

As a seasoned (i.e., old) consultant who has served in the real estate industry for more than 30 years, I am excited to review a new and revolutionary management system designed for the residential homebuilding market. The primary objective of this system is to support business-to-business e-commerce for homebuilders, suppliers and manufacturers. At the turn of the century, startup internet ventures such as BuildNet touted this same vision and claim—and failed. However, the fine folks at the Keystone Exchange have made it a reality. Now they are beginning to roll it out in regional markets and intend to offer it throughout North America in the next three years.

The essential matters addressed and resolved by the system are: *What will be built?* and *Who will build it?* What will be built is relatively straightforward and can be easily answered by reviewing the detail plan designs (i.e., blueprints). These designs are the defining documents that identify the components required to build a home. Keystone uses BIM (Building Information Modeling) technology to imbed intelligence into the CAD drawing file. This information is used to generate material take-offs and has the ability to define unit take-offs for non-material trades, such as plumbing and electrical. Unit take-offs will eliminate the need for traditional turn-key plan bids.

The CAD file will become the central hub in a BIM system and will be responsible for disseminating data to the other modules including purchasing, budgeting, scheduling and accounting. These subsystems will automatically receive their data from the CAD file, thereby eliminating the need for duplicate data entry in the back office or field.

Thus far, the system has defined what will be built and has shared this information within the builder's organization. Now we will delve into the matter of: *Who will build it?* The trade partners and suppliers build the home, and it is the Exchange's ability to provide for full integration of their products, services and pricing data that make this system truly unique in the industry. Many have attempted to integrate builders and trade partners, but where they have failed, Keystone has succeeded.

Trades and suppliers are integrated through a Universal Data Exchange (UDE) which is a single central platform for the hosting of all trade and supplier pricing data. The UDE is the heart and soul of the system, for within it take-offs are linked to vendor pricing to derive the cost of building a home. Builders using the Exchange have full access to all supplier and trade pricing provided by their primary suppliers as well as the competition. It should be noted that the suppliers are responsible for their pricing and not the builder. This shift in responsibility from builder to supplier eliminates countless back-office man hours spent bidding and updating traditional homebuilding systems as well as the need for change orders and variance purchase orders when vendor pricing has not been updated in a timely fashion.

The secret behind the UDE is that all product descriptions are normalized to meet industry standards. Normalization brings purchasing clarity to its optimal level as all products and services are well defined and precise. Suppliers provide manufacturer SKU numbers and detailed descriptions that convey all essential specifics of what is being ordered. Most builders have derived very generic descriptions and random codes that

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mean nothing to the outside world. Cornerstone was engaged recently to clean up a parts/items database. We found 20 parts/items for a pine 2x4. In the Exchange, the equivalent part code and description will exist only once and will be used by both suppliers and builders, eliminating the need to translate supplier and builder codes for the same item. Gone will be the countless man hours used by your purchasing and accounting departments attempting to reconcile and pay the correct invoice amounts.

An additional benefit of standardized take-offs and pricing in the same system is the easy comparison of vendor pricing with a few clicks of the mouse. During the course of this review we had an opportunity to work with Keystone and follow a new plan through the entire process. This plan was furnished by a prospective client who wanted to understand the benefits of the system and determine whether or not their margins would be improved.

The plan was given to Keystone's drafting department and they developed a SoftPlan 3-D CAD drawing and take-off. This information was imported into the UDE and was available immediately for pricing. Since we were given a price sheet, we selected the same primary vendors and reconciled a couple of minor discrepancies as our first pass through the system, and arrived at a comparable cost estimate of \$120,000. Taking a second pass, we selected the lowest prices being offered for the same items and by selecting competitive suppliers we found a cost savings of \$8,000 for the same plan. This particular builder was forecasting to build and sell 500 homes in 2016. It was very apparent that this system would save him \$4,000,000 (500 times \$8,000). This analysis took us less than 15 minutes to generate and utilized only one purchasing person to reselect the vendors. It is hard to ignore a \$4,000,000 improvement to the bottom line with minimal human intervention.

It seems unbelievable that builders could utilize their own data and with a few clicks of the mouse improve their margins—but it is true. We performed multiple tests to determine if there is a cost savings for each plan processed through the exchange, beginning with the SoftPlan 3-D CAD drawing and pricing it with the suppliers' pricing. In every case, we found a significant cost savings that immediately improved the house margins.

We believe Keystone Exchange is the next generation of homebuilding software. Those of us old enough to remember the world before personal computers know that the original homebuilding systems were designed to support back-office accounting departments with job cost and general ledger information. These systems were reactive in nature and reported results in hindsight. The subsequent generation utilized handheld technology and moved data into the sales offices and field for superintendents to track and monitor their schedules. These systems have been widely adopted by the industry over the past 10 years.

Unlike accounting, sales, and operations, the purchasing software has made minor improvements over the last 15 years. Most of the leading systems can easily export and import data from the purchasing applications, but the bidding process remains a time-consuming and labor-intensive process. The Exchange reduces the man-hours spent compiling supplier bids and then updating their current systems. Keystone has shifted the responsibility and workload to the supplier, freeing up the builder's back office and ultimately reducing the

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number of purchasing agents required to bid and update their systems. In our previous analysis with the \$8,000-per-home savings, we did not take into account that the efficiencies achieved would result in manpower reduction by the purchasing department. Another way to look at it is that a builder could develop cost estimates for a significant number of new plans each year without increasing his purchasing headcount. In either scenario, the back-office overhead is reduced and the department will run more efficiently.

In conclusion, we enthusiastically recommend this system because we firmly believe that Keystone Exchange has the potential to redefine bidding and purchasing for the entire homebuilding industry. It will revolutionize homebuilding systems because it efficiently uses data from the beginning of the build cycle, starting with the initial CAD drawings, creating material and unit take-offs, generating purchase orders, and populating schedules for superintendents. Keystone Exchange will change the industry for the better while rapidly improving builders' margins.

**About the Author:** *Stuart Siegel is a Partner at HMS Cornerstone Solutions with 30 years in the homebuilding industry. Stuart specializes in both homebuilding and property management systems. He has assisted clients in the design and deployment of technology based solutions, as well as business process and strategy development across most segments of the real estate industry.*

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