ARC BRIEF

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SAP Extended Warehouse Management Comes of Age

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Summary

In 2010, ARC Advisory Group questioned whether SAP Extended Warehouse Management (EWM) could compete with best-of-breed warehouse management solutions. In the interim, SAP has continued to invest in EWM, expanding its features and functionality. This has resulted in robust growth in user adoption. Now, SAP EWM's advanced functionality is being used in a number of complex warehouses and distribution centers in which best-of-breed solutions would typically have been used in the past.

The question now is, has SAP EWM progressed to the point where it can be considered a best-of-breed solution in today's competitive landscape?

SAP released EWM in 2005 as a functionally-rich WMS designed to compete with best-of-breed solutions. In 2010, EWM showed itself to be a viable alternative to these solutions. Since that time, SAP has further enhanced EWM and it is now being used in numerous complex distribution centers. Customers running complex warehouses report benefits from the advanced functionality and provide examples of these sources of return.

The Evolving WMS Market

The warehouse management systems (WMS) market has changed considerably over the last decade. The underlying technology has progressed, sources of differentiation have evolved, and vendor value propositions have shifted. The constant change has led to previous market perceptions quickly becoming out-of-date and rendered past categorical frameworks invalid. This has resulted in a changing market landscape, with some vendors progressing while others decline.

A New Rival to Best-of-Breeds?

In 2010, ARC Advisory Group published a paper that discussed the historical categorization of WMS solutions and the progression of SAP EWM from initial product launch to its current status. The paper, "SAP EWM: A Rival to Best-of-Breed Solutions?," discussed the competitive position of SAP EWM in the context of the differences between functionally rich best-of-

breed WMS solutions and lower-cost ERP WMS solutions. It examined differences between these solution categories across numerous dimensions.

ERP-type solutions have typically been implemented in simpler warehouses, providing return on investment (ROI) through inventory visibility improvements and back-end system integration. In contrast, best-of-breed type solutions have been implemented in large, complex distribution centers (DCs) and provided ROI through labor efficiency improvements. The best-of-breed category offered extensive breadth and depth of functionality to justify its higher total cost. Examples of the advanced functionality include slotting optimization, warehouse business intelligence tools, and warehouse control or material handling integration capabilities. Meanwhile, the ERP type of solution offered more limited functionality, but at a lower price point.

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In 2005, SAP released its Extended Warehouse Management (EWM) solution designed to meet the needs of complex warehouses. The company's goal was to attain competitiveness with best-of-breed solutions.

EWM features included best-of-breed type functionality that enables labor efficiencies. Some of the more prevalent features include slotting, labor management, and the Material Flow System (MFS). From 2008 to 2009, the number of live customers and live sites grew exponentially. By 2010, customers across numerous industries and a range of warehouse environments had implemented EWM and ARC was hearing about an increasing number of customer success stories.

The WMS Evolution Continues

The WMS market has continued to evolve. WMS users are consolidating their IT landscape and others are looking for a standardized company-wide warehouse strategy. Increasingly, WMS providers have developed supply chain execution (SCE) platforms and promoted these platforms for their user benefits. These include standardization, integration, and a lower total

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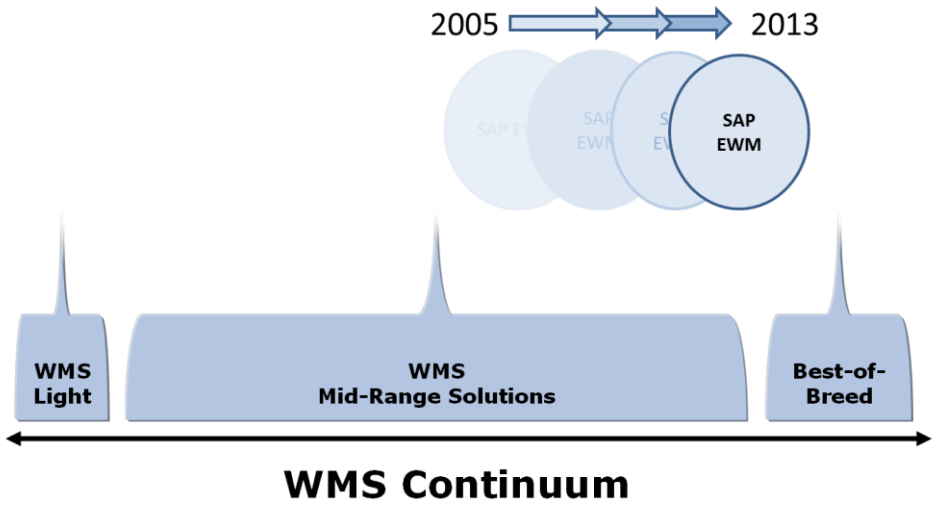
cost of ownership. At the same time, many suppliers have continued to increase the features and functionality included within their WMS solutions.

Enhancements to SAP EWM

SAP has continued to invest in EWM with feature and functionality expansions that meet the needs of complex warehouse environments. The recent EWM release included enhancements such as a graphical dock appointment scheduling cockpit for managing incoming and outgoing warehouse deliveries. This feature also includes a web user interface for transportation providers to access the system. In addition, the release includes a cross-distribution center performance dashboard that provides a graphical display of warehouse performance indicators for DC comparison and analysis. This feature is particularly valuable to customers with multiple DCs looking to support a company-wide warehouse strategy. Other enhancements include the ability to handle stock in different units of measure through warehouse processes, pick-by-voice enhancements, and outbound order processing improvements.



Chronological Progression of SAP EWM along the WMS Continuum

SAP also improved its SCE integration capabilities with enhanced integration between SAP TM, ERP, and EWM. The enhancements integrate order processing, transportation planning, and warehouse execution processes. This helps users streamline delivery order processing, cost settlement, and freight order cancellation, among other benefits.

Extensive Customer Adoption of EWM

SAP EWM has experienced robust growth in user adoption over the last few years. ARC's research on the WMS market shows that SAP EWM grew much faster than the overall WMS market during this time. In fact, SAP was the market share leader in software license revenues in ARC's 2012 WMS Global Market Research Study. Currently, more than 500 sites are live with EWM and the solution is now being used across a broad range of industries and in more than 20 countries.

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With increased functionality, SAP EWM is now being used in a number of complex warehouses and distribution centers where best-of-breed solutions would typically have been used in the past. Consequently, there has also been robust growth in the number of SAP implementation success stories. These case studies include complex distribution centers that ship direct-to-customers, high-volume put-away, picking and, replenishment operations, and automated warehouses using the EWM Material Flow System (MFS). EWM users are taking advantage of advanced functionality such as slotting, wave management, and cross docking to improve process efficiencies. Examples of specific user benefits reported include:

- Better resource utilization through real-time stock overview and workforce monitoring
- Increased speed and significantly reduced picking error rate through voice-enabled picking process
- Increased picking efficiency through wave management

The profile of warehouse operations in which SAP EWM has been deployed; the functionality currently available and being utilized; and the publicly referenced cases show that it has clearly progressed from a mid-range solution. ARC can now confidently include SAP EWM in the best-of-breed WMS category.

The SAP EWM Vision

SAP has invested heavily in SAP EWM and extended the functional footprint of the solution. The company continues to invest in the product has included a number of interesting enhancements in the next scheduled release.

According to the company, SAP EWM version 9.1, planned for release in November 2013, will include enhancements such as:

- A shipping cockpit that will serve as user interface for shipping planning and execution monitoring.
- Labor demand planning that will run on HANA
- Enhanced dock appointment scheduling

The SAP EWM shipping cockpit will provide a planning view as well as a shipment execution and monitoring view. The planning view is designed with a drag-and-drop delivery planning interface. It will include objects such as transportation unit, staging area, and carrier assignment and functionality to support wave planning. The view will be augmented with embedded contextual analytics to provide planners with added insight.

The shipment execution and monitoring view will support delivery status processing and monitoring for activities such as vehicle check-in, loading, and check-out. It will offer document printing, invoice triggering, and include contextual analytics in a similar manner to the planning view.

The labor demand planning feature will provide labor shift planning, decision support, and workload analytics. This real-time solution will incorporate actual planned workload with a forecast workload delivered by HANA-based predictive analytics, derived from historical workload data. The feature will include a flexible graphical workload display that can present data for a range of different timeframes or areas of interest such as select warehouses, activity areas, or activities.

The enhanced dock appointment scheduling will extend the current capabilities with features to support efficient handling of incoming and outgoing truck deliveries to warehouse doors. The features will include separate planning and execution views, integration with the EWM shipping cockpit, enhanced planning capabilities, and appointment reporting such as planned vs. actual times.

SAP is also planning interesting enhancements beyond those in version 9.1. The company is already working with customers and partners on augmented reality for the warehouse. This will leverage smart glasses that will display visual instructions, allowing workers to stay focused on their work environment. The solution can visually display information such as a pick list on the inside of the glasses. The user can then drill-down further for

item information such as size, weight, and special handling requirements. The augmented reality will also provide guidance by displaying a colored overlay to confirm the correct pick area or pallet placement. In addition, the colored overlay will also be able to be used to locate other moving material handling equipment to support workplace safety.

Conclusion

SAP EWM has evolved substantially since its introduction in 2005. The installed base of customers and sites has expanded to include numerous complex, high-volume warehouses. Customer cases now show return on investment coming from multiple areas, including improved inventory visibility and labor efficiencies. SAP has continued to invest in EWM, enhancing the breadth and depth of functionality, and plans to continue these investments based on the visionary product roadmap that it shared with ARC.

Answering the question we posed back in 2010, it's clear to ARC that SAP EWM has successfully evolved to the point where it can now be considered a best-of-breed WMS solution.

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