**Department of Business Information & Analytics**

**Daniels College of Business**

**University of Denver**

**DATA WAREHOUSING CASE STUDY**

**Redwood Realty**

**OVERVIEW**

**Redwood Realty** (fictitious company)is a small office of 29 real estate professionals and support staff is in Arcata, California, and serves all of Humboldt County, near the northern border of California.

As you are probably aware, a real estate firm helps people buy and sell houses, charging a commission for that service. By convention, real estate professionals charge the real estate sellers a commission, not the real estate buyers. There are several advantages to using real estate professionals when purchasing or selling real estate. Principal among these advantages is that real estate professionals are familiar with all the rules and regulations surrounding real estate and can help their clients navigate the mountain of paperwork involved in both selling and purchasing a home. Agents are employees who have earned a state license by passing a state exam. This license allows them to sell real estate in the state in which they hold the license (California, in this example). Real estate professionals contact possible sellers and investigate recent sales to establish a listing price for a house or property. Houses are listed for sale and entered into the regional multiple listing service (MLS) database. The agent working with the seller is called the selling or listing agent. Potential buyers can contact the original listing agent, or they might work with a second agent—possibly from a different company. When any of the agents working for Redwood Realty list a house, they need to enter the description into the company's database. They also need to track the customer information.

Briefly, the Redwood Realty organization has an OLTP with the following normalized entities:

* A **ContactReason** table contains three rows with reasons that people contacted Redwood Realty: Buy, Sell, or Casual are the three values, with longer explanations attached.
* A **Customer** table listing the buyers and sellers who have contacted Redwood Realty recently. The data here includes all the requisite contact information.
* An **Agent** table listing information about the real estate agents working for Redwood Realty.
* A **Listing** table containing a row for each property for sale, referencing the listing agent and the property description, found in other tables, along with begin and end listing dates. In this table is the owner's desired selling price, called AskingPrice, for each property.
* A **Property** table containing all the details for properties referenced in the Listings table and in the Customers table. Not all homes listed in Property are for sale. The others are simply properties in Humboldt County. Besides the typical information about the properties, each record contains data available in the public record of the county assessor, such as square footage living space, the year the structure was built, the zoning, lot size, bedrooms, bathrooms, and the longitude and latitude.
* A **SaleStatus** table containing three rows: For Sale, Pending, and Sold. Mostly useful as a lookup table referenced by drop-down lists in forms, the SaleStatus table provides a consistent spelling for the status of properties in the Listings table that references it.
* A **LicenseStatus** table that describes the various conditions associated with a real estate license in California. Status indicators range from "Licensed" to "Surrendered." Their exact meaning, except for obvious categories, is unimportant, but they are real conditions that indicate whether an agent can practice in the state.
* A **CustAgentList** table is the glue that binds together each of three tables whose abbreviations make up part of the table's name. CustAgentList contains foreign key references to the Customers, Listings, Agents, and ContactReason tables. In this table is the only place you will find the price that prospective buyers have bid on a property. Therefore, only those properties for which the ContactReason is "Buy" contain a nonnull BidPrice, if any.

When the real estate market heats up, agents get busy and can be working with several buyers and sellers at the same time. Sales are particularly difficult because buyers and sellers often go through several rounds of negotiations before deciding on a final price. The agents need to keep track of all offers. In fact, the contact list is one of the most important pieces of data to an agent. People who look at one house might not make an offer on it, but they are likely to be interested in other houses. A good agent has a detailed knowledge of the inventory of houses available and can direct potential buyers to one that fits their needs. Agents earn their money through commissions on the sale or purchase of a house. Typically, the listing and purchasing agent split the overall commission, and a portion of the commission is paid to the agent's real estate company. Traditionally, agencies write sales contracts with a 6 percent commission, but sometimes that number is negotiable.