PERSPECTIVE

# DISTRIBUTED WMS AS A STRATEGIC TOOL


## Abstract

Though Distributed WMS (DWMS) is one of the most powerful solutions provided by Oracle, it still remains relatively unexplored. This paper provides details on how this can be used as a strategic tool by companies which thrive on warehouse operations.


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## Introduction

According to Gartner's 'Magic Quadrant for Warehouse Management Systems' published in January 2016, the top five drivers for implementing a new WMS were:

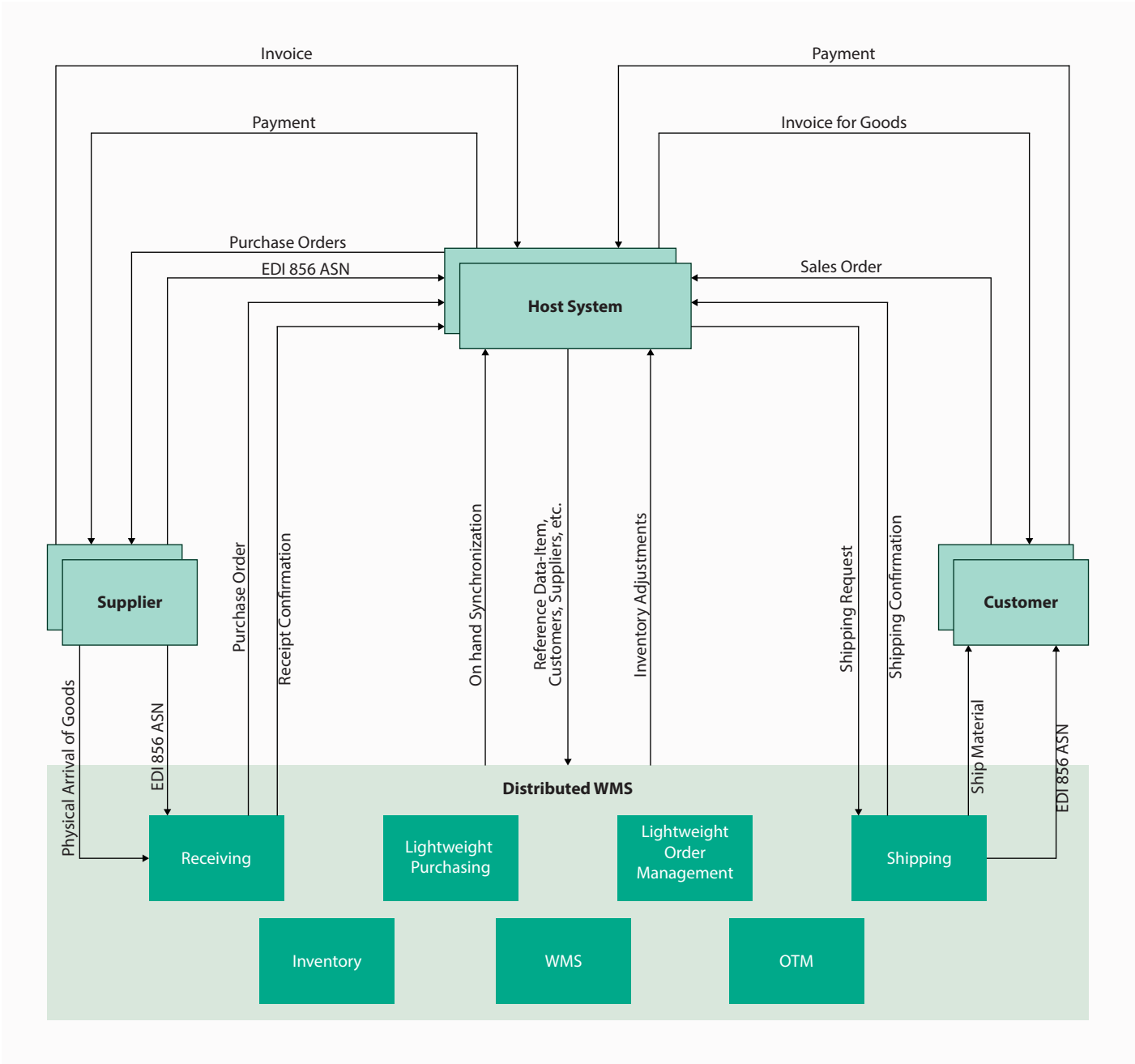
- Legacy WMS was technically obsolete
- New / advanced functionality not offered in legacy WMS
- Distinct financial benefits from adopting a new WMS
- Legacy WMS no longer fits the needs of a changed business scenario
- Legacy WMS was not flexible enough to adapt to the current needs of the business

As the saying goes, 'the only thing that is constant is change.' Various warehouse management systems have been in use by companies and in today's era of cutthroat competition, they are looking to improve warehouse processes without shaking the backbone of their ERP systems. One of the most powerful solutions provided by Oracle to achieve this objective is Distributed WMS.

# The Distributed WMS (DWMS) solution

Oracle provides two choices for deploying WMS. The first is WMS as an integrated package in its overall EBS suite while the second is deploying it as a standalone solution in a Distributed WMS environment. In a Distributed WMS environment, there is a WMS instance, which is separate from the EBS instance. The main benefit is that it can be seamlessly integrated with any host system (Oracle EBS or Non-EBS). Distributed WMS is a pure execution system and does not have any costing or accounting implications of material transactions; thus, the financial implications of the transactions are maintained in the host system.

Process flow diagram showing flow of information between host system, suppliers, customers, and Distributed WMS



# Market Scenario

Let us consider three scenarios companies find themselves in.

### Scenario 1

Company A is an MNC with core warehouse operations. It uses Oracle EBS 11i, which was implemented a few years ago, with a lot of effort and investment. It successfully integrated various functions of the organization using one of the best ERP systems.

Over the years competition has increased and both internal and external customers have become more demanding. The company is not able to keep pace with the changing environment. It has become evident from various surveys and feedback from employees and customers that their warehouse processes are not streamlined. So the company wants to upgrade and embrace the latest technology and improve the efficiency of their warehouse operations. After various discussions, they concluded that:

1. There is an urgent requirement to bring radical improvements in warehouse operations by using the enhanced capabilities of the latest Oracle WMS release.
2. There is no significant advantage in modifying or upgrading the whole application suite Oracle 11i (financials, manufacturing, and supply chain operations).

### Scenario 2

Company B is an LSP (Logistics Service Provider), which performs warehouse operations for clients who have outsourced their logistics operations. The company is using its homegrown warehouse system, which has worked fairly well so far. Over the last few years, however, the company has significantly expanded its client base and now faces severe challenges in supporting multiple clients.

Also, it takes a lot of effort and time to get a new client operational on their warehouse system. The company frequently faces issues and system failures when the WMS system encounters common sales order numbers or purchase order numbers from different clients. Under these circumstances, the company is evaluating options of 'keep', 'enhance', or 'replace', the system, in order to meet the challenges. They are looking for:

1. A robust warehouse system which can be integrated into any 'host' system running the clients' businesses.
2. A system that can differentiate between each client's materials and support the same purchase order number, sales order number, and item number of different clients in the same warehouse.

### Scenario 3

Company C, a multinational, having core warehouse operations, is working on a legacy ERP system, which has become outdated. The company has decided to implement the latest version of the on-premise Oracle EBS. But instead of going with a 'big bang' approach they want their ERP to provide the benefits in warehouse operations first and only then will it be integrated with various functions of the organization. In other words, they would like to:

1. Continue with the legacy ERP system for the time being to manage their financials, manufacturing, and supply chain operations. At the same time, they want to bring radical improvements in warehouse operations as Phase 1 of the overall Oracle EBS implementation.
2. Once the WMS operations are streamlined, they want to undertake Phase 2 of overall Oracle EBS implementation.

# What is the best solution for these three scenarios?

Deploying Oracle Distributed WMS seems to be the most viable solution for all three scenarios.

As mentioned earlier, in the Oracle Distributed WMS environment, there is a WMS instance, which is separate from an EBS instance. Companies can choose to deploy DWMS as a standalone warehouse management system, which is modern and adaptable. It has the latest and best-in-class features, which help in improving various warehouse KPIs. (labor productivity, space utilization, on-time shipments, fulfillment, costs, etc.) By deploying the Oracle DWMS, the company can focus on warehouse operations and improve warehouse efficiency. They can use one of the latest warehouse execution systems, and at the same time, keep all the existing processes like manufacturing, costing, and financials / accounting intact in the host system.

**Scenario 1**

1. There is no requirement to modify or upgrade whole application suite Oracle 11i (Financials, Manufacturing, and Supply Chain operations).
2. There is an urgent requirement to bring radical improvements in warehouse operations by using enhanced capabilities of latest Oracle WMS release.

**Implement Oracle DWMS**

1. DWMS will be a separate instance while the existing EBS instance decoupled yet fully integrated.
2. Benefit from latest and advanced WMS capabilities of Oracle 12.

**Scenario 2**

1. A robust warehouse system which can be integrated to any 'host' system running the client's business.
2. The system should be able to differentiate between each client's materials, and support the same purchase order number, sales order number, and item number, of different clients in the same warehouse.

**LSPs to use Oracle DWMS as a master system for all clients**

1. Oracle DWMS can be seamlessly integrated with any host system which their client might be using (Oracle EBS, SAP, or any other system).
2. Capable of handling multiple host systems for same warehouse and differentiates the sales orders, purchase orders, items for each client.

**Scenario 3**

1. Continue with Legacy ERP system for time being to manage their Financials, Manufacturing and Supply Chain operations. At the same time want to bring radical improvements in warehouse operations as Phase 1 of overall Oracle EBS implementation.
2. Once WMS operations are streamlined, implement Phase 2 of overall project of Oracle EBS implementation.

**Deploy Oracle DWMS and later convert it into integrated WMS**

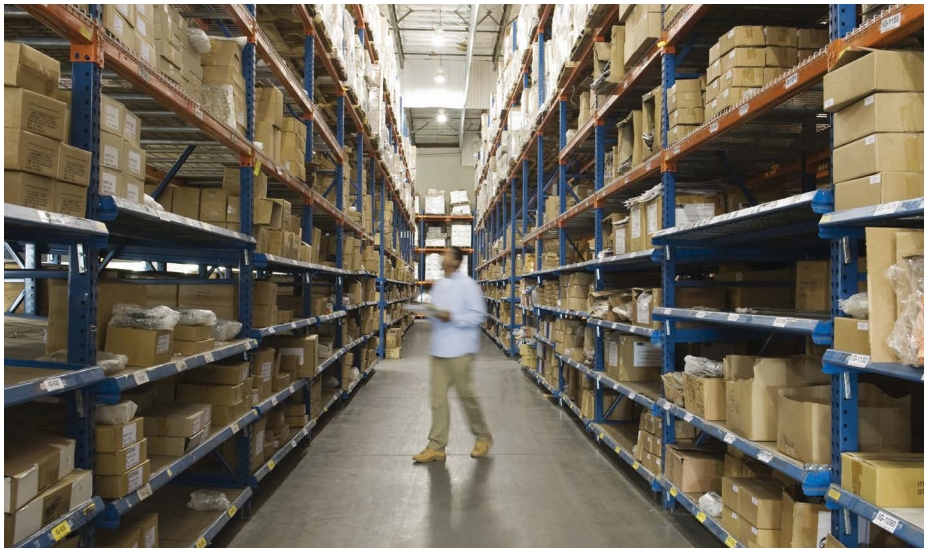
1. Get immediate benefits from latest and advanced WMS capabilities of Oracle 12.
2. Shorter implementation time (as compared to full end-to-end integrated EBS implementation) for DWMS leads to better ROI.
3. Flexibility to convert to DWMS to integrated WMS at a later stage when entire EBS suite is implemented.

1. With this approach there is a need to scrutinize interapplication integration issues very closely.
2. This will require additional effort to switch from DWMS to integrated WMS with all modules in a single instance.

In scenario 3 where a company is already working with a legacy ERP system, we assumed that the company has already decided that they prefer NOT to go for a 'big bang' implementation of Oracle EBS. But it is worth examining the various pros and cons to arrive at this conclusion.

Let us assume that this is scenario 4, where the company is considering two options:

- Implement only DWMS in Phase 1 and later covert DWMS into integrated WMS in Phase 2, while implementing other EBS modules
- Implement integrated WMS along with full EBS implementation (big bang approach)



The various parameters, which should be considered while comparing these two options are:

| Parameter | Option A: Implement DWMS in Phase 1 and convert it into integrated WMS in Phase 2 | Option B: Implement Integrated WMS along with full EBS implementation (big bang approach) |
|---|---|---|
| Effort of implementation | Considerable effort is required to integrate a non-EBS host and Oracle DWMS and test it thoroughly. Also, there will be additional effort involved in converting it back to an integrated WMS in Phase 2 | From a WMS perspective, comparatively less effort is required in the 'big bang' approach |
| Instance maintenance | More effort is required to maintain two separate instances | Only one single instance to maintain |
| Timeline | DWMS can be implemented faster (compared to full end-to-end EBS implementation). The company will get the benefits of the latest advanced features of WMS quicker | Full end-to-end implementation will typically take a longer time. The company will have to wait for full implementation to get benefits of the latest advanced features of WMS |
| Cost and budget | This might be expensive as effort is required twice to implement DWMS and later on convert it into integrated WMS. Also there will be higher DBA effort and hardware cost for maintaining a separate instance for DWMS | The approach of an Integrated WMS would be comparatively economical since it is a one-time effort, for only one instance |
| System availability | DWMS is a separate system and hence available most of the time even if the host system is down | This will be a single instance and warehouse operations will stop if instance is brought down for maintenance or patch application |

By looking at the above analysis in isolation, it might appear that integrated WMS is a better approach. But it is important to consider the external and internal environments under which the decision needs to be taken. If external conditions (fierce competition, customer demand which involves dynamic picking rules, etc.) are such that warehouse operations need to be revamped as early as possible, DWMS provides an excellent remedy. It can provide a fix for the most critical issue (WMS operations) immediately and then later on integrate with other functions.

## Conclusion

DWMS is an excellent tool for organizations which are looking to improve warehouse processes without shaking the backbone of their ERP system. It improves warehouse operations by leaps and bounds using the latest features and proven capabilities of Oracle WMS with a lower initial expenditure.

Hence the Distributed WMS concept can be used as a strategic tool to improve warehouse KPIs and improve warehouse efficiency.

## References: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