MASTER GUIDE | PUBLIC

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SAP Extended Warehouse Management 9.5 Master Guide

Using SAP SCM 7.0 including SAP enhancement package 4, SAP ERP 6.0 including SAP enhancement package 8, or SAP NetWeaver 7.5

THE BEST RUN SAP

Content

Document History

> ⚠ Caution
>
> Before you start the implementation, make sure you have the latest version of this document. You can find the latest version on SAP Help Portal at https://help.sap.com/ewm.

SAP has recently changed some of the naming of SAP products. Note that the old names are still in use and therefore the following product names are synonymous:

New Name	Old Name
SAP ERP 6.0	SAP ERP 2005
SAP NetWeaver BI (Business Intelligence)	SAP BW, SAP BI
SAP NetWeaver Exchange Infrastructure (SAP NetWeaver XI)	SAP Exchange Infrastructure (SAP XI)

The following table provides an overview on the most important document changes:

Version	Date	Description
1.0	2017-11-30	Initial version
1.1	2018-04-04	The following chapters have been updated: • Software Components of SAP Extended Warehouse Management • Software Component Matrix • System Landscape
1.2	2020-01-10	Links to solution manager documentation updated References to transaction SOLAR2 removed Chapter SAP Solution Manager updated

1 Getting Started

1.1 About this Document

Use

This Master Guide is the central starting point for the technical implementation of SAP Extended Warehouse Management 9.5 (SAP EWM 9.5). It contains generic business scenario implementation information as well as business process-specific information.

> **i** Note
>
> The central starting point for the **technical upgrade** of your SAP application/solution is the Upgrade Master Guide, which you can find on SAP Help Portal at https://help.sap.com/ewm.

This Master Guide provides an overview of SAP EWM 9.5, its software units (components), and its scenarios from a technical perspective. The Master Guide is a planning tool that helps you to design your SAP EWM 9.5 system landscape. It refers you to the required detailed documentation, namely:

- Installation guides for single software units (components)
- SAP Notes
- Configuration documentation
- SAP Library documentation

This Master Guide provides information about the components and guides that are required during the implementation of SAP EWM 9.5. The Master Guide comprises the following sections:

- Getting Started
  This section contains valuable information about using this document and related information crucial to the installation.
- SAP Extended Warehouse Management Overview [page 11]
  This section provides an overview of a possible system landscape and overall installation information.
- Business Scenarios of SAP Extended Warehouse Management [page 46]
  This section contains descriptions of some predesigned business scenarios that can help you to implement SAP EWM.
- Business Processes of SAP EWM [page 53]
  This section contains the following information for each business process:
  - A short overview of the business process
  - Minimal system landscape
  - A software component matrix for each business process, which provides information about the software units (components) that the business process uses and whether the corresponding software unit (component) is mandatory or optional
  - References to further information about the business process
- Solution-Wide Topics [page 101]

> **i Note**
>
> For information about the technical implementation of SAP EWM 9.5 and the latest installation and configuration guides, see SAP Help Portal at https://help.sap.com/ewm.
>
> We strongly recommend that you use the documents available here. The guides are regularly updated.

Constraints

- The business scenarios and processes that are described here serve as examples of how you can use SAP software in your company. They are intended only as models and may not run exactly as described in your system landscape. Make sure that you check your requirements and systems to determine whether the processes and scenarios can be used productively at your site. We also recommend that you test the processes and scenarios thoroughly in your test systems to ensure they are complete and free of errors before going live.
- This Master Guide primarily discusses the overall technical implementation of SAP EWM 9.5, rather than its subordinate components. This means that additional software dependencies might exist without being mentioned explicitly in this document. You can find more information on component-specific software dependencies in the corresponding installation guides.

1.2 Related Information

Related Documentation

The following table contains links to crucial information for implementing SAP EWM:

Content	Location
Information about SAP software product versions, including availability and end of maintenance dates, upgrade paths, and technical release information (database platforms, Java platforms, operating systems, and so on)	https://apps.support.sap.com/sap/support/pam
Information about the latest version of installation guides, upgrade guides, and security guides for SAP components	See the Help Portal page for each product at https://help.sap.com
Information about different databases and operating systems run by SAP in the SAP Community Network (SCN)	https://apps.support.sap.com/sap/support/pam
Information about hardware requirements of an SAP solution such as network bandwidth, physical memory, CPU power, and I/O capacity	https://www.sap.com/about/benchmark/sizing.html

Content	Location
Information about performance	https://www.sap.com/about/benchmark/sizing/performance.html
Information about the installation of SAP NetWeaver	https://help.sap.com/viewer/nwguidefinder
Information about SAP S/4HANA	http://help.sap.com/s4hana_op_1709
Documentation on SAP Help Portal	http://help.sap.com
Information on improvements delivered through SAP's Customer Connection program	http://www.sapimprovementfinder.com/public/search

Further Useful Links

The following table lists further useful links on SAP Support Portal:

Content	Location on SAP Support Portal
Information about reporting incidents	https://support.sap.com/incident
SAP Note & Knowledge Base Article Search	https://support.sap.com/notes
SAP Software Download Center (software download and ordering of software)	https://support.sap.com/swdc
Early Knowledge Transfer innovations for project head-start – succeeds Ramp-Up Knowledge Transfer approach	https://support.sap.com/ekt

1.3 Important SAP Notes

You must read the following SAP Notes before you start the installation or upgrade. These SAP Notes contain the most recent information on the installation or upgrade, as well as corrections to the installation or upgrade documentation.

Make sure that you have the up-to-date version of each SAP Note, which you can find on SAP Support Portal at http://support.sap.com/notes.

Relevant SAP Notes for SAP EWM

SAP Note Number	Title	Description
2525490	Installing or upgrading to SAP EWM 9.5	You want to perform an add-on installation or upgrade to SAP EWM 9.5.
2545892	Implementation recommendations for SAP EWM 9.5	For implementing SAP EWM 9.5.
2238445	Integration of Supply Chain Management Applications with SAP S/4HANA	You want to connect SAP EWM to SAP S/4HANA.
2163060	Prerequisites and Restrictions of Zero Downtime Option of SUM	Overview of product versions supporting ZDO Relevant for upgrades of SAP EWM.
2156130	Add-on compatibility of SAP NetWeaver 7.5 – ABAP	What you must consider when you plan to run SAP NetWeaver 7.5 - ABAP together with add-ons on the same system.
1894045	Best practices for Installing SAP EWM Labor Demand Planning	Describes options for installing Labor Demand Planning.
1678780	Installation or upgrade `BI_CONT/BI_CONT_XT 707/737/747`	Information about Business Intelligence Content 7x7 in relation to add-on installation and delta upgrade, and basis upgrade to 7X. This note is only relevant if you use BI content for SAP EWM.
1606493	SAP EWM Deployment Options Best Practices	Several deployment options exist for SAP EWM; it can be deployed as an Add-On to SAP NetWeaver, to SAP ERP or to SAP SCM.
1529649	Factory Calendar expires 2010	Factory calendars are delivered from SAP with a validity until 2010 in the standard. Before expiration no error message is displayed. This could lead to follow-up errors at the turn of the year, in different applications, using the calendar.
1515223	SAP NetWeaver Process Integration: Release Recommendation	Information about which PI release to use. This note is only relevant if you use Enterprise Services for SAP EWM.

SAP Note Number	Title	Description
1423066	Optimization of the performance in EWM	You are using SAP EWM and you notice that system performance is inadequate for your requirements with regard to the dialog response times or the consumption of system resources.
1224284	Enterprise Services, Installing and Accessing the SOA Docu	Lists business-related grouping of Enterprise Services. This note is only relevant if you use Enterprise Services for SAP EWM.
1048230	De-activate the liveCache for EWM	Using SAP EWM in a SCM system the liveCache is not relevant and may not be activated if you do not use it for other SCM applications. This note is only relevant if you install SAP EWM as an add-on to SAP SCM.
1000822	Overview: SAP Notes for the add-ons `BI_CONT` and `BI_CONT_XT`	Lists all the SAP Notes concerning the add-ons `BI_CONT` and `BI_CONT_XT` (Business Intelligence Content) on the following topics: • Add-on new installation, add-on delta upgrade, core upgrade • Language installation Add-On Support Packages
900000	NetWeaver Business Client – FAQ	This note is only relevant if you use SAP Business Client for SAP EWM transactions.

2 SAP Extended Warehouse Management 9.5 on SAP HANA

SAP Extended Warehouse Management (SAP EWM) 9.5 can run on any database supported by SAP NetWeaver 7.5, including SAP HANA database.

> **i Note**
>
> - The required SAP NetWeaver release to run SAP EWM 9.5 on SAP HANA database is SAP NetWeaver 7.5. For more information, see SAP note 2156130.
> - To run on SAP HANA, you must upgrade SAP EWM to at least 9.1 and SAP NetWeaver to at least 7.4. For database migration to SAP HANA, we advise an upgrade to SAP EWM 9.2 or higher.
> - The release on the SAP HANA database does not imply any functional changes or functional enhancement to SAP EWM. All scenarios and all functions in SAP EWM can be used on SAP HANA in the same way as on any other supported database.
> - Labor Demand Planning is designed to run on SAP HANA.

For more information about SAP HANA, see SAP HANA Master Guide on SAP Help Portal for *SAP HANA Platform* at https://help.sap.com/viewer/p/SAP_HANA_PLATFORM.

3 SAP Extended Warehouse Management Overview

3.1 Introduction to SAP Extended Warehouse Management

SAP Extended Warehouse Management (SAP EWM) is an advanced warehouse management solution that helps you gain more control over your warehousing processes and provides you with the tools needed to improve your warehouse efficiency, transform your operations, and increase your competitiveness.

SAP EWM gives you full transparency in your logistical execution status, from monitoring deliveries to be planned by transportation, through truck movements, and detailed pick, packing, staging and loading activities. And, with SAP Dock Appointment Scheduling, warehouse managers can plan and adjust the daily balance of vehicle loading and unloading by giving carriers direct access to the system for appointment scheduling.

With SAP EWM, you can:

- Control movements in the warehouse (from point-of-goods receipt to goods issue) and in the yard (from the time a trailer checks in until a product is packed and shipped).
- Optimize wave and replenishment processing.
- Leverage storage bin management on handling units, slotting functions, and physical inventory.
- Improve distribution center processes around planning and monitoring, radio frequency support, serial number utilization, resource management, and labor management.
- Manage and control your material flow system.

SAP EWM is fully integrated with SAP ERP, SAP Transportation Management, and other products and components of SAP Business Suite. You can also use SAP EWM with SAP S/4HANA. For more information, see SAP Note 2238445.

This Master Guide provides an overview of the following business scenarios and business processes contained in the Solution Manager:

Business Scenarios

- Advanced Production Integration [page 46]
- Dock Appointment Scheduling [page 47]
- Integration of Outbound Warehousing and Transportation [page 48]
- Transit Warehousing [page 49]
- Warehouse Management with Preconfigured Processes [page 50]

Business Process Group for Additional Warehouse Management Processes Based on Pre-configured Warehouse

- Planning Labor Demand for Outbound [page 82]
- Outbound Process with Cartonization Planning [page 83]
- Processing Inbound with SAP Dock Appointment Scheduling [page 84]

Business Process Group for Other Warehouse Management Processes

- Merchandise Distribution [page 86]
- Opportunistic Cross-Docking [page 87]
- Warehouse Inbound Processing with Transportation Integration [page 88]
- Warehouse Outbound Processing with Transportation Planning in ERP [page 89]
- Warehouse Outbound Processing with Transportation Planning in EWM [page 90]

Generic EWM Business Processes

- Inbound Processing and Receipt Confirmation with Warehouse Management in SCM [page 92]
- Processing Inbound with Stock-Specific UoM (Manual GR) [page 93]
- Processing Inbound with Stock-Specific UoM (Manual Warehouse Task) [page 95]
- Processing Outbound with Stock-Specific UoM [page 96]
- Unpacked Inbound Delivery from Vendor (with Manual GR and Automatic WT) [page 97]
- Unpacked Inbound Delivery from Vendor (with Manual WT and Automatic GR) [page 99]

> **i Note**
>
> For more information about SAP EWM 9.5 business processes and functions not contained in SAP Solution Manager, see SAP Library for SAP Extended Warehouse Management on SAP Help Portal at http://help.sap.com.

The following related industry scenarios are part of separate industry Master Guides:

- *Warehouse and DC Management*
  For more information about SAP for Retail, see https://help.sap.com/viewer/p/SAP_for_Retail.
- *Service Parts Warehousing*
  For more information about SAP Service and Asset Management, see https://help.sap.com/viewer/p/SAP_Service_and_Asset_Management.

3.2 Software Components of SAP Extended Warehouse Management

This section provides an overview of the most important software components in SAP Extended Warehouse Management (SAP EWM).

> **i Note**
>
> SAP Dock Appointment Scheduling is included in all software component versions of SAP EWM and must not be installed separately.

SAP EWM on SAP ERP

The SAP EWM on SAP ERP component hosts the functionality of SAP EWM based on EHP 8 for SAP ERP 6.0 (component SAP ECC Server VPack successor).

> **i Note**
>
> We do not recommend using the deployment option SAP EWM as Add-On to SAP ERP if you have future plans to convert your SAP ERP system into an SAP S/4HANA on-premise system, because SAP EWM must be uninstalled prior the S/4HANA conversion. For more information about the deployment options, see SAP note 1606493.

SAP EWM on SAP ERP contains the following software component versions:

Technical Name	Release	Description
SCMEWM	950	Extended Warehouse Management 9.50
QIE	200	QIE 200 (Quality Inspection Engine)
SCM_BASIS	714	SAP SCM BASIS 7.14

SAP EWM on SAP SCM

The SAP EWM on SAP SCM component hosts the functionality of SAP EWM based on EHP4 for SAP SCM 7.0 (component SCM Server).

> **i Note**
>
> To use SAP EWM on an SAP SCM system, you must install SAP EWM as Add-On to SAP SCM. SAP SCM contains an older version of SAP EWM that is not released for usage on an SAP SCM version higher than SAP SCM 7.0 EHP2. For more information about the deployment options, see SAP note 1606493.

SAP EWM as Add-On to SAP SCM contains the following software component versions:

Technical Name	Release	Description
SCMEWM	950	Extended Warehouse Management 9.50
QIE	200	QIE 200 (Quality Inspection Engine)

No additional software component version is required since the SCM installation already contains the software component versions used by the SAP EWM Standalone component.

SAP EWM Standalone

The SAP EWM Standalone component hosts the functionality of SAP EWM based on SAP NetWeaver 7.5 (component Application Server ABAP) and contains the following software component versions:

Technical Name	Release	Description
EA-IPPE	618	SAP Integrated Product and Process Engineering 618
SCMEWM	950	Extended Warehouse Management 9.50
MDG_FND	749	MDG Foundation 749
QIE	200	QIE 200 (Quality Inspection Engine)
SAP_AP	750	SAP Application Platform 750
SCM_BASIS	714	SAP SCM BASIS 7.14
WEBCUIF	748	SAP Web UIF 748
SAP_BS_FND	748	SAP Business Suite Foundation 748
SCMBPLUS	714	SCM Basis PLUS 7.14

You can install the SAP EWM Standalone component on the same system as SAP Transportation Management (see the section on System Landscape [page 38]).

SAP EWM Content Components

The following content component versions of XI Content are also part of SAP EWM:

Technical Name	Release	Description
XI_CNT_SCMEWM	950	XI CONTENT EWM 9.50
XI_CNT_QIE	200	XI CONTENT QIE 200
XI_CNT_SCM_BASIS	714	XI CONTENT SCM BASIS 7.14

SAP EWM UI Features

This component is used for UI functions that can be installed on the same instance as SAP EWM or on a separate server (for example, in the demilitarized zone). It contains the following software component versions:

Technical Name	Release	Description
SCMEWMUI	940	SAP EXTENDED WAREHOUSE Management User Interface 9.4

Additional Application Components

The following software components, which are not part of SAP EWM, can be used in conjunction with your specific SAP EWM scenarios or processes:

- SAP Fiori for SAP Extended Warehouse Management
- SAP HANA Live for Extended Warehouse Management
- SAP BW/4HANA Content
- SAP BI Content for Extended Warehouse Management
- SAP Smart Business for Extended Warehouse Management
- SAP S/4HANA
- SAP ERP
- SAP Transportation Management
- SAP Global Batch Traceability
- SAP Manufacturing Execution
- SAP Plant Connectivity
- SAP Supply Chain Management Server
- SAP Solutions for Auto-ID and Item Serialization (including SAP Event Management)
- SAP Customer Relationship Management
- SAP Global Trade Services

SAP Fiori for SAP Extended Warehouse Management

SAP Fiori for SAP Extended Warehouse Management contains a bundle of SAP Fiori apps delivered for SAP EWM as part of SAP Fiori for SAP Business Suite. For more information, see https://help.sap.com/viewer/p/SAP_FIORI under *More SAP Fiori Products for SAP Business Suite* > *SAP Fiori 1.0 for SAP Extended Warehouse Management*.

SAP HANA Live for Extended Warehouse Management

SAP HANA Live for Extended Warehouse Management contains a bundle of virtual data models for SAP EWM. For more information, see https://help.sap.com/viewer/product/SAP_HANA_LIVE/2.0/en-US under *Other SAP HANA Live Products* > *SAP HANA Live for Extended Warehouse Management*.

SAP BW/4HANA Content

SAP BW/4HANA is a data warehouse solution which is highly optimized for the SAP HANA platform. It offers a managed approach to data warehousing. This means that prefabricated templates (building blocks) are offered

for building a data warehouse in a standardized way. The main use case of SAP BW/4HANA is Data Warehousing.

SAP BW/4HANA provides you with a simplified Data Warehouse, with agile and flexible data modeling, SAP HANA-optimized processes and state-of-the-art user interfaces. The core functionality of SAP BW is preserved. In SAP BW/4HANA, objects for data modeling, as well as processes and user interfaces, are especially primed for use with a SAP HANA database. Data modeling is restricted to the small number of objects that are well suited for modeling the layer architecture of a data warehouse on SAP HANA (LSA++). In SAP BW/4HANA, data warehouse models can be flexibly combined with SAP HANA views. An intuitive Eclipse-based modeling environment supports object modeling here.

SAP BW/4HANA content is available for SAP EWM. For more information, see https://help.sap.com/viewer/p/SAP_BW4HANA_CONTENT.

SAP BI Content for Extended Warehouse Management

As of SAP NetWeaver 7.0 BI Content Add-On 7 SP02, business intelligence (BI) content is available for SAP EWM 9.1 or higher. This enables you to use the SAP Business Warehouse reporting and analytic tools to evaluate, analyze, and interpret your business data. Analyzing logistics information on a strategic level is a critical requirement for easily summarizing and reporting the vast amounts of data such as quantities, volumes, and weights handled by warehouses.

For additional information, see SAP Support Portal at http://support.sap.com/swdc under *Support Packages and Patches* or *Installation and Upgrades*.

SAP Smart Business for SAP Extended Warehouse Management

SAP Smart Business for SAP Extended Warehouse Management is an SAP Smart Business cockpit that provides you with an overview of the most important key performance indicators for a warehouse shift supervisor. It allows the warehouse shift supervisor to monitor the workload for his or her shift for outbound and inbound deliveries, to determine overdue deliveries or delivery items in real-time, and to monitor both the average goods issue and goods receipt delay time.

For more information, see https://help.sap.com/viewer/product/SAP_SMART_BUSINESS_COCKPITS/1.0/en-US under *Additional Information* > *SAP Smart Business for Extended Warehouse Management*.

SAP S/4HANA

With SAP S/4HANA, SAP is providing a new product and a next generation of business applications – simple enterprise software for big data and designed to help you run simple in the digital economy.

The SAP S/4HANA family is fully built on the in-memory platform SAP HANA. Using the advanced potential of SAP HANA, SAP S/4HANA is designed for your digital business and provides an instant insight by using a single source of truth, real-time processes, dynamic planning, and analysis. With SAP Fiori user experience and less complex data model it is designed to run simple, and in parallel reduces the data footprint of your company. SAP S/4HANA is also already connected to business and social networks and prepared for the Internet of Things. With all these aspects, SAP is protecting your investments by facilitating next generation business applications. For more information, see the Feature Scope Description of SAP S/4HANA at http://help.sap.com/s4hana_op_1709.

> **i Note**
>
> Most SAP EWM processes require a connection to either SAP ERP or SAP S/4HANA.

SAP ERP

SAP ERP consists of different product instances and software components, each representing a particular functional piece of the software.

For more information, see the Master Guide for SAP ERP on SAP Help Portal at https://help.sap.com/viewer/product/SAP_ERP/6.0/.

For information about the enhancement packages for SAP ERP that are relevant for the business process that you want to implement, see Software Component Matrix [page 20].

> **i Note**
>
> Most SAP EWM processes require a connection to either SAP ERP or SAP S/4HANA.

SAP Transportation Management (SAP TM)

Transportation costs have become an important factor in our economy. This is caused by increasing fuel costs and the highly increased demand to move goods within a more and more globalized business environment. Furthermore, the transportation market is highly competitive, which tends to lead to low margins in this sector. To operate private fleets efficiently, regardless of whether you are a manufacturer, retailer, or logistics service provider, you need to be able to plan your transportation needs in an efficient way. SAP TM allows you to:

- Determine the most efficient transportation plan, while fulfilling the given constraints (such as service level agreements, costs, and resource availability)
- Identify cost-saving opportunities (such as consolidation possibilities and the choice of the best means of transport)
- Maximize the utilization of existing resources (such as using your own fleet)
- React to execution events and solve possible conflicts with the initial plan

You can use transportation management in SAP EWM processes involving transportation planning or freight order settlement functions in SAP TM. You can also use SAP EWM in conjunction with SAP TM in Transit Warehousing.

For more information, see the Master Guide for SAP TM on SAP Help Portal at https://help.sap.com/tm.

SAP Global Batch Traceability

SAP Global Batch Traceability (SAP GBT) provides a repository to analyze physical movements and transformations for batches, considering SAP systems and non-SAP systems. This minimizes cost and corporate risk exposure in a recall or a withdrawal scenario.

Since SAP GBT 2.0, handling units containing batches can be tracked by GBT. Integration of SAP ECC data is delivered by standard.

With SAP GBT 3.0 it is possible to integrate SAP EWM handling unit traceability data to SAP GBT. This includes goods issue, goods receipt, packing, unpacking, repacking, or warehouse-internal movements of handling units containing batches.

SAP Manufacturing Execution

SAP Manufacturing Execution (SAP ME) is a comprehensive, integrated manufacturing operations solution — a single manufacturing environment to better plan, define control, manage, and execute operations. It provides real-time configuration data capture and global visibility across a manufacturing line, plant, or enterprise, enabling manufacturers to do the following:

- Reduce costs and improve quality by collecting and communicating the real-time manufacturing data to provide a continuous loop throughout the product lifecycle

- Achieve global visibility into manufacturing operations while gaining greater control over production processes
- Recognize and respond to configuration or quality changes, resulting in the production of the highest quality product at the lowest cost
- Control manufacturing routes and process management in a central environment
- Meet industry regulations for product record traceability and accountability

You can use SAP ME with SAP EWM processes related to goods receipts from production or consumption postings for production.

SAP Plant Connectivity

SAP Plant Connectivity provides connectivity services for the manufacturing industry, in particular unsolicited data notification services: In this way it enables the manufacturing integration between real-time manufacturing systems and SAP applications. SAP Plant Connectivity is a highly extensible infrastructure on which to build manufacturing applications. Through SAP MII, SAP Plant Connectivity can query real-time, historical, and statistical data for agents that support such queries. SAP Plant Connectivity can write current and historical data for specific agents.

You can use SAP Plant Connectivity in SAP EWM processes involving the material flow system (MFS) for connecting up a programmable logic controller (PLC) without the need for an additional warehouse control unit or in SAP EWM processes using a scale connection.

As an alternative to SAP Plant Connectivity, you can use the SAP ABAP Push Channel TCP Socket Communication Layer, which is part of SAP NetWeaver 7.5, to connect SAP EWM directly to PLCs.

For more information about SAP Plant Connectivity, see the Master Guide for Plant Connectivity on SAP Help Portal at https://help.sap.com/pco.

SAP Supply Chain Management Server (SAP SCM Server)

SAP SCM Server is part of the SAP SCM application. It is an advanced planning and scheduling tool that enables real-time decision support and collaborative network optimization across the extended supply chain. SAP SCM Server helps companies synchronize supply chain activities with their partners and excel at customer service and order fulfillment.

You can use the SCM Server in SAP EWM processes using functions such as availability check or slotting.

For more information, see the Master Guide for SAP SCM on SAP Help Portal at https://help.sap.com/scm.

SAP Solutions for Auto-ID and Item Serialization

SAP solutions for auto-ID and item serialization enable the use of radio frequency identification (RFID) and other means of automatic identification such as bar codes to provide accurate, real-time information about items as they move through your supply chain and to automate your business processes.

SAP Solutions for RFID consist of the following offerings:

- SAP Auto-ID Infrastructure
  SAP Auto-ID Infrastructure is a flexible and customizable infrastructure that integrates RFID technology with existing SAP logistics systems. It provides standard content that enables you to automate and RFID-enable basic logistics processes, but also provides extensible capabilities that allow you to easily adapt the standard content to implement your own customer-specific processes.
- SAP Auto-ID Enterprise

You can install multiple local instances of the component SAP Auto-ID Infrastructure and implement an SAP object event repository to collect data centrally from across your enterprise and from your business partners. You can use the repository to query, manage, and monitor your processes centrally.

- SAP Object Event Repository
  You can use SAP object event repository (the repository) to capture, store, and query data about uniquely identified objects centrally in a disparate system landscape. You can automatically capture information about object-level events that occur across your supply chain, from both within your enterprise and from your business partners. You can access the data in the repository and your business partner can use XML messages to query it. By enabling disparate applications to exchange information about uniquely identified objects, the repository provides visibility and traceability of the objects throughout their respective lifecycles. Furthermore, you can use the repository to monitor business documents related to the objects.
- SAP Event Management
  SAP Event Management allows you to track and query events across your supply chain and thereby provides or improves visibility within your logistics processes, both in planning and in execution. The flexibility of the application allows you to map, control, and check all required business processes. SAP Event Management is an optional component in SAP Auto-ID Infrastructure processes. If you install SAP object event repository, it is also possible to use the standalone functionality of SAP Event Management.

For more information, see the Master Guide for SAP Solutions for Auto-ID and Item Serialization on SAP Help Portal at https://help.sap.com/viewer/product/SAP_AUTO-ID_INFRASTRUCTURE, Version 7.1.

SAP Customer Relationship Management (SAP CRM)

SAP CRM is a complete multichannel suite supporting all customer-facing lines of business across marketing, sales, and service, as well as customer interaction channels such as the interaction center, the Internet, and mobile clients.

You can use CRM in SAP EWM processes using functions such as invoice before goods issue.

For more information, see the Master Guide (Including Upgrade Information) for SAP Customer Relationship Management 7.0 Including SAP Enhancement Package 4 on SAP Help Portal at https://help.sap.com/crm.

SAP Global Trade Services (SAP GTS)

You can use SAP BusinessObjects Global Trade Services as an enterprise-wide, centralized application that enables your company to comply with worldwide trade regulations, communicate electronically with customs authorities and manage information that is relevant to foreign trade. It provides reporting features, with emphasis on audits that enable you to handle changing import and export requirements and controls. The solution is designed to be integrated with multiple SAP and non-SAP systems in a heterogeneous environment. It can be implemented without changing your existing logistics processes.

In SAP EWM, you can use SAP GTS for processes involving such functions as:

- Communication of imports, exports, customs warehouse and transit procedures in Customs Management.
- Legal control for imports and exports, embargo checks and sanctioned party list screening in Compliance Management.
- Letter of credit processing in Risk Management.

For more information, see the Master Guide for release 11.0 on the SAP Help Portal at https://help.sap.com/viewer/p/SAP_GLOBAL_TRADE_SERVICES.

3.3 Software Component Matrix

This section provides an overview of which business scenario, process, and function uses which software unit (component). For the latest component version and patch level requirements, see the SAP Support Portal at https://support.sap.com/sp-stacks.

> **i Note**
>
> There are software requirements for each of the following components that are not explicitly mentioned in this document. These requirements are documented in the associated installation guides.

SAP EWM Business Scenarios and Processes Delivered with SAP Solution Manager

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Advanced Production Integration [page 46]	X	X	-	Scenario includes business processes for production integration with SAP ERP or SAP S/4HANA. Minimal release/patch level for SAP ERP: EHP7 for SAP ERP 6.0 SP06; EHP6 for SAP ERP 6.0 (SAP HANA) SP08; or, EHP6 for SAP ERP 6.0 SP14. See also SAP Note 2124124 for availability in EHP5 for SAP ERP 6.0. Business Functions in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`; `LOG_PP_EWM_MAN`; `LOG_PP_EWM_MAN_2`. This scenario is based on the business scenario Warehouse Management with Preconfigured Processes [page 50].

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Dock Appointment Scheduling [page 47]	X	-	SCMEWM UI [optional]	Scenario includes business process for DAS standalone. Use of *Dock Appointment Scheduling UI for CarriersWeb Dynpro applications require the desktop version of SAP Business Client 4.0 or higher.* requires software component SCMEWM UI.

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Web Dynpro applications require the desktop version of SAP NetWeaver Integration of Outbound Warehousing and Transportation [page 48]	X	X	SAP TM	Scenario includes business processes using SAP ERP and direct methods for integration. Minimal release/patch level for integration using SAP ERP: EHP4 for SAP ERP 6.0 SP4; EHP4 for ECC-SE 6.0 SP9 (add-on to SAP ERP); SAP TM 9.0 Uses IDOCs for communication of LE-TRA shipments between SAP ERP and SAP EWM. Business processes using LE-TRA shipments are not recommended with S/4HANA as LE-TRA is not strategic anymore within S/4HANA. Use direct integration with SAP TM instead. Minimal release/patch level for direct integration: EHP5 for SAP ERP; EHP5 for ECC-SE 6.0 SP11 (add-on to SAP ERP); SAP TM 9.1; XI CONTENT EWM 9.10; XI CONTENT SAPTM 1.2 Uses Enterprise Services for communication between SAP TM and SAP EWM.

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
				Configuration documentation of this SAP Solution Manager business scenario describes business functions in SAP ERP or SAP S/4HANA, SAP TM, and SAP EWM for both methods of integration. This SAP Solution Manager business scenario covering both methods of integration is based on the business scenario Warehouse Management with Preconfigured Processes [page 50].
Transit Warehousing [page 49]	X	X	SAP TM	Scenario includes transit warehousing processes using direct integration with SAP TM. Minimal release/patch level: EHP7 for SAP ERP 6.0; SAP TM 9.3 uses Enterprise Services for communication between TM and EWM

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Warehouse Management with Preconfigured Processes [page 50]	X	X	-	Scenario includes standard warehouse management business processes. Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`

Business Processes	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Inbound Processing and Receipt Confirmation with Warehouse Management in SCM [page 92]	X	X	-	Minimal release/patch level: SAP ERP 6.0 We recommend that you use instead processes from the business scenario Warehouse Management with Preconfigured Processes [page 50].
Merchandise Distribution [page 86]	X	SAP ERP only	-	Minimal release/patch level: EHP4 for SAP ERP 6.0 ERP Business Functions: `LOG_LE_INTEGRATION;ISR_RET_CD/FT_EWM`
Opportunistic Cross-Docking [page 87]	X	-	-	-

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Outbound Process with Cartonization Planning [page 83]	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 This SAP Solution Manager business process is based on the business scenario Warehouse Management with Preconfigured Processes [page 50].
Planning Labor Demand for Outbound [page 82]	X	X	SCMEWM UI	Requires installation of EWM UI Features component. Usage of SAP HANA For use of Gateway (contained in SAP NetWeaver 7.40 or higher), see SAP Note 1894045 .

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Processing Inbound with SAP Dock Appointment Scheduling [page 84]	X	X	SCMEWM UI [optional]	This SAP Solution Manager business process is based on the business scenario Warehouse Management with Preconfigured Processes [page 50]. Process for DAS integrated in EWM Web Dynpro applications require the desktop version of SAP Business Client 4.0 or higher. Use of *Dock Appointment Scheduling UI for Carriers* requires software component SCMEWM UI
Processing Inbound with Stock-Specific UoM (Manual GR) [page 93]	X	X	-	Minimal release/patch level: EHP6 for SAP ERP 6.0 Implement SAP Note 1612190. This SAP Solution Manager business scenario is based on the business scenario Warehouse Management with Preconfigured Processes [page 50].
Processing Inbound with Stock-Specific UoM (Manual Warehouse Task) [page 95]	X	X	-	See Processing Inbound with Stock-Specific UoM (Manual GR) [page 93]

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Processing Outbound with Stock-Specific UoM [page 96]	X	X	-	See Processing Inbound with Stock-Specific UoM (Manual GR) [page 93]
Warehouse Inbound Processing with Transportation Integration [page 88]	X	X	-	Minimal release/patch level: SAP R/3 4.6C Uses the LE-TRA component for shipments in SAP ERP; however, no functionality in SAP TM. Not recommended with SAP S/4HANA as LE-TRA is not strategic anymore within SAP S/4HANA. Use direct integration with SAP TM instead.
Warehouse Outbound Processing with Transportation Planning in ERP [page 89]	X	X	-	See the generic EWM business process Warehouse Inbound Processing with Transportation Integration [page 88].
Warehouse Outbound Processing with Transportation Planning in EWM [page 90]	X	X	-	See the generic EWM business process Warehouse Inbound Processing with Transportation Integration [page 88].
Unpacked Inbound Delivery from Vendor (with Manual GR and Automatic WT) [page 97]	X	X	-	Minimal release/patch level: SAP ERP 6.0 We recommend that you use instead processes from the business scenario Warehouse Management with Preconfigured Processes [page 50].

Business Scenarios	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Unpacked Inbound Delivery from Vendor (with Manual WT and Automatic GR) [page 99]	X	X	-	See generic EWM business process Unpacked Inbound Delivery from Vendor (with Manual GR and Automatic WT) [page 97].

Other SAP EWM Functions and Processes

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Additional GTINs (EANs/UPCs) for Product	X	X	-	Minimal release/patch level: EHP6 for SAP ERP 6.0 Business Functions in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`; `LOG_SCM_MEAN_INT` EWM Business Functions: `SCM_EWM_MEAN`
Advanced Labor Management	X	-	-	For more information, see SAP Note 2553292
Advanced Labor Management (2)	X (EWM 9.5 FP02)	-	-	Includes change documents for employee performance documents, time and attendance records and labor-management-related processor data

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Advanced Returns Management	X	X	SAP CRM	Minimal release/patch level: EHP6 for SAP ERP 6.0 Business Functions in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`; `OPS_ADVRETURNS_2`
Batch Management enhancements	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION` Replication of batch selection criteria; supports documentary batches.
Batch on Plant	X	X	-	Minimal release/patch level: EHP6 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_SCM_EWM_INT` Prerequisites: see SAP Note2221258
Batch: Communication of Handling Unit Traceability Data to SAP Global Batch Traceability	X (EWM 9.50 SP01)	-	SAP GBT	Minimal release/patch level: SAP GBT 3.0 Uses Enterprise Services for communication between SAP GBT and SAP EWM

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Cartonization Planning in Outbound with Pallet Algorithm	X	X	-	Includes usage of SCM Package Builder
Catch-Weight Management with IS-CWM in ERP	X	SAP ERP only	-	Minimal release/patch level: EHP5 for SAP ERP 6.0 ERP Business Functions: `LOG_LE_INTEGRATION; /CWM/CM_2` `IS-CWM` active in SAP ERP Note that `IS-CWM` is not available for SAP Retail customers.
Catch-Weight Management Without IS-CWM in ERP	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Functions in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION` `IS-CWM` not active in SAP ERP
CDS View Model for Outbound Processes	X	-	-	Replaces SAP HANA Live for SAP EWM
Dock Appointment Scheduling UI for Carriers	X	-	SCMEWM UI	Requires installation of EWM UI Features component

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Enhanced Serial Number Handling	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`
Enhancements in Blocking and Deletion of Personal Data in EWM	X (EWM 9.5 FP02)	-	-	Includes data destruction objects for loading appointment data and time and attendance data Uses SAP Information Lifecycle Management (SAP ILM)
Enhancements in Outbound Process	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION` Includes direct outbound deliveries, goods issue for direct sales and account assignment, invoice before goods issue, delivery change request following an (SD) sales order quantity decrease or sales order cancellation, goods issue time maintenance.

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Enhancements in Outbound Process (2)	X	SAP S/4HANA only	-	Minimal release/patch level: SAP S/4HANA 1709 Includes support of changes of the LE outbound delivery after handing over to EWM
Enhancements to ERP Delivery Integration	X	X	-	Recommended release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION` Includes elimination of outbound delivery requests, inbound delivery notifications and posting change requests
ERP QM Integration	X	X	-	Minimal release/patch level: EHP6 for SAP ERP 6.0 SP09 or EHP7 for SAP ERP 6.0 SP02. In the case of upgrade from a release lower than EWM 9.1, see SAP Note 1906105 (activation of new EWM QM functions after upgrade).

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
ERP QM Integration 2	X	X	-	Minimal release/patch level: EHP7 for SAP ERP 6.0 SP06, EHP6 for SAP ERP 6.0 (SAP HANA) SP08 or EHP6 for SAP ERP 6.0 SP14. Business Functions in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`, `LOG_SCM_EWM_INT`. Includes acceptance sampling, pre-sampling in production, goods receipt control.
Goods Receipt Enhancements	X	X	-	Minimal release/patch level: EHP3 SAP ERP 6.0; Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION` Includes expected goods receipts (GR), GR from production, GR without reference, tolerance checks.
Kit to Order	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Kit to Stock	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`
Master Data Integration to SAP ERP or SAP S/4HANA via core interface (CIF)	X	X	-	Minimal release/patch level: SAP R/3 4.6C
Material Flow System (MFS)	X	-	Optional: SAP Plant Connectivity 15	For use of multi-depth storage in combination with MFS, see SAP Note 2060335.
Merchandise Cross-Docking	X	SAP ERP only	-	Minimal release/patch level: EHP4 for SAP ERP 6.0 ERP Business Functions: `LOG_LE_INTEGRATION`; `ISR_RET_CD/FT_EWM` Includes planned cross-docking with and without pre-packing, article-based flow-through, recipient-driven flow-through.

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Production Supply	X	X	-	Minimal release/patch level: EHP4 for SAP ERP 6.0 Business Functions in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`; `LOG_PP_EWM_MAN` Includes conventional manufacturing (production and process orders), kanban, repetitive manufacturing.
Production: Integration with SAP Manufacturing Execution	X (EWM 9.50 FP02)	-	SAP ME	Minimal release/patch level: SAP ME 15.2 Includes integration of goods receipt from production and of consumption postings Uses RFC for communication between SAP ME and SAP EWM
QM Enhancements	X (EWM 9.50 FP02)		-	Includes enhancements to inspection rules for *Q-Inspection Product/Batch Whse-Internal* (IOT 5) and enhancements to the recording of partial inspection decisions for the partial quantities of an inspection lot
Radio Frequency: Enhancements in RF Picking and RF Loading	X	-	-	

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Returns in the Distribution Network	X	SAP ERP only	SAP CRM	Minimal release/patch level: EHP5 for SAP ERP 6.0 ERP Business Functions: `LOG_LE_INTEGRATION`; `SPE_CI_1`
Returns Processing	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`
Routing of RFID data between ERP and EWM	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`
Shipping Cockpit	X	-	-	Business Functions in SAP EWM (for side panel): `/BCV/MAIN`; `/BCV/MAIN_1`; `/BCV/NWBC_SIDEPANEL` Requires desktop version of SAP Business Client 4.0 or higher. For more information, see SAP Note 2289894
Stock Consolidation Report	X	-	-	

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Stock Transfer Enhancements	X	X	-	Minimal release/patch level: EHP3 for SAP ERP 6.0 Business Function in SAP ERP or SAP S/4HANA: `LOG_LE_INTEGRATION`
TM-EWM Integration – Enhancements	X	X	SAP TM	Minimal release/patch level: SAP TM 9.3 Includes enhancements to business scenario *Integration of Outbound Warehousing and Transportation* (see Integration of Outbound Warehousing and Transportation [page 48]) and to business scenario *Transit Warehousing* (see Transit Warehousing [page 49]).
Transactional Data Integration to SAP ERP via IDOCs	X	SAP ERP only	-	Minimal release/patch level: SAP R/3 4.6C Replaced by transactional data integration to SAP ERP via qRFC as of SAP ERP 6.0.
Transactional Data Integration to SAP ERP or SAP S/4HANA via qRFC	X	X	-	Minimal release/patch level: SAP ERP 6.0

Business Function / Process	Software Components			
	SAP EWM	SAP ERP or SAP S/4HANA	Other Software Units	Additional Information
Warehouse Billing	X	X	SAP TM	Minimal release/patch level: EHP7 for SAP ERP 6.0 SP02, EHP6 for SAP ERP 6.0 SP04, or EHP5 for SAP ERP 6.0 SP09, SAP TM 9.3, XI CONTENT EWM 9.30; XI CONTENT SAPTM 1.40 Uses Enterprise Services for communication between TM and EWM. For more information, see SAP Note 2145415.

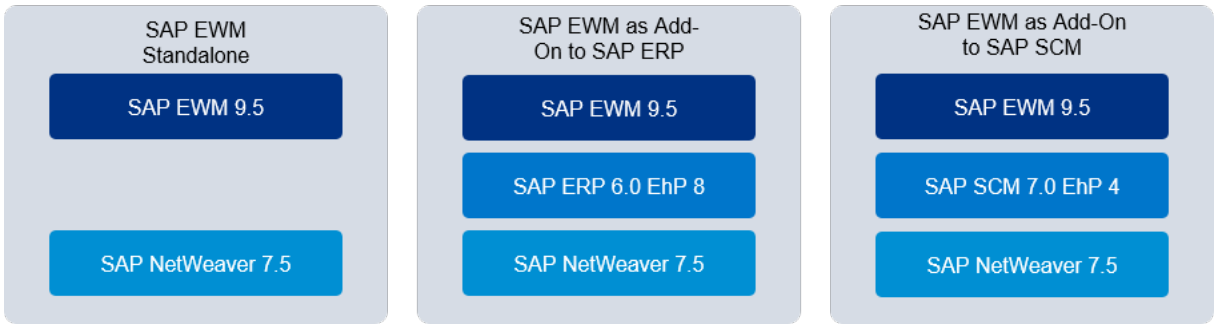
> **Note**
>
> For more information about SAP EWM functions, which are not described in the Master Guide, see SAP Library for *SAP Extended Warehouse Management* on SAP Help Portal at http://help.sap.com.

Key: < X > = mandatory; < – > = not part of the business process

3.4 System Landscape

The following figures provide an overview of possible system landscapes for SAP EWM 9.5.

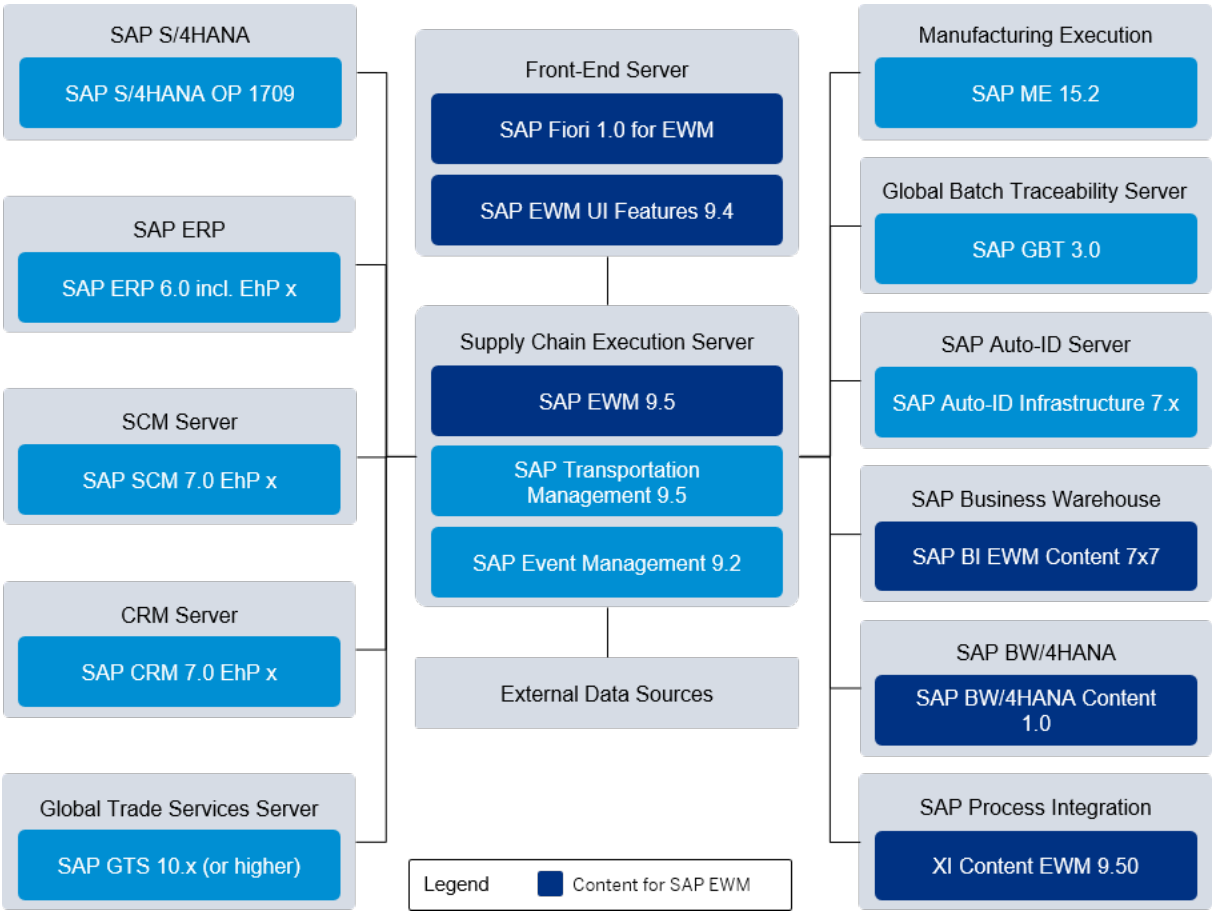
The figure below shows three possible SAP EWM 9.5 installations based on a minimal landscape. You can use any one of these same system landscapes for SAP Dock Appointment Scheduling since it is already included in SAP EWM:



Minimal System Landscape of SAP EWM as Standalone and Add-On to SAP ERP and to SAP SCM

> ⚠ Caution
>
> We strongly recommend that you use a minimal system landscape for test and demo purposes only. For performance, scalability, high availability, and security reasons, do **not** use a minimal system landscape as your production landscape.

This next figure provides an overview of a possible system landscape for SAP EWM, installed together with SAP Transportation Management and SAP Event Management as an application based on SAP NetWeaver:



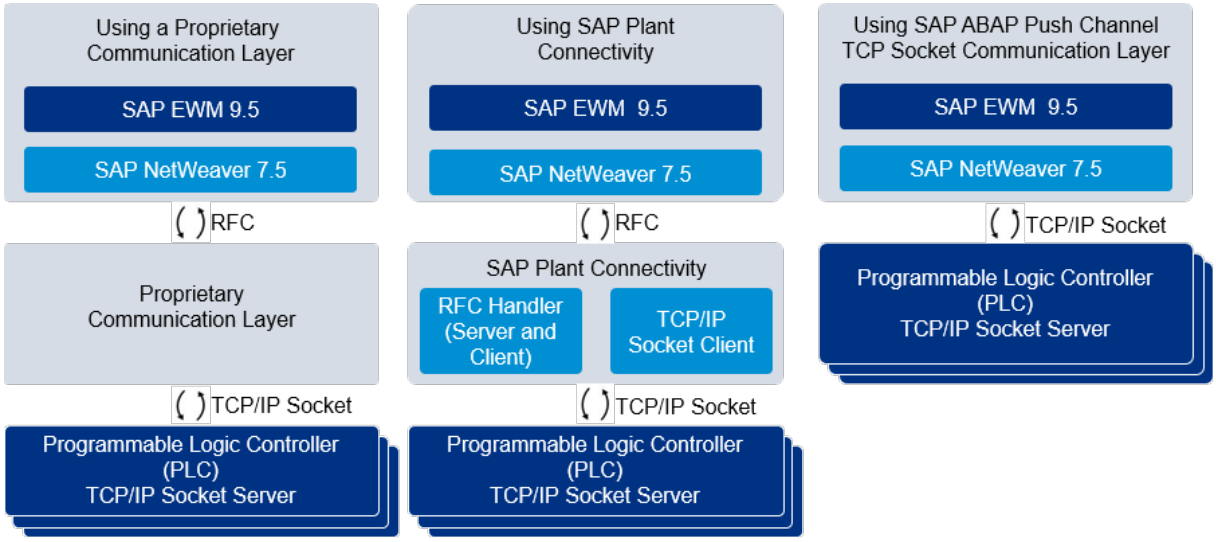
Possible System Landscape

> ℹ Note
>
> In this system landscape, you can use SAP S/4HANA instead of SAP ERP.

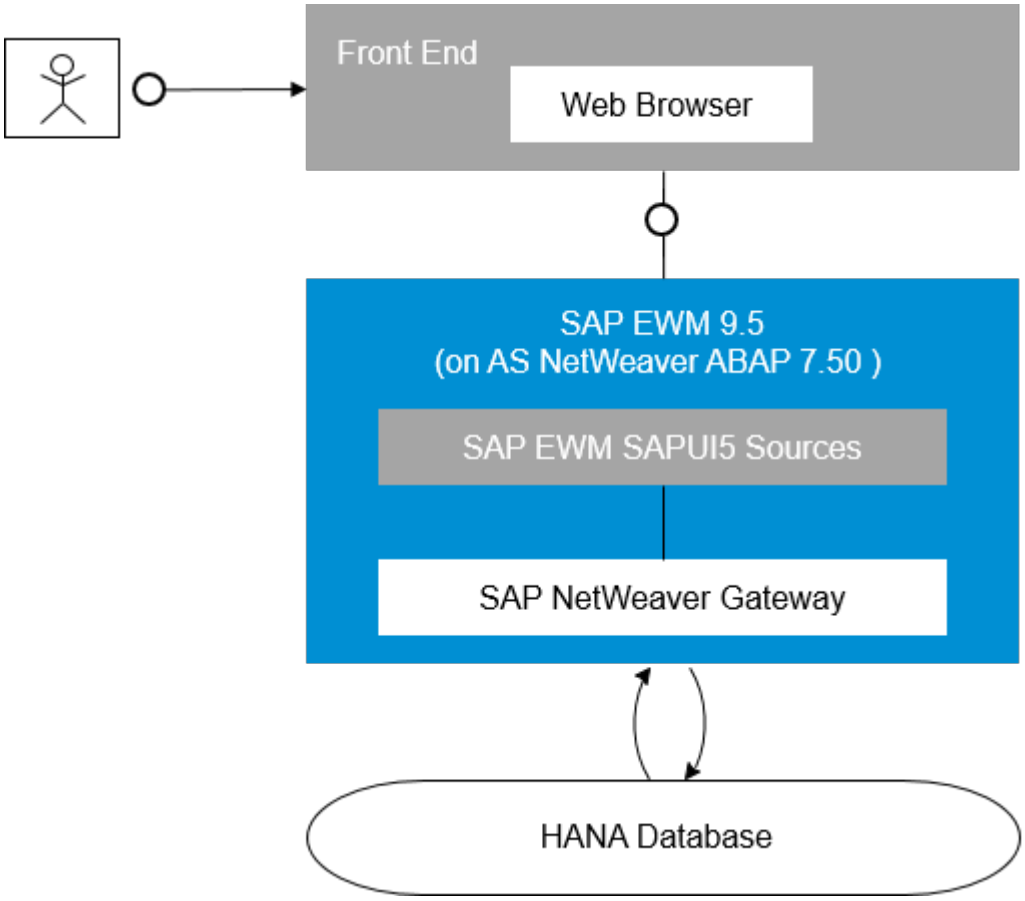
For more information about the additional components installed on separate servers, see the section on Software Components of SAP Extended Warehouse Management [page 12].

The following figure shows the different options for connecting SAP EWM to programmable logic controllers (PLC) of the warehouse automation technique. From SAP EWM 9.5 and higher, it is not necessary to use an

intermediate connectivity layer. The ABAP Push Channel (APC) technology, which is an integral part of SAP NetWeaver, supports a direct TCP Socket communication between SAP EWM and PLC:



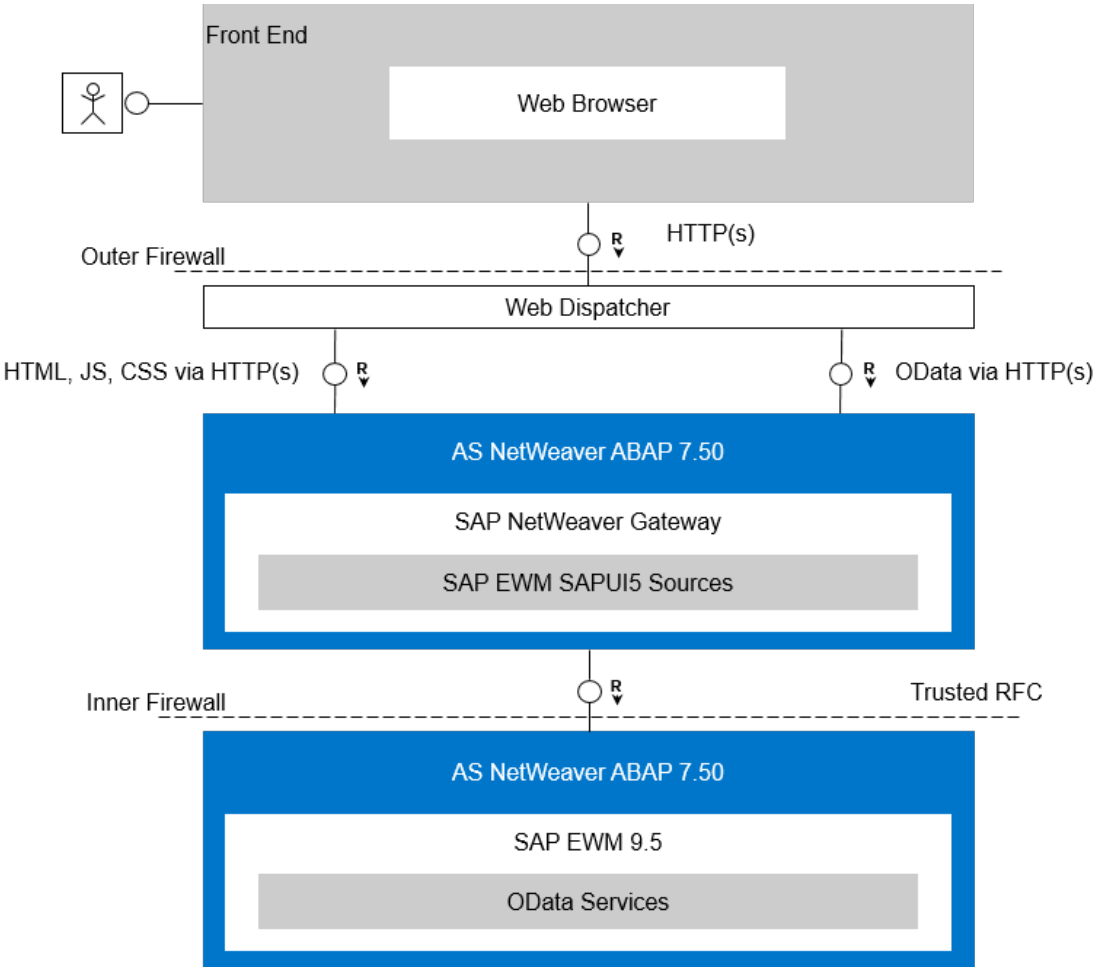
The next figure shows the minimal system landscape for intranet usage of Labor Demand Planning. In this case, SAP NetWeaver Gateway is co-deployed on the SAP EWM instance, which acts as the Web server:



Minimal System Landscape of Labor Demand Planning for Intranet Usage

For more information, see *Labor Demand Planning* in SAP Library for SAP Extended Warehouse Management on SAP Help Portal at http://help.sap.com.

The last figure shows a typical system landscape with Web access from the demilitarized zone. You can, for example, use this system landscape in a Dock Appointment Scheduling process, in which you allow carriers to enter their own appointments directly in the warehouse's system. In this case, there are separate instances for SAP NetWeaver Gateway, Web dispatcher, and SAP EWM. The Web dispatcher would be in front of the firewall, whereas SAP NetWeaver Gateway, and SAP EWM would be behind the firewall:



Web Access to Warehouse System

Additional Information Regarding Enterprise Services

There are two technical scenarios for enterprise services shipped with SAP EWM – Asynchronous Enterprise Services and Synchronous Enterprise Services.

Asynchronous Enterprise (EWM) Services

To run asynchronous enterprise services, you must install SAP NetWeaver Process Integration (PI).

Synchronous Enterprise (EWM) Services

Synchronous enterprise services run by accessing the back-end system either via WSDL/SOAP runtime directly or via SAP NetWeaver PI runtime. The latter requires an SAP NetWeaver PI integration server.

For information about the required releases and support packages, see Business Processes of SAP Extended Warehouse Management [page 53].

For more information about Enterprise Services, see Service Enablement [page 101].

Additional Information Regarding Front-End Clients

SAP Business Client

You must install the desktop version of SAP Business Client to be able to use Web Dynpro or SAPUI5 applications in SAP EWM. SAP recommends that you use the latest version of SAP Business Client. For information about the available versions, see https://help.sap.com/viewer/p/SAP_NETWEAVER_750 under *Application Help* > *UI Technologies in SAP NetWeaver* > *SAP Business Client* > *Overview* > *Business Client Versions*.

SAP Visual Business

SAP Visual Business is a user interface that enables you to visualize data from various sources in interactive geographical or three-dimensional applications. SAP Visual Business is used to display SAP EWM route data on geographical maps. This enables the maps to be seamlessly integrated into the user interface of SAP EWM 9.5. You must install a front-end client before you can use SAP Visual Business. For more information about SAP Visual Business, see the corresponding Installation and Configuration Guide at https://help.sap.com/viewer/p/SAP_VISUAL_BUSINESS.

Additional Information Regarding Printing

SAP EWM supports use of Smartforms and PDF-based forms. If you want to print documents such as delivery notes or bills of lading, you require Adobe Document Services (ADS). For more information, see *Configuration of Adobe Document Services for Print Applications* in SAP Library for SAP NetWeaver on SAP Help Portal at http://help.sap.com/nw.

3.5 Overall Installation Sequence

> ⚠ Caution
>
> Before you start the installation, you **must** know which components and releases are required for the business processes you want to use. We do not recommend installing all components. Only install those components that are required for the business processes you want to use.
>
> For more information about the required components, see the Software Component Matrix [page 20] for each business process.

> **i Note**
>
> The central starting point for the **technical upgrade** of your SAP application is the Upgrade Master Guide, which you can find on SAP Help Portal at https://help.sap.com/ewm.

The following tables describe the overall installation sequence for SAP EWM 9.5:

SAP NetWeaver for SAP EWM Standalone

Step	Action	Remarks/Subsequent Steps
1	Installation of SAP NetWeaver 7.5	For more information, see https://help.sap.com/nw75 under *Installation Guide*.
2	Installation of SAP EWM 9.5	See SAP Note 2525490.
3	Installation of SAP EWM UI 9.4	See SAP Note 2525490.

SAP ERP Server for SAP EWM as an Add-On to SAP ERP

Step	Action	Remarks/Subsequent Steps
1	Installation of SAP ERP 6.0 including SAP enhancement package 8	For more information, see https://help.sap.com/viewer/product/SAP_ERP/6.0.8/en-US under *Installation Guide*.
2	Installation of SAP EWM 9.5	See SAP Note 2525490.
3	Installation of SAP EWM UI 9.4	See SAP Note 2525490.

SAP SCM Server for SAP EWM as an Add-On to SAP SCM

Step	Action	Remarks/Subsequent Steps
1	Installation of SAP SCM Server 7.0 including SAP enhancement package 4	For more information, see https://help.sap.com/scm.
2	Installation of SAP EWM 9.5	See SAP Note 2525490.
3	Installation of SAP EWM UI 9.4	See SAP Note 2525490.

PI Server

Step	Action	Remarks/Subsequent Steps
1	Installation of SAP NetWeaver 7.4 and higher, usage type PI	This installation is only necessary if you use Enterprise Services for SAP EWM. For more information, see https://help.sap.com/nw74 under *Installation Guide*.
2	Installation of Process Integration Context (XI Content) for SAP EWM 9.5	This download is only necessary if you use Enterprise Services for SAP EWM. PI Content for SAP EWM: • XI CONTENT EWM 9.50 • XI CONTENT QIE 200 • XI CONTENT SCM BASIS 7.14 You can download the PI content for SAP EWM from SAP Support Portal at http://support.sap.com/swdc.

BI Server

Step	Action	Remarks/Subsequent Steps
1	Installation of SAP NetWeaver 7.0 including SAP enhancement package 3 and higher, usage type BI	This installation is only necessary if you use BI content for SAP EWM. For more information, see the Installation Guide on SAP Help Portal at https://help.sap.com/nw70 orhttps://help.sap.com/viewer/p/SAP_NETWEAVER_731.
2	BI Content 7x7 for EWM	This download is only necessary if you use BI Content for SAP EWM. From SAP NetWeaver 7.0 BI Content Add-On 7 SP02 on, business intelligence (BI) content is available for EWM 9.50. The content is unchanged from EWM 9.10. You can download the BI content for SAP EWM from SAP Support Portal at http://support.sap.com/swdc under *Support Packages and Patches*.

Dedicated SAP NetWeaver Gateway Server for SAP EWM UI Features

Step	Action	Remarks/Subsequent Steps
1	Installation of SAP NetWeaver 7.5	For more information, see http://help.sap.com/nw75 under *Installation Guide*.
2	Installation of SAP EWM UI 9.4	See SAP Note 2525490.

Business Functions

The following business functions are available in SAP EWM 9.5:

Name	Description
SCM_EWM_FND	*EWM, Essential Foundation Functions*
SCM_EWM_MEAN	*EWM, Additional GTINs for Prod.* [EWM, Additional GTINs (EANs/UPCs) for Product]

The business function SCM_EWM_FND is mandatory (and shall be activated) for all SAP EWM business processes described in this guide. It contains the business functions SCM_EWM_BP_IDMAP, SCM_EWM_USAB_IMPL_1, SCM_EWM_REV_LOG, and SCM_EWM_TRANS_INT_1, which were delivered with earlier SAP EWM releases and no longer need to be activated as of EWM 9.1.

The business function SCM_EWM_MEAN is optional and can be activated for maintaining product units of measure in SAP EWM.

> **i Note**
>
> For more information about SAP EWM business functions, see SAP Library for *SAP Extended Warehouse Management* on SAP Help Portal at http://help.sap.com/ewm.

4 Business Scenarios of SAP Extended Warehouse Management

4.1 Advanced Production Integration

You can use this business scenario to tightly integrate warehouse execution with manufacturing operations using SAP Extended Warehouse Management (SAP EWM) and SAP ERP. When large quantities are produced and the execution of a manufacturing order stretches for several hours, you stage components pallet-wise (handling unit after handing unit) from the warehouse to production supply areas as they are required for manufacturing operations, and consume them pallet-wise or piece by piece from the production supply area. You receive finished or semi-finished goods pallet-wise and put them away as they arrive on a conveyor line from production into the warehouse.

This scenario supports warehouse execution for production orders in discrete manufacturing as well as warehouse execution for process orders in process manufacturing. It enables you to synchronize the material flows between warehouse and production, and to improve inventory visibility and control as material movements are posted in real time in the warehouse.

This business scenario comprises the following business processes:

- Staging and Consumption [page 55]
- Receipt from Production [page 56]

Technical System Landscape

The following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Component	Mandatory	Optional
EPH6 for SAP ERP 6.0 or higher, or S/4HANA	X	-
SAP ECC 6.0	X	-
SAP EWM 9.2 or higher	X	-
SAP TM 9.2 or higher	-	X

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

4.2 Dock Appointment Scheduling

You can use this business scenario to plan and proceed with appointments for trucks or other transportation units to arrive at the warehouse for loading or unloading. It also allows carriers chosen by the warehouse to plan their own appointments directly in the warehouse's system.

This business scenario offers two deployment options, depending upon whether you choose to give selected carriers Web access to the warehouse system for planning their own appointments. For Web access by the carrier, we recommend you install the EWM UI Features component, SCMEWM UI. For planning appointments without allowing Web access by the carrier, use the WebDynpro application delivered with the EWM component as of 9.10.

You must install the desktop version of SAP NetWeaver Business Client 4.0 or higher to be able to use SAP Dock Appointment Scheduling.

For more information, see SAP Dock Appointment Scheduling Administrator's Guide on SAP Help Portal at https://help.sap.com/ewm.

This business scenario comprises the following business process: Processing Dock Appointment Scheduling [page 58].

Technical System Landscape

The following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Component	Mandatory	Optional
EWM 9.10 or higher	X	-
SCMEWM UI	-	X

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

4.3 Integration of Outbound Warehousing and Transportation

This business scenario contains outbound processes in which goods ordered by external customers are picked from your own warehouse and transported by an external carrier to the customer. It integrates warehousing with SAP Extended Warehouse Management (EWM) and transportation with SAP Transportation Management (TM).

This business scenario comprises the following business processes based on method of integration:

- Integration of Outbound Warehousing and Transportation using SAP ERP
  - Managing Order-Based Outbound Processes (EWM-ERP-TM) [page 59]
  - Handling Cancellation in Order-Based Outbound Processes (EWM-ERP-TM) [page 60]
  - Managing Delivery-Based Outbound Processes (EWM-ERP-TM) [page 62]
  - Planning Transportation (EWM) and Billing (TM) in Outbound Processes [page 63]
- Direct Integration of Outbound Warehousing and Transportation
  - Managing Order-Based Outbound Processes (TM-EWM) [page 64]
  - Handling Cancellation in Order-Based Outbound Processes (TM-EWM) [page 66]
  - Managing Delivery-Based Outbound Processes (TM-EWM) [page 67]

Technical System Landscape

The following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Component	Mandatory	Optional
SAP EHP1 for SAP NetWeaver 7.3 or higher	X	-

Component	Mandatory	Optional
EPH6 for SAP ERP 6.0 or higher, or S/4HANA	X	-
SAP EWM 9.0 or higher (using SAP ERP) SAP EWM 9.1 or higher (direct integration) Recommended version: SAP EWM 9.4	X	-
SAP TM 9.0 or higher (using SAP ERP) SAP TM 9.1 or higher (direct integration) Recommended version SAP TM 9.3	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

4.4 Transit Warehousing

You can use this business scenario to integrate warehouse execution with freight forwarding operations using SAP Extended Warehouse Management (SAP EWM) and SAP Transportation Management (SAP TM). In Transit Warehousing, you receive cargo from shippers based on inbound planning from SAP TM. You consolidate cargo with the same destination in your transit warehouse before you ship it to the next location of the transportation chain or deliver it to the final consignee, based on outbound planning from SAP TM. As cargo received from numerous shippers in a transit warehouse is very variable, you do not manage product master data for it. Instead, you manage cargo as handling units (HUs) and keep cargo information directly in the documents used in the warehouse. The transit warehouse is structured in such a way that you put away HUs with the same destination country or region on the same storage bin, where they are available for the shipment to the next location or to the consignee. HUs with special attributes, such as dangerous goods or high-value cargo, are put

away separately. With the next outbound plan sent by SAP TM, you either load the HUs directly from the staging area used for putaway, or you stage the HUs before loading them onto a vehicle. During these processes, SAP EWM informs SAP TM about the major steps performed in the transit warehouse, such as arrival at checkpoint, departure from checkpoint, and receiving or loading completion.

This business scenario comprises the following business processes:

- Receive from Shipper [page 53]
- Ship to Next Transit Warehouse [page 54]

Technical System Landscape

The following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Component	Mandatory	Optional
EPH7 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.3 Recommended version: SAP EWM 9.4	X	-
SAP TM 9.3	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

4.5 Warehouse Management with Preconfigured Processes

This business scenario contains basic business processes used in a warehouse managed with SAP Extended Warehouse Management (EWM).

As warehousing processes strongly depend on the warehouse structure and on the products stored in the warehouse, all processes are integrated in a standard warehouse with a predefined structure and use common master data such as business partners, products, packaging specifications, and resources. The processes interact with each other and build a consistent product flow. For example, in an inbound process, you receive goods from vendors and store them on pallets in the warehouse. In an outbound process, you pick cartons or by each of the same goods from a picking area to pack and ship them to customers. If the stock in the picking area falls below a predefined threshold, EWM triggers an automatic replenishment process to move cartons from the pallets to the picking area.

The business process descriptions include not only the system and user activities, but also the physical activities in the warehouse. For this reason, some process steps are not carried out in the system.

The business processes contain typical EWM functions. For example, some processes are paper-based, while others make use of radio frequency devices. Some use handling units to manage packed goods, while others use alternative units of measure for the same purpose. The processes also include monitoring, printing, scanning, and integration to SAP ERP.

You can use this business scenario to accelerate your EWM implementation. It is the recommended way for getting started with EWM.

This business scenario comprises the following business processes. All processes run in parallel in the warehouse:

- Automatic Replenishment [page 68]
- Customer Returns with Quality Inspection [page 69]
- Cycle Counting [page 71]
- Inbound Process with Repacking for Putaway [page 72]
- Inbound Process Without Packing Information (Manual Goods Receipt) [page 73]
- Inbound Process Without Packing Information (Manual Warehouse Task) [page 75]
- Outbound Process Using Pick-HUs as Shipping HUs [page 76]
- Outbound Process Using Wave, Pick-HU, Packing, Staging, and Loading [page 78]
- Periodic Physical Inventory [page 79]
- Unplanned Scrapping Due to Damaged Stock [page 80]

Technical System Landscape

The following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH3 for SAP ERP 6.0 or higher, or S/4HANA	X	–

Component	Mandatory	Optional
SAP EWM 9.0 or higher	X	–

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario Description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

Basic Settings for Warehouse Management with Preconfigured Processes

To implement SAP Extended Warehouse Management (EWM) 9.5 with the business scenario *Warehouse Management with Preconfigured Processes*, you need to consider basic configuration settings. For more information, see SAP Note 2862309.

The following basic settings are relevant for the business scenario:

- *Integration of SAP ERP with SAP EWM*
- *Configuration of Warehouse Structure and Master Data for SAP EWM*

5 Business Processes of SAP Extended Warehouse Management

This section contains short process descriptions and information about the technical landscape of business processes delivered with SAP Solution Manager, listed in order of shipment, starting with latest release shipment for SAP EWM.

> → Recommendation
>
> Detailed process descriptions and configuration documentation are part of the Solution Manager documentation for SAP EWM. For more information, see SAP Note 2862309.
>
> For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.

5.1 Receive from Shipper

You use this business process to receive cargo from a shipper in a transit warehouse managed with SAP Extended Warehouse Management (SAP EWM). After the creation of a forwarding order and of a pick-up freight order from the shipper to the transit warehouse, SAP Transportation Management (SAP TM) sends the inbound planning information to SAP EWM. When the truck arrives, you identify the freight order in SAP EWM and post the arrival at checkpoint. The truck drives to a door and you unload the cargo, which is usually packed on pallets. After unloading, you identify the handling units (HUs) based on the inbound plan sent by SAP TM. You attach an HU label to them, for example, a house airway bill (HAWB) label containing shipper and consignee information. The truck leaves the door and you post the departure from the checkpoint. You then put away HUs with the same destination country in the same storage bin, where they are available for the shipment to the next location or to the consignee. HUs with special attributes, such as overdimensional cargo or high-value cargo, are put away separately. In this process, SAP EWM informs SAP TM about arrival at checkpoint, receiving completion, and departure from checkpoint. The notification of receiving completion also includes information about the single HUs.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Transit Warehousing	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH7 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.3	X	-
SAP TM 9.3	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

5.2 Ship to Next Transit Warehouse

You use this business process to ship cargo from your transit warehouse to the next location in the transportation chain. After the creation of a pre-carriage freight order, SAP Transportation Management (SAP TM) sends the outbound planning information to SAP Extended Warehouse Management (SAP EWM). When the truck arrives, you identify the freight order in SAP EWM and post the arrival at checkpoint. The truck arrives at a door. You load the requested handling units (HUs) directly from their storage bin, or you stage the HUs to a staging area first before loading them onto the truck. The truck departs from the door and you post the departure from the checkpoint. In this process, SAP EWM informs SAP TM about arrival at checkpoint, loading completion, and departure from checkpoint. The notification of the loading completion includes information about the loaded HUs. In this process, you print the waybills in SAP TM before handing them over to the truck driver.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Transit Warehousing	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH7 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.3	X	-
SAP TM 9.3	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

5.3 Staging and Consumption

You use this business process to stage packed or unpacked materials for production and consume packed or unpacked materials by production in a warehouse managed with SAP Extended Warehouse Management (EWM). When big quantities are produced and the execution of a manufacturing order stretches for several

hours, you stage the materials pallet-wise (HU after HU) to a production supply area (PSA). You consume the materials pallet-wise (HU after HU) or piece by piece from the PSA in the warehouse.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Advanced Production Integration	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.2	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

5.4 Receipt from Production

You use this business process to receive packed goods from production in a warehouse managed with SAP Extended Warehouse Management (SAP EWM). When big quantities are produced and the execution of a

manufacturing order stretches for several hours, you receive the products pallet-wise (HU after HU) from a conveyor line in the warehouse. An expected goods receipt (EGR) document in EWM contains information about the manufacturing order from SAP ERP. When you identify an incoming pallet in the inbound staging area, the SAP EWM system automatically creates an HU and an inbound delivery based on the EGR document. If necessary, you attach an HU label to the pallet. You then perform the putaway of the HUs into the warehouse. You post the goods receipt and create a putaway warehouse order either during the receipt or during the putaway of the HUs. The goods receipt quantities are communicated from SAP EWM to SAP ERP.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Advanced Production Integration	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.2	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business scenario:

Content	Location
Scenario description	The scenario description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

5.5 Processing Dock Appointment Scheduling

You use this process to plan the receipt of goods from external vendors. You want to optimize the capacity utilization of your inbound docks.

> **i Note**
>
> You must install the desktop version of SAP NetWeaver Business Client 4.0 or higher to be able to use SAP Dock Appointment Scheduling.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Dock Appointment Scheduling	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP EWM 9.1	X	-

For more information about the installation of this component, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.6 Managing Order-Based Outbound Processes (EWM-ERP-TM)

You use this integrated warehousing and transportation process to send ordered goods to external customers from a warehouse managed with SAP Extended Warehouse Management (EWM). The goods are transported by an external carrier.

In this process you plan the transportation in SAP Transportation Management (TM) on the basis of sales orders created in SAP ERP. SAP TM proposes and creates deliveries based on dates and quantities according to transportation planning results, taking into account transportation constraints such as resource availability and transportation durations. The SAP TM system sends delivery proposals to SAP ERP, which creates the deliveries and forwards them to SAP TM and to SAP EWM for further processing. As a result of the transportation planning in TM, a freight order is created in TM, which results in the creation of a shipment in ERP and of a transportation unit (TU) in EWM.

In the warehouse you pick the goods by waves directly into shipping HUs (pallets). You then stage the shipping HUs and load them into a truck before posting the goods issue. As a result of the goods issue, the deliveries are updated in ERP for a later billing and the freight order in TM is updated for a later freight cost settlement.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Integration of Outbound Warehousing and Transportation	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.0	X	-
SAP TM 9.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.7 Handling Cancellation in Order-Based Outbound Processes (EWM-ERP-TM)

This process is a variant of *Managing Order-Based Outbound Processes (EWM-ERP-TM)*. During or at the end of the picking and staging step in the warehouse, the carrier calls the shipping office clerk to cancel the appointment. The shipping office clerk un-assigns the outbound delivery orders from the TU appointments and deletes the TU appointment. In the warehouse the picking and staging can be completed but the shipping HUs stay in the staging area (or are moved to a nearby area) and are ready for loading. The EWM system forwards the TU cancellation to ERP, where the corresponding shipment is deleted and a message is sent to TM for cancellation of the freight order. After the freight order cancellation, the DTRs are open for a new transportation planning and execution as described in process *Managing Order-Based Outbound Processes (EWM-ERP-TM)*.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Integration of Outbound Warehousing and Transportation	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.0	X	-
SAP TM 9.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.8 Managing Delivery-Based Outbound Processes (EWM-ERP-TM)

You use this integrated warehousing and transportation process to send ordered goods to external customers from a warehouse managed with SAP Extended Warehouse Management (EWM). The goods are transported by an external carrier.

In this process the inventory planning has priority over the transportation planning: you plan the transportation in SAP Transportation Management (TM) on the basis of outbound deliveries created and scheduled in SAP ERP. As a result of the transportation planning in TM, a freight order is created in TM, which results in the creation of a shipment in ERP and of a transportation unit (TU) in EWM.

In the warehouse you pick the goods by waves directly into shipping HUs (pallets). You then stage the shipping HUs and load them into a truck before posting the goods issue. As a result of the goods issue, the deliveries are updated in ERP for a later billing and the freight order in TM is updated for a later freight cost settlement.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Integration of Outbound Warehousing and Transportation	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.0	X	-
SAP TM 9.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.9 Planning Transportation (EWM) and Billing (TM) in Outbound Processes

You use this integrated warehousing and transportation process to send ordered goods to external customers from a warehouse managed with SAP Extended Warehouse Management (EWM). The goods are transported by an external carrier.

In this process you execute the outbound deliveries created in SAP ERP as soon as possible in the warehouse and plan the transportation in SAP EWM accordingly. As a result of the transportation planning in EWM, you create a transportation unit (TU) in EWM and assign the outbound deliveries to it.

In the warehouse you pick the goods by waves directly into shipping HUs (pallets). You then stage the shipping HUs and load them into a truck before posting the goods issue. As a result of the goods issue, the deliveries are updated in ERP for a later billing, a shipment is created in ERP and a freight order in TM. The freight order is the basis for the freight cost settlement in TM

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Integration of Outbound Warehousing and Transportation	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.0	X	-
SAP TM 9.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.10 Managing Order-Based Outbound Processes (TM-EWM)

You use this integrated warehousing and transportation process to send ordered goods to external customers from a warehouse managed with SAP Extended Warehouse Management (SAP EWM). The goods are transported by an external carrier.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Integration of Outbound Warehousing and Transportation	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP ERP 6.0 or S/4HANA	X	-
SAP enhancement package 6 for SAP ERP 6.0 (SP4), or S/4HANA	X	-
SAP EWM 9.1	X	-
SAP TM 9.1	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration documentation	

5.11 Handling Cancellation in Order-Based Outbound Processes (TM-EWM)

This process is a variant of Managing Order-Based Outbound Processes (TM-EWM) [page 64].

During the picking and staging step in the warehouse, or at the end of the step, the carrier calls the shipping office clerk to cancel the appointment. The shipping office clerk removes the outbound delivery orders from the transportation unit (TU) appointments and deletes the TU appointment. In the warehouse, the picking and staging can be completed, but the shipping handling units (HUs) stay in the staging area, or are moved to a nearby area, and are ready for loading.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Integration of Outbound Warehousing and Transportation	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP7 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.1	X	-
SAP TM 9.1	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

5.12 Managing Delivery-Based Outbound Processes (TM-EWM)

You use this integrated warehousing and transportation process to send ordered goods to external customers from a warehouse managed with SAP Extended Warehouse Management (SAP EWM). The goods are transported by an external carrier.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Integration of Outbound Warehousing and Transportation	-

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP7 for SAP ERP 6.0, or S/4HANA	X	-

Component	Mandatory	Optional
SAP EWM 9.1	X	-
SAP TM 9.1	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

5.13 Automatic Replenishment

Overview

You use this business process to fill up a picking area in accordance with the demand for products that you pick in this area. In this automatic replenishment process, you use warehouse orders (WOs) to carry out replenishment. The system creates replenishment WOs in the background when you confirm a pick-WO and the stock in the source bin falls below a predefined threshold. The system calculates the replenishment quantity in accordance with the maximum and minimum quantity maintained for the product in the product master.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP EWM 9.0	X	–

The following documents provide more information about this business process:

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.14 Customer Returns with Quality Inspection

Overview

You use this business process to handle customer returns. In this process, only small quantities (for example, single pieces) are returned. When you receive the rejected goods, you perform a 100% inspection. The quality inspection is triggered and carried out in SAP Extended Warehouse Management (SAP EWM). Depending on the inspection result, you decide if the goods are put away or scrapped.

By phone, a customer informs a sales clerk about a coming return and requests an identifier for it. The sales clerk creates a returns delivery and communicates the number to the customer. The customer labels the goods with the delivery number and returns them. A truck arrives with the rejected goods. When the goods are unloaded, a goods receipt (GR) office clerk posts the GR. A quality inspection (QI) document is created automatically. A warehouse worker brings the rejected goods to the QI work center. A QI specialist checks the goods. He or she packs undamaged goods into cartons and puts damaged goods into a wire basket. He or she

also enters the decision codes in the system. According to the decision codes, the system creates warehouse orders (WOs) for moving the goods to the putaway bins or to the scrapping zone. The putaway WOs are printed automatically. The QI specialist attaches the printouts to the corresponding cartons. The warehouse worker brings the cartons with the undamaged goods to the final bins and passes the printouts to the internal office. A warehouse clerk confirms the WOs in the system. The WOs for moving the damaged goods to the scrapping zone are confirmed automatically. The warehouse worker brings the wire basket with the damaged goods to the scrapping zone as soon as the wire basket is full. A background job runs regularly to empty the scrapping zone.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH3 for SAP ERP 6.0, or S/4HANA	X	–
SAP EWM 9.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.15 Cycle Counting

Overview

You use this business process as a product-specific physical inventory (PI) process that you perform at regular intervals to ensure inventory accuracy in your warehouse and to meet legal requirements. These intervals depend on the Cycle Counting Indicator field that you maintain for all products that you want to include in cycle counting. The Cycle Counting Indicator field reflects the classification of your products according to their impact on operations and finance. You can automatically classify your products and maintain the Cycle Counting Indicator field for the products, for example, with the help of an ABC analysis in SAP Supply Chain Management (SAP SCM).

In this process, you create PI documents for all cycle-counting-relevant products that are due to be counted. You carry out the counting using a radio frequency (RF) device or paper. By posting the PI documents, you adjust the book inventory in SAP Extended Warehouse Management (EWM). By posting the differences to SAP ERP, you balance the stock accounts.

You can monitor the progress of your PI by using the warehouse management monitor.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP EWM 9.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.16 Inbound Process with Repacking for Putaway

Overview

You use this business process to receive packed goods from vendors and repack them at a packing station before moving them to a pallet rack in the warehouse. The vendors send advanced shipping notifications (ASNs) to SAP ERP. A truck contains one or more inbound deliveries. The goods are packed by the vendors but must be repacked for putaway purposes so that each pallet contains only a single product.

When a truck arrives, a checkpoint clerk creates a transportation unit (TU) in SAP Extended Warehouse Management (EWM) and directs the truck to a door. The truck driver brings the delivery notes to the goods receipt (GR) office. A GR office clerk finds the corresponding inbound deliveries in the system and assigns them to the TU. If the number of handling units (HUs) is printed on the delivery notes, the GR office clerk creates HUs with unknown content for the deliveries, and prints the labels for the HUs. A warehouse worker unloads the truck. A warehouse clerk checks the quantities on the pallets and attaches the labels to the pallets at the staging area. If the number of HUs is not printed on the delivery notes, the warehouse clerk counts the number of unloaded pallets and writes them on the delivery notes. He or she then takes the revised delivery notes to the GR office. The GR office clerk corrects the GR quantities; if necessary he or she creates HUs with unknown content, and posts the GR. He or she checks out the truck and the truck leaves the door and the premises. Upon the GR posting, the system automatically creates HU warehouse tasks (WTs) to move all pallets of the deliveries to a storage bin in the inbound section of the packing station. At the packing station, a packer repacks the goods onto pallets for storage. Once an HU is closed in the system, the system automatically creates the HU WTs for the putaway of the pallet into the final storage bin. A warehouse worker (for example, a forklift driver) executes the putaway using a radio frequency (RF) device.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP3 for SAP ERP 6.0, or S/4HANA	X	–
SAP EWM 9.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.17 Inbound Process Without Packing Information (Manual Goods Receipt)

Overview

You use this business process to receive goods on pallets from external vendors. Each pallet contains only a single product. You do not receive packing information from the vendors, but some vendors send advanced shipping notifications (ASN) to SAP ERP. You check the goods in the goods receipt area, and post the goods receipt (GR) in SAP Extended Warehouse Management (EWM). Upon GR posting, warehouse orders (WOs) are created. Depending on the product attributes, you move the goods to different areas in the warehouse using the information contained in the printed WOs. You move uncategorized products to a clarification zone before you put them away.

When a truck arrives, a checkpoint clerk directs the truck to a door. The truck driver brings the delivery note to the GR office. If the vendor has sent an ASN to SAP ERP, a GR office clerk finds the corresponding inbound delivery in EWM. If there is no inbound delivery in the system, the GR office clerk creates it in EWM. A warehouse worker unloads the truck. A warehouse clerk checks the goods against the delivery note, writes differences on the delivery note, and takes the revised delivery note to the GR office. The GR office clerk posts the GR. Upon GR posting, the system automatically creates and prints WOs for the inbound delivery to move the goods into the warehouse. The truck leaves. The warehouse worker moves the goods from the GR area into the warehouse. The goods are then moved to the following storage types:

- A storage type for small parts, which is subdivided for slow-moving and fast-moving items
- A storage type for large parts, where fixed storage bins are used

In the storage type for small parts, the next empty storage bin is determined as the destination storage bin. Products that have not yet been categorized as small or large parts, or that have no fixed bin assignment, are moved into a separate storage type for clarification. When the goods are in the destination storage bins, the warehouse clerk confirms the putaway WOs.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH3 for SAP ERP 6.0, or S/4HANA	X	–
SAP EWM 9.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.18 Inbound Process Without Packing Information (Manual Warehouse Task)

Overview

You use this business process to receive goods on pallets from external vendors. Each pallet contains only a single product. You do not receive packing information from the vendors, but some vendors send advanced shipping notifications (ASN) to SAP ERP. You check the goods in the goods receipt (GR) area, and create warehouse orders (WOs) in SAP Extended Warehouse Management (EWM). Depending on the product attributes, you move the goods to different areas in the warehouse using the information contained in the printed WOs. You move uncategorized products to a clarification zone before you put them away. When you confirm the WOs, the system automatically posts the GR.

When the truck arrives, a checkpoint clerk directs the truck to a door. The truck driver brings the delivery note to the GR office. If the vendor has sent an ASN to SAP ERP, a GR office clerk finds the corresponding inbound delivery in EWM. If there is no inbound delivery in the system, the GR office clerk creates it in EWM. A warehouse worker unloads the truck. A warehouse clerk checks the goods against the delivery note, writes differences on the delivery note, and takes the revised delivery note to the GR office. The GR office clerk creates WOs for the inbound delivery to move the goods into the warehouse. The system automatically prints the WOs. The truck leaves. The warehouse worker moves the goods from the GR area into the warehouse. The goods are then moved to the following storage types:

- A storage type for small parts, which is subdivided for slow-moving and fast-moving items
- A storage type for large parts, where fixed storage bins are used

In the storage type for small parts, the next empty storage bin is determined as the destination storage bin. Products that have not yet been categorized as small or large parts, or that have no fixed bin assignment, are moved into a separate storage type for clarification. When the goods are in the destination storage bins, the warehouse clerk confirms the putaway WOs. Upon the confirmation of the putaway WOs, the system automatically posts the GR.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	.-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP3 for SAP ERP 6.0, or S/4HANA	X	–
SAP EWM 9.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.19 Outbound Process Using Pick-HUs as Shipping HUs

Overview

You use this business process to send high-priority ordered goods to external customers. Only small quantities (for example, single pieces) are ordered by the customers. On a daily basis a trucks arrives at the warehouse to

transport the high-priority deliveries. Warehouse orders (WOs) are created during outbound delivery order creation and are used to optimize the picking process. Picking consists of a single paper-based step using pick-handling units (HUs) that you ship to the customers. Using one transportation route, you deliver goods to several customers.

Upon outbound delivery order creation, the system automatically assigns the outbound delivery orders to routes. The system then creates warehouse tasks (WTs) and warehouse orders (WOs) automatically, and the warehouse activities begin. The WOs are printed as a work list for a paper-based picking. A warehouse worker takes the printout of a WO and prepares a pick-HU to be used for the picking of the products listed on the WO printout. He or she then takes two labels with the same external HU identifiers, and sticks one to the physical HU and the other to the printout of the WO. The warehouse worker carries out the picking for one or several pick-HUs, and brings the goods to the staging area. The warehouse worker then hands over the printouts of the WOs to the warehouse clerk responsible for the confirmation of the picking. With the confirmation of the WOs, the pick-HUs are created in the system. In the staging area a warehouse worker weighs and labels the HUs with the shipping label, and creates an outbound delivery for each HU. This triggers the printout of a delivery note, which is put into the HU before the HU is physically closed. When the truck arrives, it is checked in and directed to a door by a checkpoint clerk. Once the truck arrives at the door, the warehouse worker commences the physical loading of the HUs. After he or she has finished the physical loading of all HUs for the route, a shipping office clerk posts the goods issue (GI), prints a second delivery note for each outbound delivery, and hands the delivery notes over to the truck driver. The truck leaves the premises.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH3 for SAP ERP 6.0, or S/4HANA	X	–
SAP EWM 9.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.20 Outbound Process Using Wave, Pick-HU, Packing, Staging, and Loading

Overview

You use this business process to send ordered goods to external customers. In this process, you can send bigger quantities (for example, cartons or pallets) to the customers. You pick the goods by waves into pick-handling units (pick-HUs) and consolidate them into shipping HUs at a packing station. You then stage the shipping HUs and load them into a truck before posting the goods issue. You use a separate route for each customer.

When the outbound delivery orders are created, the system automatically assigns the outbound delivery orders to routes depending on scheduled dates. After the route assignment, the outbound delivery orders are assigned to picking waves automatically. A shipping office clerk orders transportation capacity from the shipper for each route. After the confirmation by the shipper, the shipping office clerk creates transportation units (TUs) and assigns them to the route and a door used for this route. With the automatic release of the waves, the warehouse activities begin. Warehouse workers pick the goods from different areas in the warehouse using radio frequency (RF) devices and bring them to a packing station where they are consolidated and packed into shipping HUs such as europallets. The packer attaches shipping labels to the shipping HUs. The shipping HUs are then moved to the staging area. When the truck arrives, it is checked in and directed to the door. The goods are loaded from the staging area into the truck. When the loading is complete, the shipping office clerk posts the goods issue (GI), prints the delivery notes and loading lists, and hands them over to the truck driver. The shipping office clerk checks out the truck and the truck leaves the door and the premises.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH3 for SAP ERP 6.0, or S/4HANA	X	–
SAP EWM 9.0	X	–

The following documents provide more information about this business process:

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.21 Periodic Physical Inventory

Overview

You use this business process to control your warehouse stock and to meet legal requirements. In this process, you create physical inventory (PI) documents for a chosen number of storage bins or products on a regular basis to spread the PI workload over the year. You carry out the counting using a radio frequency (RF) device or paper. By posting the PI documents, you adjust the book inventory in SAP Extended Warehouse Management (SAP EWM). By posting the differences to SAP ERP, you balance the stock accounts.

You can monitor the progress of your PI by using the warehouse management monitor.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP EWM 9.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.22 Unplanned Scrapping Due to Damaged Stock

Overview

You use this business process to scrap damaged stock detected in the warehouse. You change the stock type of the damaged stock so that it is not available for sale anymore. In this process, you use a warehouse order (WO) to move the stock to a scrapping container in the scrapping zone. The WO is carried out using a mobile device

or paper. A background job runs regularly to empty the scrapping zone. A truck arrives to pick up the scrapping container.

> **i Note**
>
> You can also use this business process to scrap stock due to expired best-before date/shelf life expiration date (BBD/SLED).

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Warehouse Management with Preconfigured Processes	-

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP EWM 9.0	X	–

The following documents provide more information about this business process:

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.23 Planning Labor Demand for Outbound

You can use this business process to plan your resources based on provided information about the planned workload. In a warehouse with a huge amount of throughput, typically several hundred workers are busy with all kind of warehouse activities in different activity areas. They are organized hierarchically (for example, warehouse supervisor -> shift lead -> team lead). A team lead could be responsible for 8-10 workers, and several activity areas and activities. He knows about the knowledge and performance of his workers and about their absence (due to, for example, vacation or illness). The most important activities are those related to the good issue process. The warehouse has to prepare the goods for pickup in time and in quality. The scheduling is typically set by sales or transportation and must be met by the warehouse. In general the warehouse is expected to be flexible so that it can fulfill the scheduling. The flexibility reserve of the warehouse includes less urgent activities, such as inventory counting and putaway, as well as picking of 'soft committed' deliveries. If there is not enough work, these less important activities can be started.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Additional Warehouse Management Processes Based on Preconfigured Warehouse

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP3 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.1	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.24 Outbound Process with Cartonization Planning

Overview

You use this business process to send ordered goods to external customers. In this process you send smaller quantities of many different products to many different customers which are delivered within the same route. The necessary packaging materials are optimized by usage of cartonization planning to minimize whitespace for the shippers' truck as there are many possible different packaging materials to choose from. This information enables you to gain information about volume, weight and number of shipping HUs at a very early point in time during the outbound process which can be used for ordering a carrier regarding the upcoming shipments/loading.

You pick the goods by waves into pick-HUs and consolidate them into shipping HUs at a packing station according to the planned shipping handling units (PSHU). You then stage the shipping HUs and load them into a truck before posting the goods issue. You use the same route to deliver each customer.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Additional Warehouse Management Processes Based on Preconfigured Warehouse

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP3 for SAP ERP 6.0, or S/4HANA	X	–
EHP2 for SAP EWM 7.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.25 Processing Inbound with SAP Dock Appointment Scheduling

You use this business process to plan the receipt of goods from external vendors. You want to optimize the capacity utilization of your inbound doors. Therefore the carriers who deliver the products reserve a time slot at least one day before the truck arrives at the warehouse. This reservation creates a loading appointment in Dock Appointment Scheduling. When the truck arrives at the warehouse, you check if an appointment exists for the truck. Then you track the assignment of the truck to a door of the loading point. After unloading, the truck leaves the door and the warehouse. Finally you can analyze the punctuality of your carriers.

> **i Note**
>
> You must install the desktop version of SAP NetWeaver Business Client 4.0 or higher to be able to use SAP Dock Appointment Scheduling.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Additional Warehouse Process Based on Preconfigured Warehouse / generic EWM business process

> **i** Note
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP3 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.1	X	-

For more information about the installation of this component, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.26 Merchandise Distribution

Overview

Merchandise distribution is a variant of cross-docking, which is particularly important in the retail industry.

When cross-docking, products that have arrived at the warehouse are brought from goods receipt directly to goods issue without being put away. Merchandise distribution means that retailers, for example, plan, control, and manage their flow of products or merchandise from the vendors via distribution centers to the stores or customers. Vendors already pre-package all items based on the relevant customer. This means that in the warehouse, when handling units arrive, they already contain information about the customer from whom they are packed. These handling units can be mixed handling units; that means, they can contain multiple items of an outbound delivery.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Other Warehouse Management Processes
Warehouse & DC Management	SAP for Retail

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP4 for SAP ERP 6.0	X	–
SAP EWM 7.0	X	–

For more information about the installation of these components, see System Landscapes [page 38]

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

5.27 Opportunistic Cross-Docking

Overview

Opportunistic cross-docking is a variant of cross-docking.

When cross-docking, products that have arrived at the warehouse are brought from goods receipt directly to goods issue without being put away. Opportunistic cross-docking allows incoming deliveries to be redirected to cover outbound requirements. The cross docking decision is made in SAP EWM.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Other Warehouse Management Processes
Service Parts Warehousing	SAP Service and Asset Management
Storage and Fulfillment	Cross-Application Implementation Packages/Logistics

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP EWM 7.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

5.28 Warehouse Inbound Processing with Transportation Integration

This process allows you to use transportation planning of SAP ERP in the inbound process of Extended Warehouse Management (EWM). The process uses the shipment documents as a basis for carrying out transportation planning. The system converts handling units (HUs) in ERP shipments into transportation unit (TU) activities (and optionally vehicle activities). You can control and monitor the entire transportation process from the planning stage to the goods receipt at your own plant.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Other Warehouse Management Processes

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP R/3 4.6C or S/4HANA	X	–
EHP1 for SAP EWM 7.0	X	–

Further Information

The following documents provide more information about these business processes:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

5.29 Warehouse Outbound Processing with Transportation Planning in ERP

This process allows you to use transportation planning of SAP ERP in the outbound process of Extended Warehouse Management (EWM). The process uses the shipment documents as a basis for carrying out transportation planning. The system converts handling units (HUs) in ERP shipments into transportation unit (TU) activities (and optionally vehicle activities). You can control and monitor the entire transportation process from the planning stage to the goods issue. Transportation planning involves all the activities that must be performed before the shipment leaves the shipping point.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Other Warehouse Management Processes

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP R/3 4.6C or S/4HANA	X	-
EHP1 for SAP EWM 7.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.30 Warehouse Outbound Processing with Transportation Planning in EWM

This process allows you to use transportation planning of SAP ERP in the outbound process of Extended Warehouse Management (EWM). The system creates shipment documents in SAP ERP on the basis of transportation planning and execution in EWM. The system converts transportation unit (TU) activities (and optionally vehicle activities) in ERP shipments. You can control and monitor the entire transportation process from the planning stage to the goods issue. Transportation planning involves all the activities that must be performed before the shipment leaves the shipping point.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	Other Warehouse Management Processes

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP R/3 4.6C or S/4HANA	X	-
EHP1 for SAP EWM 7.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.31 Inbound Processing and Receipt Confirmation with Warehouse Management in SCM

Overview

You use this business process for your inbound processing and receipt confirmation with SAP EWM. For this process variant, the logistics process of receiving goods in the warehouse, you must ensure a high degree of variability and flexibility. In the actual implementation, different optional steps can be installed to ensure an efficient and streamlined inbound process.

Whenever a company requires a product to be procured from an external source of supply, the product is delivered according to the official procurement document (a PO) agreed between two business partners. The arrival of the goods is announced by a message from the supplier (ASN). They are delivered in a certain quantity at a defined date and time at a defined company location. For the delivered goods, the system selects an inbound delivery and processes it for putaway. Once the goods are taken into stock, a goods receipt must be posted.

Inbound processing and goods receipts are key steps in any procurement or replenishment process. Using inbound processing in SAP EWM supports specific requirements for receiving goods in warehouses for discrete industries, for example for Service Parts Management.

The inbound process is divided into several process steps which ensure that the physical receiving process is reflected in system activities and documents. The basic concept is to differentiate between planned activities and notifications (for example ASN, inbound delivery notification) and finalized documents after processing (inbound delivery). If Handling Unit (HU) Management for packing is used, you must use it in inbound delivery to pack against.

The inbound process can optionally be supported in a Radio Frequency Identification (RFID) environment with fixed devices. For this purpose, SAP Auto-ID 7.1 must be part of your system landscape.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
Service Order Management with Service Part Procurement	SAP CRM/Enterprise Service
Warehouse & DC Management	SAP for Retail
Service Parts Warehousing	SAP Service and Asset Management
Service Delivery	Cross-Application Implementation Packages/Delivery
Recall Management	SAP CRM/Enterprise Services
Storage and Fulfillment	Cross-Application Implementation Packages/Logistics

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP ERP 6.0, or S/4HANA	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

5.32 Processing Inbound with Stock-Specific UoM (Manual GR)

You use this business process to receive goods on pallets from external vendors. Each pallet contains only a single product. The goods on the pallets have a unit of measure (UoM) that represents a smaller package size, for example, cartons containing six items. You are interested in this information because you will handle the product in your warehouse using this UoM. Some vendors send advanced shipping notifications (ASNs) to SAP ERP. You check the goods in the goods receipt area, and post the goods receipt (GR) in SAP Extended Warehouse Management (EWM). Upon GR posting, warehouse orders (WOs) are created. Depending on the product attributes, you move the goods to different areas in the warehouse using the information contained in the printed WOs. You move uncategorized products to a clarification zone before you put them away.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	(Generic EWM business process)

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EPH6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.33 Processing Inbound with Stock-Specific UoM (Manual Warehouse Task)

You use this business process to receive goods on pallets from external vendors. Each pallet contains only a single product. The goods on the pallets have a unit of measure (UoM) that represents a smaller package size, for example, cartons containing six items. You are interested in this information because you will handle the product in your warehouse using this UoM. Some vendors send advanced shipping notifications (ASNs) to SAP ERP. You check the goods in the goods receipt area, and post the goods receipt (GR) in SAP Extended Warehouse Management (EWM). Upon GR posting, warehouse orders (WOs) are created. Depending on the product attributes, you move the goods to different areas in the warehouse using the information contained in the printed WOs. You move uncategorized products to a clarification zone before you put them away.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	(Generic EWM business process)

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.34 Processing Outbound with Stock-Specific UoM

You use this business process to send ordered goods to external customers. In this process, you can send bigger quantities (for example, cartons or pallets) to the customers. Each carton or pallet in your storage bins contains only a single product. The goods on the pallets have a unit of measure (UoM) that represents a smaller package size used within the warehouse, such as cartons of six. Warehouse orders (WOs) are created during outbound delivery order creation and are used to optimize the picking process. Picking consists of a single paper-based step using pick-handling units (HUs) that you ship to the customers. After loading them into a truck you post the goods issue.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	(Generic EWM business process)

> **i Note**
>
> You can fully integrate this business process with the business scenario Warehouse Management with Preconfigured Processes [page 50].

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
EHP6 for SAP ERP 6.0, or S/4HANA	X	-
SAP EWM 9.0	X	-

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	
Test Case	

5.35 Unpacked Inbound Delivery from Vendor (with Manual GR and Automatic WT)

Overview

In this simple inbound warehouse process, you receive goods from external vendors. A truck arrives and the truck driver brings the delivery note to the goods receipt (GR) office. If the vendor has sent an advanced shipping notification (ASN) to SAP ERP, the GR clerk finds the corresponding inbound delivery in SAP Extended Warehouse Management (EWM). If no inbound delivery yet exists in the system, the GR clerk creates an inbound delivery with or without reference to the purchasing document in EWM. The truck driver drives the truck to the door assigned by the GR clerk. The warehouse clerk unloads the truck. The warehouse clerk checks the goods against the delivery note and takes it with annotations to the GR office. The GR clerk posts

the goods receipt in EWM, which creates and prints warehouse orders (WOs) with reference to the inbound delivery to move the goods into the warehouse. The truck leaves. The warehouse clerk moves the goods from the GR area into the warehouse. For example, they are moved to two different storage types: a storage type for small parts and a storage type for large parts. The storage type for small parts is divided into two storage sections: one for slow-moving items and one for fast-moving items. In the storage type for small parts, the next empty storage bin is determined as the destination storage bin. In the storage type for large parts, fixed storage bins are used. Products that have not yet been categorized as small or large parts or that have no fixed bin assignment are first moved into a separate storage type for clarification. When the goods are in the destination storage bins, the warehouse clerk confirms the putaway WO using a desktop transaction in EWM.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	(Generic EWM business process)

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP ERP 6.0 or S/4HANA	X	–
SAP EWM 7.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

5.36 Unpacked Inbound Delivery from Vendor (with Manual WT and Automatic GR)

Overview

In this simple inbound warehouse process, you receive goods from external vendors. A truck arrives and the truck driver brings the delivery note to the goods receipt (GR) office. If the vendor has sent an advanced shipping notification (ASN) to SAP ERP, the GR clerk finds the corresponding inbound delivery in SAP Extended Warehouse Management (EWM). If no inbound delivery yet exists in the system, the GR clerk creates an inbound delivery with or without reference to the purchasing document in EWM. The truck driver drives the truck to the door assigned by the GR clerk. The warehouse clerk unloads the truck. The warehouse clerk checks the goods against the delivery note and takes it with annotations to the GR office. The GR clerk creates warehouse tasks (WTs) in EWM, which creates and prints warehouse orders (WOs) with reference to the inbound delivery to move the goods into the warehouse. The truck leaves. The warehouse clerk moves the goods from the GR area into the warehouse. For example, they are moved to two different storage types: a storage type for small parts and a storage type for large parts. The storage type for small parts is divided into two storage sections: one for slow-moving items and one for fast-moving items. In the storage type for small parts, the next empty storage bin is determined as the destination storage bin. In the storage type for large parts, fixed storage bins are used. Products that have not yet been categorized as small or large parts or that have no fixed bin assignment are first moved into a separate storage type for clarification. When the goods are in the destination storage bins, the warehouse clerk confirms the putaway WOs using a desktop transaction in EWM. Upon confirmation of the putaway WOs, the system automatically posts the goods receipt.

This process is used in the following scenarios:

Scenario	Solution/Scenario Group
-	(Generic EWM business process)

Technical System Landscape

The minimal release version of the following software units (components) are either mandatory or optional, as indicated below, for the technical implementation of the scenario:

Software Units

Component	Mandatory	Optional
SAP ERP 6.0 or S/4HANA	X	–
SAP EWM 7.0	X	–

For more information about the installation of these components, see System Landscapes [page 38].

Further Information

The following documents provide more information about this business process:

Content	Location
Process Description	The process description is part of the Solution Manager documentation for SAP EWM, (see SAP Note 2862309). For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
Configuration Documentation	

6 Solution-Wide Topics

- For more information about the Upgrade Roadmap that provides methodologies for planning and executing an upgrade project, see SAP Solution Manager. For more information about SAP Solution Manager, see http://support.sap.com/solutionmanager.
- For more information about shared services that are provided by SAP NetWeaver and are required to run a system landscape, such as Solution Manager, System Landscape Directory, and Software Lifecycle Manager, see the current Master Guide and Upgrade Master Guide for SAP NetWeaver on SAP Help Portal at http://help.sap.com/nw.

6.1 SAP Solution Manager

Using SAP Solution Manager significantly accelerates the implementation process and helps you to achieve your business goals. At the same time, SAP can deliver Support Services based on the business scenarios designed in SAP Solution Manager. Implementation content for your solution may further accelerate the implementation process.

For information about the availability of content specifically tailored to your solution, see SAP Support Portal at http://support.sap.com/solutionmanager.

6.2 Service-Oriented Architecture (SOA)

6.2.1 Introduction

SAP's delivery on SOA (service-oriented architecture) differs from the pure architectural concept of SOA in the delivery of ready-to use enterprise services. Enterprise services are SAP-defined Web services which provide end-to-end business processes or individual business process steps that can be used to compose business scenarios while ensuring business integrity and ease of reuse. SAP designs and implements enterprise service interfaces to ensure semantic harmonization and business relevance. This section deals with the service-enablement of SAP Business Suite 7.

6.2.2 Service Enablement

The service enablement of SAP Business Suite consists of one or more of the following SAP components:

- **SAP Business Suite 7**

Enterprise services are an integral part of the software components of the SAP Business Suite applications. Enterprise services are the technical interfaces to the functionality available in the business application.

- **SAP NetWeaver PI 7.0 or higher**
  SAP NetWeaver Process Integration (SAP NetWeaver PI) is an open integration and application platform that provides tools enabling you to set up a service-oriented architecture for business applications. You can use the platform for providing, discovering, and consuming services, integrating applications using the integration server, and managing business processes. Process integration is required in a runtime environment to consume enterprise services in a mediated scenario.
  We recommend that you use the highest version of SAP NetWeaver Process Integration (PI). For more information, see SAP Note 1515223 and SAP Note 1388258.

  > **i Note**
  >
  > Starting with SAP NetWeaver Process Integration (PI) 7.3, SAP provides a new installation option Advanced Adapter Engine Extended (AEX). Since AEX is based on AS Java alone, it is easier to install and maintain as well as it needs less memory and data storage. Therefore, AEX is a cost-saving option compared to a full installation of SAP NetWeaver PI. For more information about the AEX, enter the phrase *Advanced Adapter Engine Extended* in the documentation of SAP NetWeaver Process Integration at http://help.sap.com/nw73 and see SAP Note 1573180.

  > **i Note**
  >
  > Asynchronous services that are enabled for *Web Services Reliable Messaging (WS-RM)* can be called in a point-to-point communication scenario. Otherwise asynchronous services can only be consumed in a mediated scenario.

- **Enterprise Services Repository**
  The Enterprise Services Repository (ES Repository) is the central repository that contains the definition of all enterprise services and models. The ES Repository is shipped with SAP NetWeaver PI and with SAP NetWeaver Composition Environment (CE) starting with SAP NetWeaver PI 7.1 and with SAP NetWeaver CE 7.1. The Enterprise Services Repository is a design time environment that enables you to create and enhance enterprise service definitions.

  > **i Note**
  >
  > In a SAP NetWeaver 7.0x landscape you use the Integration Repository to create and enhance enterprise service definitions.

- **Services Registry**
  The Services Registry is shipped with SAP NetWeaver PI and SAP NetWeaver CE starting with SAP NetWeaver PI 7.1 and SAP NetWeaver CE 7.1. The Service Registry is only required for the publication of enterprise service end-points (Web services) that have been configured and activated in the SAP Business Suite.
- **SAP NetWeaver CE 7.1 or higher**
  The SAP NetWeaver Composition Environment (SAP NetWeaver CE) provides a robust environment for the design and implementation of composite applications.
  The design time environment of SAP NetWeaver CE can be used for the model-driven design and development of composite applications based on enterprise services. SAP NetWeaver CE offers the tools and the environment necessary for running composite applications fast and efficiently in a runtime environment.

6.2.3 Installation of the Service-Oriented Architecture (SOA)

The installation of service interfaces, and therefore the service enablement of SAP Business Suite, consists of one or more of the following phases:

- **Identification of software components and required business functions**
  You use the technical data section of the enterprise service documentation to identify the following data for each enterprise service:
  - the software component version with which the service was shipped
  - the business function(s) required to be activated
- **Identification of technical usages** (relevant for SAP ERP only)
  SAP Note 1818596 provides a mapping of business functions and software component versions to technical usages. You use this documentation to identify the required technical usages for your list of software component versions and business functions.
- **Installation of the software component ECC-SE** (relevant for SAP ERP only)
  The software component ECC-SE contains service implementations for ECC (the ERP Central Component). This component must be explicitly installed if you intend to use enterprise services for ECC functionality. In this case you must also select the technical usage "ESA ECC-SE" during the enhancement package installation.
- **Selection and installation together with the other parts of the enhancement package**
  In the enhancement package installation process you must select all the technical usages you have identified for service enablement together with the technical usages you identified for enhanced features in SAP Business Suite. The selected technical usages will install the corresponding software components that contain the enterprise services interfaces and implementations.
- **Import of ESR Content (aka XI Content)** (optional)
  To install the content required for the enterprise service definitions you must select the technical usage "XI Content" in the enhancement package installation process. This usage type downloads the content files for SAP NetWeaver PI 7.0 or higher. Unpack the ZIP file and copy the tpz files corresponding to your SAP NetWeaver PI version into the import directory of your Integration Repository (for SAP NetWeaver PI 7.0x) or Enterprise Services Repository (for SAP NetWeaver ES Repository 7.1 or higher). Use the import function to import the content files into the corresponding repository (Integration Repository or Enterprise Services Repository). (Choose *Tools* > *Import Design Objects*)
- **Services Registry** (optional)
  The services registry is shipped starting with SAP NetWeaver PI 7.1 and CE 7.1. You must configure the services registry and then publish the enterprise services from the Business Suite application to the registry using the transaction `SOAMANAGER` in the backend.
  For further information regarding the SAP NetWeaver PI, CE and ES Repository, refer to the corresponding SAP NetWeaver Installation and Master Guides.

6.2.4 Related Documentation

For more information about the service-oriented architecture (SOA), see the following information sources:

- SCN Community in the SAP Network at https://scn.sap.com/community/soa (registration required)
- SAP Note 1359215: Technical prerequisites for using enterprise services (relevant for *ERP* only)
- SAP note 838402: Problems with non-Unicode system landscapes

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