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The move to S/4HANA:
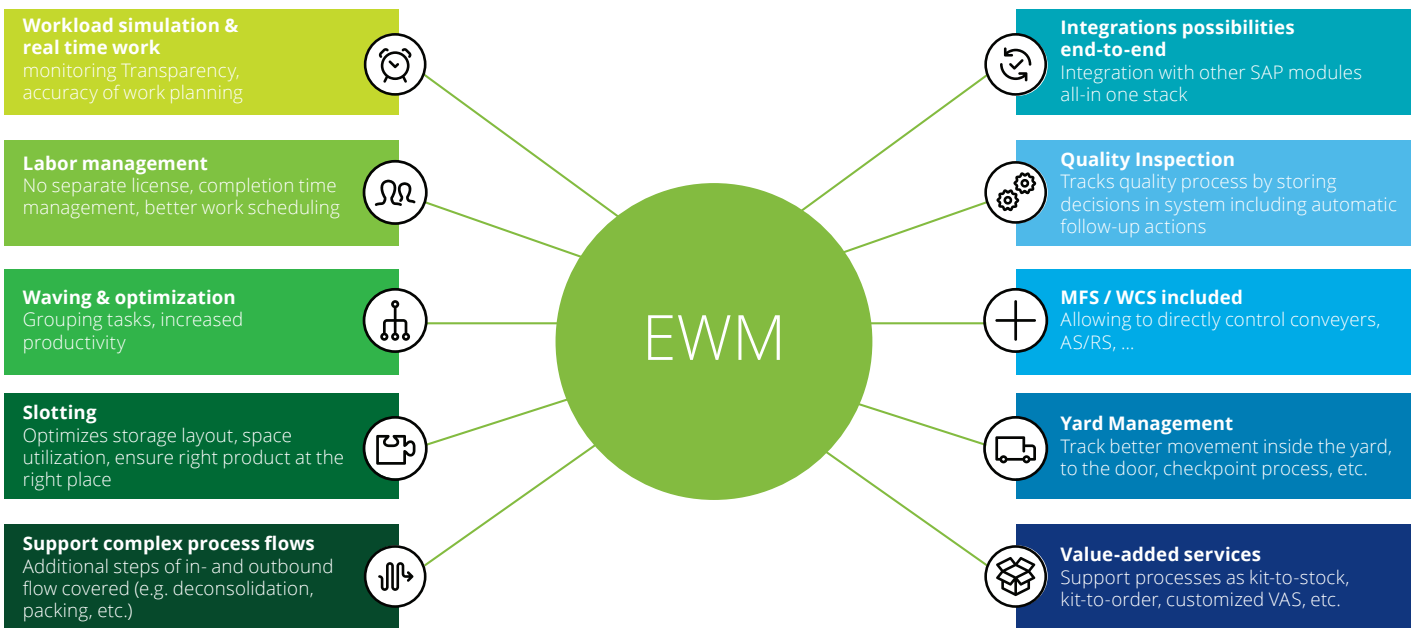Evaluating your WMS options

The move to S/4HANA: Reviewing your WMS options

This article provides guidance, best practices and various approaches for customers thinking about moving from an ECC based environment towards an S/4HANA suite, more specifically the things to consider when using the warehouse management system.

In this point-of-view, we will elaborate on the key elements for transitioning from SAP's built in WMS solution to SAP Extended Warehouse Management (EWM), the principles of the compatibility pack and several scenario's possible in this transition.

SAP EWM – From niche to common best of breed

So what is EWM and why are we mentioning it in the light of an ECC to S/4HANA migration?

Workload simulation & real time work
monitoring Transparency, accuracy of work planning

Labor management
No separate license, completion time management, better work scheduling

Waving & optimization
Grouping tasks, increased productivity

Slotting
Optimizes storage layout, space utilization, ensure right product at the right place

Support complex process flows
Additional steps of in- and outbound flow covered (e.g. deconsolidation, packing, etc.)

EWM

Integrations possibilities end-to-end
Integration with other SAP modules all-in one stack

Quality Inspection
Tracks quality process by storing decisions in system including automatic follow-up actions

MFS / WCS included
Allowing to directly control conveyers, AS/RS, ...

Yard Management
Track better movement inside the yard, to the door, checkpoint process, etc.

Value-added services
Support processes as kit-to-stock, kit-to-order, customized VAS, etc.

Around 2006 SAP introduced Extended Warehouse Management. A new system philosophy led to the development of EWM on a completely newly build foundation. In the very first release, the completely new system basis and document structure allowed to provide not only the known processes but also new ones. SAP EWM incorporates years of knowledge and experience built with SAP WM and combines it with even more powerful functionalities such as extensive Task and Resource Management (TRM), Handling Unit management (HUM), Material Flow Systems(MFS) and Labor Management. Moreover, it integrates broader supply chain functions such as Yard Management and Transportation Management. This results in a specialized WMS that has native capabilities to deal with a wide range of warehouse sizes and the process complexities of a modern warehouse.

Since the inception of EWM, both products (WM and EWM)

have existed side-by-side without one replacing the other. While SAP WM was the WMS core part of the ECC Suite, EWM was perceived as a specialized product tailored towards higher volume warehouses requiring more advanced processes – a perception that was also fed by the more complex decentral architecture requiring EWM to run independently and interfacing with the ECC backend system.

With the introduction of S/4HANA, SAP has decided to abandon the old WM core and replace it with the more modern EWM core.

EWM is the new WMS as part of the S/4HANA suite.

This means that moving from an ECC environment towards an S/4HANA environment also means migrating – independently of the ERP migration – from WM to EWM as WMS solution.

EWM is the new WMS as part of the S/4HANA Suite. Moving to S/4HANA will therefore introduce the need for an independent WMS migration to EWM.

Envisioning S4-EWM as your new WMS core – First thoughts

Migration sequence

Migrating your SAP WMS together with your ERP is not a necessity.

SAP commits to support the customers using SAP WM until 2025, which gives customers time to foresee in a roadmap and adequately analyze their transition path.

Technically SAP foresees a 'compatibility pack' to enable customers to run a WM environment as part of S/4HANA temporarily. Out of this 'landing zone' on the S/4HANA environment, the WMS migration can then be initiated at a later stage.

Licensing

The introduction of a new WMS core does not mean your license cost will go up by default.
Even though SAP is clear on abandoning WM and replacing it with EWM as the future WMS core, the licensing model put in place allows the use of a basic version of EWM embedded in S/4HANA without additional (on top of S/4HANA license) license fee.

System architecture

S/4HANA comes with an embedded EWM version, which runs within S/4HANA very similar to WM as part of the ECC Suite. The introduction of EWM as core WMS therefore does not have to mean a complete review of your system landscape or preparing for a 2-tier architecture including new interfaces.

Migration benefit

Even though the 2025 deadline SAP has put in place might be the initial incentive to start investigating a possible migration approach, it needs to be clear that it need not just be a technical migration.

The embedded EWM WMS using the basic license already incorporates more functionality than what standard WM could offer. Some of the differentiating functionalities are: a more extensive resource management, native process modelling by means of storage processes (vs the transactional approach of WM) and the elaborate configurable options to construct work packages out of warehouse task via warehouse order creation rules.

Migrating towards S/4HANA for active LE-WM users: Scenario's

Introducing the Compatibility Pack (CP) as temporary landing zone

As already briefly mentioned before, SAP foresees in a LE-WM Compatibility Pack for those customers who plan to move to S/4HANA prior to migrating from LE-WM to EWM.

This Compatibility Pack enables customers to move their current classic WM component to an S/4HANA compatible version during the S/4HANA upgrade, effectively allowing them to maintain full use of their existing WM setup.

Even though these Compatibility Packs provide a convenient way of encapsulating your classic setup, allowing it to run on the new S/4HANA platform - which might be appealing and sufficient for some customers - it should be clear these are only intended to be used temporarily to facilitate the transition towards S/4HANA. It should not be considered as a valid WMS migration solution.

The use of Compatibility Packs therefore comes with some restrictions

Functionality

SAP has clearly detailed out the type of classic functionality for which there is an S/4HANA compatible version (CP). No additional functionality or extension of existing functionality is expected in the light of new S/4HANA releases.

Note however that CPs only apply for classic functionality running out of the S/4HANA platform. Classic solutions running in a side-car setup do not require a CP and can continue to be used in conjunction with S/4HANA.

Time

The use of CPs is restricted to 2025 after which SAP will revoke their usage rights and might even disable them completely. Their continued use in a non-validated/unsupported way is not guaranteed.

Cost

CPs only help run classic functionality on the S/4HANA platform. They therefore still require the classic functionality to have an active license next to the S/4HANA license as long as the functionality is in use via the CP.

WMS Solutions and their migration options

The most common ECC-based WM/EWM deployment scenarios and the key considerations for migrating towards an S/4HANA environment are listed below.

Lean WM
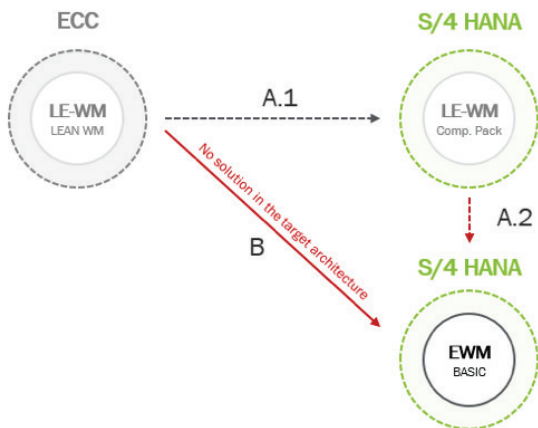
Lean functionalities, but no Lean EWM solution

Lean WM today is part of the LE-WM component. This means that LE-WM Compatibility Pack can run it with S/4HANA. However, there is no solution today for those customers who want to continue to use Lean WM functionalities under S/4HANA beyond the CP lifespan. SAP made clear that they are not planning to foresee a lean version of EWM, but state that they might plan to provide new lean functionality as part of the EWM core to replace Lean WM in future releases of S/4HANA.

LE-WM
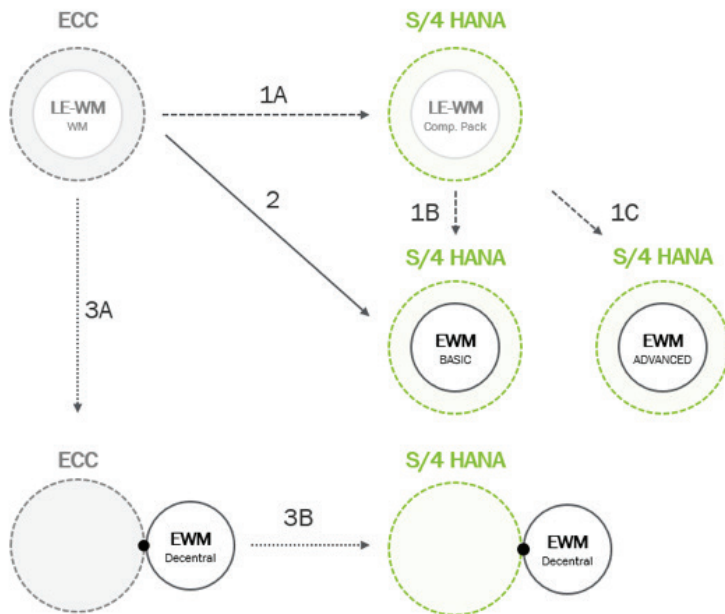
Customers using LE-WM today have a number of options to transition to an S/4HANA based solution. The one mentioned throughout this document is to migrate the ERP to S/4HANA first and use the compatibility pack for LE-WM on S/4HANA as a landing point. At a later phase, once the S/4HANA environment is stable and business had time to optimize the mapping of the existing business processes to SAP EWM processes, initiate the migration from WM to EWM.

For executing WM to EWM migration, SAP provides tools to facilitate the process. These tools extract and convert some basic customizing settings (e.g. warehouse structure, movement types etc.) from the WM to the EWM environment.

As an alternative to migrating from LE-WM to an embedded EWM on S/4HANA, customers could also opt to start by setting up a decentral EWM system – for which the same WM to EWM migration tools can be leveraged. Initially this decentral EWM system would be connected to their existing ERP. After the ERP to S/4HANA migration is done, the decentral EWM system would be connected to the new S/4HANA environment. There might be several reasons for considering this approach:

- Your current WM environment is on the same system as the other ERP components causing performance issues. This makes the migration project an ideal time to move the warehousing component to a decentral system safeguarding it from any impact coming from other ERP components.
- You have taken a strategic decision to allow the ERP upgrade path to be independent – and without impact – of the WMS upgrade path.
- You want to sequence the WMS migration before the ERP migration. For customer with a large amount of warehouses, being able to start with the WMS migration as early as possible might be a must in order to have all warehouses migrated prior to the 2025 deadline SAP is putting on the use of LE-WM.

WM Decentral
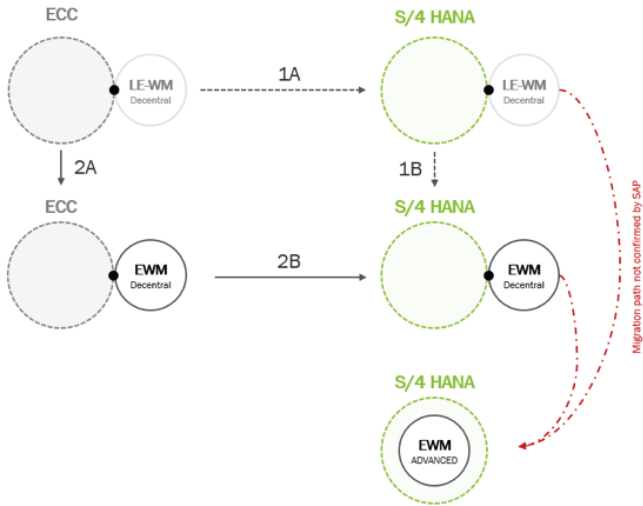
Customers using WM decentral, can continue to do so as long as the ECC platform hosting the decentral WM component is within its maintenance support time window (currently 2025 for the latest ECC release)

As the ERP LE-IDW component which is responsible for the integration with decentral WM instances is also available in S/4HANA, connecting their decentral WM instance to S/4HANA is not a problem.

Due to the 2-tier system landscape, those customers have full flexibility in how they want to sequence the WMS migration to the ERP migration – they can start with upgrading their ECC instance to S/4HANA before evaluating their WMS upgrade path, or do the opposite and migrate their decentral WM to a standalone EWM instance first.

Even thinking about leaving the 2-tier landscape and pulling some of the decentral EWM warehouses back into S/4HANA (leveraging the embedded EWM) might be considered. SAP had always stated they would not foresee a migration path between different versions of EWM, but now they seem to be reconsidering this approach and will potentially allow to migrate in between the embedded and the standalone version of EWM. (SAP plans to introduce S/4HANA Embedded EWM as the target architecture for decentral EWM instances in Q2 2019. In this light migration tools will be available to migrate from a decentral standalone EWM to a decentral S/4HANA Embedded EWM scenario)

EWM on top of ECC
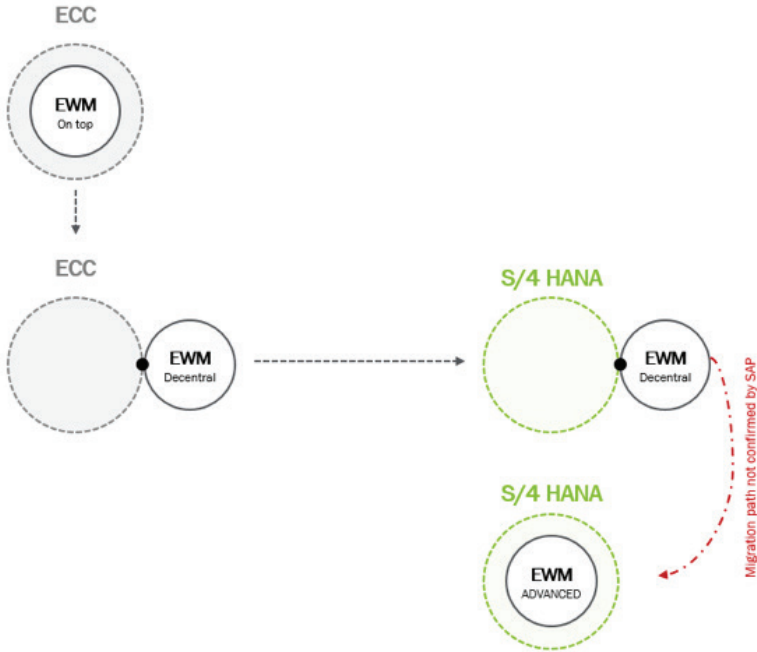
De-installation as a prerequisite to the ECC conversion

Customers using EWM as an add-on to SAP ECC need to realize that the de-installation of EWM is a necessity to perform the conversion of their ECC system towards S/4HANA.

In this scenario, it might therefore be opportune to setup a decentral EWM system and migrate the current EWM set-up manually. Afterwards the EWM add-on could be de-installed and the ERP system converted to S/4HANA. The end state would then be a decentral EWM system linked to an S/4HANA backend ERP. In case SAP would actually provide a migration path from decentral EWM to embedded EWM (as mentioned above), one could migrate back to an EWM solution as part of S/4HANA, thus eliminating the decentral system setup again.

EWM decentral

Customers already having a 2-tier system landscape in which EWM is setup as standalone, should be able to upgrade to S/4HANA without any concern. No pre-upgrade activities are expected on the EWM system assuming it has a release as of EWM 7.0 SP13 for an SCM based system or an EWM 9.0 non-SCM based.

Conclusion

With SAP S/4HANA, SAP brings a new world of possibilities for logistics as it introduces SAP EWM as the S4 Suite's core WMS. Not only did SAP replace the core WMS, but they also plan to phase out SAP WM completely by the end of the mainstream support window in 2025. This means that especially companies currently relying on SAP WM as their main WMS are facing additional challenges. They need to rethink their deployment strategy to make the most out of the S/4HANA potential in the mid-term while starting up a migration roadmap of their existing/new facilities in short-term. This paper therefore aims to position the SAP WM transformation options for ECC customers moving towards S/4HANA.

How can Deloitte help?

With its technical expertise, business process knowledge and global network, Deloitte is capable of providing solutions for all the challenges you face with rapidly changing technology.

01 MWE PACKAGE	02 SMART PACKAGE	03 TAILORED PACKAGE
Migration from WM to EWM	Best Practice Pre-configured solution	Empower full potential to the specific needs of your company
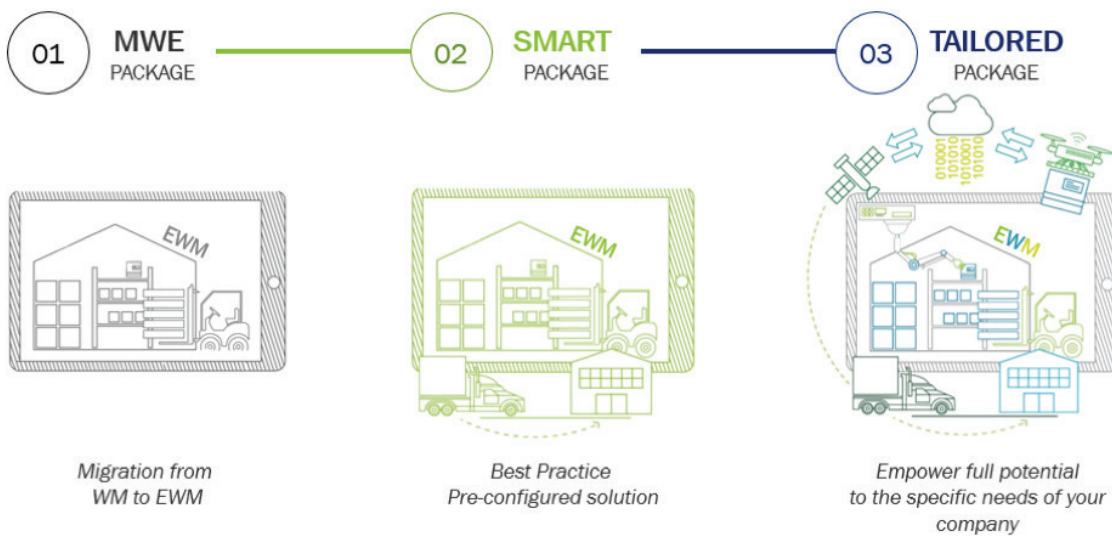
More specifically, our Belgian-based EMEA Center of Excellence around EWM has profound experience and following specific services that can help you on your transformation journey.

- WM to EWM migration services – From helping you with the scope and complexity assessment of your SAP WM based warehouses in order to foresee in a complete roadmap, to facilitating the execution of the actual migration.
- SMART Solution – An EWM preconfigured solution specifically targeted towards the SME market. The solution provides an efficient and low-threshold way of introducing an EWM environment in which SAP WM users can easily identify the processes and that can serve as an off-the-shelve WMS with little to no additional effort – depending on your functional scope.
- Extensive experience based on numerous full lifecycle implementations in SAP EWM – Being a true partner in helping you realizing the full potential of your S/4HANA environment.

Make it more than a technical migration. Leverage the moment to rethink and plan your deployment strategy allowing you to unlock the power and possibilities S/4HANA and EWM offer you.

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