

# Knowledge Computing Corporation

## Data Conversion Services

### Client Profile

Knowledge Computing Corp.  
Tucson, Arizona  
[www.knowledgecc.com](http://www.knowledgecc.com)

### INDUSTRY

Software Development  
Law Enforcement

### Entara Service

- Predictable, high speed data conversion services

### Key Benefits

- Shortened data transformation timeline
- Faster delivery of customer implementation services
- Handles complex transformations

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### KNOWLEDGE COMPUTING CORPORATION

Knowledge Computing Corporation (KCC), based in Tucson, Arizona, is a leading knowledge management systems company focused on providing COPLINK, a state-of-the-art technology for organizing vast quantities of structured and seemingly unrelated information, to law enforcement agencies. KCC's business approach is to deliver efficient, accurate and focused solutions that enable public safety clients to leverage new and existing knowledge assets.

### BUSINESS GOALS & OBJECTIVES

Entara's data extract, transform, and load (ETL) solution was born from performing repetitive data conversion services for KCC. In particular, Entara's work centered upon development of interfaces to move data from Northrop's Command Point Records Management System (RMS) and New World's Aegis RMS into COPLINK. KCC's goal was to shorten the conversion cycle, increase accuracy, and highlight discrepancies. Because COPLINK data sources can be any type of technology in any format, creating a flexible tool that could more easily perform complex transformations was also a goal.

### ENTARA SOLUTION

The Entara ETL solution provides COPLINK implementers tools and a development framework to support the extraction of data from multiple data sources, manipulation of the data to translate it to formats required COPLINK, and loading services to place the data into an appropriate COPLINK repository.

Entara's ETL tools resolve specific problems that are not well handled by existing ETL tools. While most commercial ETL tools are well suited for data warehousing applications, they are limited in several ways. Entara's tools support:

- Complex transformations – The most common issue found here is the ability to examine “freeform text” data entered into comment fields and translate it to structured data. For example, Entara's ETL tools are able to examine a “gun description” field that contained text entered by users – with frequent misspellings – and translate it into specific fields for gun type, caliber, and manufacturer.
- Incremental refreshes – COPLINK customers have a need to perform an initial load of data from a source system, and then on a periodic – frequently nightly – basis, perform the same transformation again for data that had been added or changed. Entara's ETL tools were designed to support both an initial data load process as well as supporting requirements for creation of ongoing data “feeds” from legacy systems.
- Transformations into object models or XML structures – While much of the technology for integrated systems has moved to XML data exchange or transfer of “serialized objects” via XML, database technology still follows a traditional row-and-column of data approach. Since the “row-and-column” approach to data storage is the most efficient way to store, retrieve, and

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- search for data on a hard drive, it is unlikely that database engines will migrate from this model. Commercial ETL vendors optimize their software for database manipulation rather than supporting real-time and near-real-time data interchange systems. Entara's ETL tools support traditional row-and-column data storage approaches as well as XML and object-based transformations needed for data interchanges.
- "Any-to-any" format transformations – Rather than map data from one system directly into another system, Entara's tool set allows mapping of data from a source system into a common XML schema or object model. Once mapped into the common schema, data can be extracted into many different formats or supplied to many different consumers that have a need for the data.

### CLIENT RESULTS

Entara services and ETL tools are used by COPLINK user agencies across the United States and have enhanced and shortened COPLINK implementation times. Entara's ETL tools can be put to use in short order. Entara's ETL tool set is able to accomplish these tasks by incorporating several key features:

- Support traditional ETL mappings and transformations as well as provide implementers the ability to write custom "plug-in" programs that run during the transformation process to handle complex data analysis and transformations.
- The tools are based on the Hibernate Object-Relational Persistence framework through which complex data and XML mappings can be accomplished.
- "Data loaders" were designed to support full data loads as well as incremental loads. Once a developer has defined the mappings and implemented suitable plug-ins as required for complex data, no additional work is needed to run these in either full load or incremental load modes.