including follow-up activity).

The design of the Customer Master is provided in the Diagram below.



The specific client set (State/Industry) was extracted and then individually loaded into BeanCounter. Contact statuses were captured in spreadsheets and then loaded into BeanCounter. Additional information (pilot activity and sales activity) will be added to the design in Step 2 of your Customer Master.

Feature Comparison

This chart compares a typical relational database implementation of Legume's Equal Format Database to typical implementations of other database technologies.

Feature	Legume	Custom Relational Design	Object Database	Proprietary Database	XML Storage Database	XML Text File
Uses standard Relational server	**Yes**	**Yes**	Rarely	No	Some	No
Cross-platform storage	**Yes**	**Yes**	Rarely	Rarely	Rarely	**Yes**
SQL Commands	**Yes**	**Yes**	Rarely	Rarely	Rarely	No
All Values indexed	**Yes**	No	No	Rarely	Some	None
Attribute selection	**Yes**	**Yes**	No	Rarely	Some	No
Multi-user editing	**Yes**	**Yes**	**Yes**	Some	Some	No
Track every change by user, project, time period, etc.	**Yes**	Difficult	Difficult	Rarely	Difficult	Difficult
Non-destructive modifications	**Yes**	Difficult	Difficult	No	Difficult	Difficult
Point-in-time selection	**Yes**	Difficult	Difficult	No	Difficult	Difficult
Global key and vocabulary	**Yes**	Difficult	Difficult	Rarely	Some	Some
Reusable structure	**Yes**	No	No	Some	**Yes**	**Yes**
Reusable software	**Yes**	No	No	Some	**Yes**	**Yes**
Project/Program Management	**Yes**	Difficult	Some	Some	Rarely	Rarely
Relational Data Models	**Yes**	**Yes**	Limited	Some	**Yes**	**Yes**
Object Data Models	**Yes**	Limited	**Yes**	Some	**Yes**	**Yes**
Mixed Hierarchical Models	**Yes**	**Yes**	No	Some	No	No
Knowledgebase Data Models	**Yes**	Limited	No	Some	No	No
Full Semantic Models	**Yes**	Limited	No	Some	No	No
Semantic Web Data	**Yes**	**Yes**	Limited	Some	Limited	**Yes**
Mixed Data Models	**Yes**	Limited	Limited	Limited	Limited	Limited

Benefits

- Uses industry-standard database servers
- Robust Program and Project Management
- Share libraries and registries
- Reuses established systems
- Leverages past training
- Uses uniform relational table design
- Uses reusable software modules
- Easier installation and extension
- Global Keys and Vocabularies
- Distributes data more easily

Products in the Legume Equal Format Database Family

- Legume Engineering Database
- Legume Research Database
- Legume Catalog Database
- Legume Legacy Access Database
- Legume Data Mining Database
- Legume Data Capture Database
- Legume Manufacturing Data Structure
- BeanCounter Client for Legume
- BeanCounter Desktop