Logistics News: Increasing Number of Options for Sourcing Warehouse Control Systems

Equipment OEMs, Integrators, Independents All Offer Solutions; from Black Box to Robust Applications

SCDigest Editorial Staff

A Warehouse Control System (WCS) is a piece of software that that sits between the Warehouse Management System (WMS) and the lower level equipment controls of a distribution center materials handling automation system, such as a high speed sortation system.

For example, the WCS likely will monitor at a detailed level all the sensory inputs and directs the conveyors to start, stop, merge and all the myriad other activities needed to make the conveyors operate. (See graphic on next page.)

That's easy to say at a high level, but the scope of the WCS can range from performing very basic "middleware" functionality, in which it primarily serves as an information bridge between the WMS to the conveyor controls, to being a sophisticated software solution that, as a category, is increasingly encroaching on traditional WMS territory.

Insert WCS here or close

The reality is that until fairly recently, Warehouse Control Systems were somewhat cobbled together software solutions that providers preferred to hide from a customer's IT managers, lest they should take too close a look under the hood. Most WCS began with a basic shell, but were heavily customized for each project.

Today, the leading WCS systems have become highly standard and packaged, and can support tailoring of many system requirements through con-

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figuration alone, not custom code. A few have even embraced "Service Oriented Architecture" (SOA), a technology approach that enhances integration with other systems and flexibility down the road.

So where should you source your WCS? There are usually several options:

- **The Conveyor System OEM:** Most major conveyor/sorter manufacturers offer their own warehouse control systems. In some cases, such as for high-speed merge sub-systems, the controls system from the OEM must be used. Many have experience integrating with leading WMS providers, and not surprisingly, they often offer excellent troubleshooting and diagnostics capabilities for the hardware system.

Logistics News: Increasing Number of Options for Sourcing Warehouse Control Systems (Con't)

Sortation Systems Involve the Integration of Many Layers of Software, Controls and Equipment

Source: Supply Chain Digest
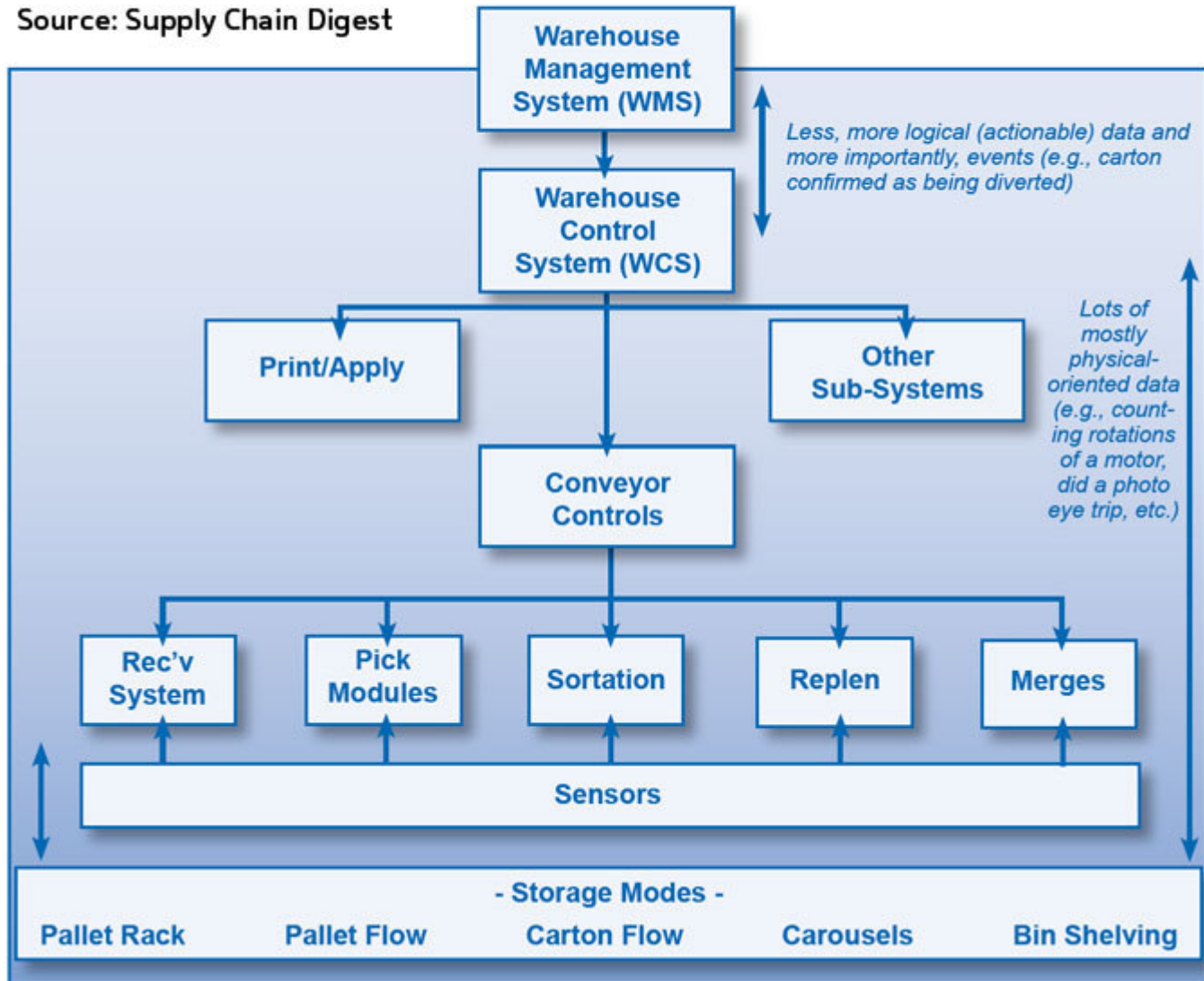
- **Systems Integrators:** If you are using a systems integrator to implement your sortation system, many today offer their own WCS solutions, some of which now offer highly packaged and sophisticated solutions. Usually, this involves a turnkey solution, with the integrator providing both the sortation system and the WCS.

- **Independent, Third-Party Providers:** A handful of companies now offer truly stand-alone WCS products designed to be implemented independent of the hardware system itself. In some cases, these systems have the capability to provide a single system that manages all automation systems within a DC (sortation, carousels, etc.).

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Examples include companies such as **QC Software** and **Invar Systems**.

SCDigest research finds that too often companies do not adequately consider, research, and compare different WCS alternatives as they develop overall sortation system plans and select system providers. In many cases, it's not until the equipment or systems integrator has been selected that anyone sits down in detail to understand what the now default WCS can really do, and how it will integrate with the WMS or other systems in the DC.

As SCDigest's **Mark Fralick** says, "From early on in the design, there should be discussions around the handoffs in control and visibility between the WMS and WCS. It's all about coordination between the two systems, and that should not be left until late in the process, which it often is."

This has two ramifications. First, it means the WCS component of each hardware vendor or systems integrator candidate must be vetted as closely as other aspects of each potential supplier before the decision, and not after the fact. Second, it may mean adding another category of vendor to the mix, that being one of the independent WCS providers.

As the WCS in the end is essential to the initial and long-term performance of the automation system, it will pay strong dividends to thoroughly review all of the WCS options and ensure the WCS is a key part of the overall evaluation of potential system providers.