



Master Guide SAP® Transportation Management 8.0 Powered by SAP NetWeaver®

Target Audience

- Technical Consultants
- System Administrators

PUBLIC

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Documentation in the SAP Service Marketplace

You can find this document at the following address: <http://service.sap.com/instguides>

Typographic Conventions

Example	Description
<>	Angle brackets indicate that you replace these words or characters with appropriate entries to make entries in the system, for example, “Enter your <User Name>”.
► → ◄	Arrows separating the parts of a navigation path, for example, menu options
Example	Emphasized words or expressions
Example	Words or characters that you enter in the system exactly as they appear in the documentation
<u>Example</u>	Textual cross-references to an internet address, for example, http://www.sap.com
/example	Quicklinks added to the internet address of a homepage to enable quick access to specific content on the Web
123456	Hyperlink to an SAP Note, for example, SAP Note 123456
<i>Example</i>	<ul style="list-style-type: none"> Words or characters quoted from the screen. These include field labels, screen titles, pushbutton labels, menu names, and menu options. Cross-references to other documentation or published works
Example	<ul style="list-style-type: none"> Output on the screen following a user action, for example, messages Source code or syntax quoted directly from a program File and directory names and their paths, names of variables and parameters, and names of installation, upgrade, and database tools
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, database table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE
EXAMPLE	Keys on the keyboard

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 Service Marketplace <http://service.sap.com/instguides>.

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	2010-11-02	Updated version
1.1	2011-03-07	Updated SAP Notes in the Important SAP Notes section. Corrected SAP Note number from 1224282 to 1224284 in the System Landscape section. Updated process steps in the Overall Implementation Sequence section. Updated table and graphic in the Software Matrix Component section.
1.2	2011-04-04	Updated SAP Notes in the Important SAP Notes section. Added details about SAP ERP 6.0 Incl. EHP 4 (SP09) to the Software Matrix Component section and the System Landscape section. Added note to the TM: Tendering Freight section. Added prerequisites to the Business Scenarios of SAP Transportation Management section. Updated the master guide to apply to SAP Solution Manager implementation content ST-IC0 150_700 SP28.
1.3	2011-06-17	Removed the Reference section. Removed the Technical System Landscape subsections from all the business process sections.

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1 Getting Started

1.1 About this Document

Use the Master Guide to get an overview of SAP Transportation Management 8.0 (SAP TM 8.0), 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 Transportation Management 8.0 system landscape. It refers you to the required detailed documentation, mainly:

- 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 Transportation Management 8.0.

- Getting Started

This section contains valuable information about using this document and related information crucial to the installation.

- System Landscape

This section provides an overview of a possible system landscape and overall installation information.

- Business Processes of SAP Transportation Management

This section contains the following information for each business process:

- A short overview about the business process
- Minimal system landscape
- A software component matrix for each business process that provides information about which software units (components) the business process uses and if the corresponding software unit (component) is mandatory or optional
- References to further information about the business process



NOTE

You can find the most current information about the technical implementation of SAP Transportation Management 8.0 and the latest installation and configuration guides on SAP Service Marketplace at <http://service.sap.com/instguides>.

We strongly recommend that you use the documents available here. The guides are regularly updated.

Constraints

The business processes and scenario that are described here serve as examples of how you can use SAP software in your company. The business processes and scenario are only intended as models and may not run the way they are described here in your customer-specific system landscape. Make sure that you check your requirements and systems to determine whether the processes and scenario can be used productively at your site. We also recommend that you test the processes and scenario thoroughly in your test systems to ensure they are complete and free of errors before going live.

1.2 Related Information

Related Documentation

The following table contains links to crucial information for implementing this solution:

List of Related Documentation

Content	Location
Information about technical and release planning issues on SAP components	http://service.sap.com/pam
Information about the latest version of installation and upgrade guides for SAP components	http://service.sap.com/instguides
Information about SAP Notes	http://service.sap.com/notes
Information about released platforms	http://service.sap.com/platforms
Information about sizing and calculation of hardware requirements (such as CPU, disk, and memory resource) with the Quick Sizer tool	http://service.sap.com/sizing
Information about network security – SAP Security Guides	http://service.sap.com/securityguide
Information about network integration	http://service.sap.com/securityguide
Information about high availability	http://service.sap.com/ha
Information about creating error messages	http://service.sap.com/message
Information about performance	http://service.sap.com/performance
Information about the installation of SAP NetWeaver	http://service.sap.com/instguidesnw
Documentation on SAP Help Portal	http://help.sap.com

Related Master Guides

This Master Guide is based on Component Master Guides for cross-industry solutions. You can find more information about the relevant solutions in the following documents:

List of Related Master Guides

Title	Location
SAP NetWeaver 7.0 Master Guide	http://service.sap.com/installnw70
SAP ERP 6.0 Master Guide	► http://service.sap.com/instguides → SAP Business Suite Applications → SAP ERP → SAP ERP 6.0 → Planning ◀

1.3 SAP Solution Manager

SAP provides the SAP Solution Manager as the highly recommended platform to efficiently support the implementation of your solution. Using the 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 and documented in SAP Solution Manager. Implementation content for your solution may further accelerate the implementation process.

For information about availability of content specifically tailored to your solution, see SAP Service Marketplace under <http://service.sap.com/solutionmanager>.

1.4 Important SAP Notes

You must read the following SAP Notes before you start the installation. These SAP Notes contain the most recent information on the installation, as well as corrections to the installation documentation. Make sure that you have the up-to-date version of each SAP Note, which you can find on SAP Service Marketplace at <http://service.sap.com/notes>.

SAP Note Number	Title
1510597	Installing SAPTM 100 on NetWeaver 7.0 EHP2
1556224	SAP TM 100: Support Packages for SAPTM 100
1539745	Release Strategy for the ABAP Add-On SAPTM 100
1522754	SAP TM 8.0 - Collection of Notes, Pro-Active Implementation
1514718	SAP TM 8.0: Corrections to Online Documentation
1320498	Installation/Upgrade SCM_BASIS 701
1320496	Installing SCMBPLUS 701
1489763	Importing SCM Optimizer Version 702
900000	NetWeaver Business Client – FAQ
1320497	Installation/Upgrade SCEMSRV 701
1224284	Enterprise Services, Installing and Accessing the SOA Docu This SAP Note lists the business-related grouping of Enterprise Services.
1515223	SAP NetWeaver Process Integration: Release Recommendation This SAP Note sets out our recommendation on which release of SAP NetWeaver PI you should use.
1529649	Factory Calendar Expires 2010
1539170	Required Notes for SAP Visual Business 1.1 SP01
1572438	TM 8.0 Assignment of BoM to ISO Code Missing

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2 SAP Transportation Management Overview

2.1 Introduction to SAP Transportation Management

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, either as manufacturer or retailer or as a logistics service provider, you need the capability to plan your transportation needs in an efficient way. SAP Transportation Management 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 on execution events and solve possible conflicts with the initial plan.

This Master Guide provides a central starting point for the technical implementation of the following business processes of SAP Transportation Management:

- *TM: Executing and Monitoring Freight* [[page 21](#)]
- *TM: Managing Transportation Requirements* [[page 17](#)]
- *TM: Managing Forwarding Orders* [[page 18](#)]
- *TM: Managing Bookings* [[page 19](#)]
- *TM: Managing Freight Orders* [[page 19](#)]
- *TM: Planning Freight and Selecting Carriers* [[page 20](#)]
- *TM: Tendering Freight* [[page 20](#)]
- *TM: Settling Freight Orders* [[page 22](#)]
- *TM: Settling Forwarding Orders* [[page 22](#)]

This Master Guide also provides an overview of the TM scenarios:

- *International Outbound Transportation* [[page 25](#)]
- *Outsourced Transportation* [[page 26](#)]
- *International Inbound Logistics (Chemicals)* [[page 28](#)]
- *Domestic Outbound Transportation (Food)* [[page 30](#)]
- *Domestic Inbound Transportation (Automotive)* [[page 29](#)]

**NOTE**

The central starting point for the **technical upgrade** of your SAP application is the Upgrade Master Guide, which you can find on SAP Service Marketplace at <http://service.sap.com/instguides>.

2.2 Software Components of SAP Transportation Management

This section provides an overview about the most important software components of SAP Transportation Management.

TM Server

The TM Server hosts the basic functionality of SAP Transportation Management. It is based on SAP enhancement package 2 for SAP NetWeaver 7.0 and contains as major parts the software component versions SAP Transportation Management 1.0, SAP SCM BASIS 7.01 and SAP Business Suite Foundation 702

SAP SCM Optimizer

The SAP SCM Optimizer 7.02, as used by SAP Transportation Management, contains two optimizers dedicated to vehicle scheduling and routing (VSR) and transportation service provider selection (TSPS). The optimizers take into account various constraints and are guided by global objective functions based on key performance indicators. In case of highly complex scenarios, the optimization results improve with increasing CPU time.

Content components

The following content component versions are also parts of SAP Transportation Management:

- XI Content: XI Content SAP TM IC 1.0; XI CONTENT SAPTM 1.0; XI CONTENT SCM BASIS 7.01 and XI CONTENT SCM_BASIS IC 7.01.
- ESR Content: XI Content ESM SAPTM 1.0; XI CONTENT ESM SCB_BASIS 7.01; XI CONTENT SAPGLOBAL 2.0 and XI CONTENT SAPGLOBAL MODEL 2.0.
- BI Content: SAP NW 7.0 BI Cont ADDON 7.05 SP02
- BI Content: SAP NW 7.2 BI Cont ADDON 7.05 SP02 for BOBJ Xcelsius Dashboard.

**NOTE**

As of SAP NetWeaver 7.0 BI Content Add-On 5 SP02, new business intelligence (BI) content is available for SAP TM 8.0. Because of new architecture as of SAP TM 8.0, the BI Content was completely redeveloped. It provides now, an information model, several detailed reporting scenarios for BI Content as well as an Xcelsius dashboard. With this the user is now empowered and able to use the BI reporting and analytic tools to evaluate, analyze and interpret their business data. Analyzing transportation and logistics information on a strategic level is a critical

requirement for easily summarizing and reporting the vast amounts of data. The main areas of reporting that fit seamlessly together are the following:

- Costs (based on Freight Settlement document)
- Revenues (based on Forwarding Settlement document)
- Volumes and Weights (based on transportation request and transportation order).

Costs and revenues, as well as transported weights and volumes segmented by regional aspects are critical issues. With this new BI Content for SAP TM 8.0, you can now analyze and report on costs, revenues, and all the other above mentioned variables. Additional main drill down possibilities by business partners such as shipper, carrier and consignee, and time, are also provided in this release.

2.3 Software Component Matrix

This section provides an overview of which business scenario uses which software unit (component). For the latest component version and patch level requirements, see the SAP Support Package page in SAP Service Marketplace at <http://service.sap.com/sp-stacks>.



NOTE

There are software requirements for each component below which are not explicitly mentioned in this documentation. They are documented in the relevant installation guides.



NOTE

This Master Guide provides just one way to implement each business scenario. For other ways to implement business scenarios, see the Scenario & Process Component List in SAP Service Marketplace at <http://service.sap.com/sc1>. The Scenario & Process Component List helps you to find realization alternatives for SAP solutions, business scenarios and processes. It shows you which application components are needed to realize a business scenario or process.

Software Component Matrix Components

SAP TM Business Processes	SAP TM 8.0 (SP01 and Higher)	SAP ERP 6.0 Incl. EHP 4 (SP09 and Higher)	SAP ERP 6.0 Incl. EHP 5 (SP03 and Higher)	SAP Event Management 7.0 Incl. EHP 1 (SP03 and Higher)	SAP SCM Basis 7.01 (SP03 and Higher)	SAP SCM Optimizer 7.02	SAP Business Suite Foundation 7.02 (SP04 and Higher)	SAP NetWeaver 7.0 Incl. EHP 2 (SP06 and Higher)
TM: Managing Transportation Requirements	X	X*	X	(X)	X	(X)	X	X
TM: Managing	X	(X)	(X)	X	X	X	X	X

2.4 System Landscape

SAP TM Business Processes	SAP TM 8.0 (SP01 and Higher)	SAP ERP 6.0 Incl. EHP 4 (SP09 and Higher)	SAP ERP 6.0 Incl. EHP 5 (SP03 and Higher)	SAP Event Management 7.0 Incl. EHP 1 (SP03 and Higher)	SAP SCM Basis 7.01 (SP03 and Higher)	SAP SCM Optimizer 7.02	SAP Business Suite Foundation 7.02 (SP04 and Higher)	SAP NetWeaver 7.0 Incl. EHP 2 (SP06 and Higher)
Forwarding Orders								
TM: Managing Bookings	X	(X)	(X)	X	X	X	X	X
TM: Managing Freight Orders	X	(X)	(X)	X	X	X	X	X
TM: Planning Freight and Selecting Carriers	X	(X)	(X)	X	X	X	X	X
TM: Tendering Freight	X	-	-	-	X	-	X	X
TM: Executing and Monitoring Freight	X	(X)	(X)	X	X	X	X	X
TM: Settling Freight Orders	X	X	X	(X)	X	X	X	X
TM: Settling Forwarding Orders	X	X	X	(X)	X	X	X	X

Key: X = mandatory; (X) = optional; – not part of the business process

* Sales Order Scheduling integration is not available with SAP ERP 6.0 Incl. EHP 4 (SP09).

2.4 System Landscape



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.

The following figure provides an overview of a possible system landscape for SAP Transportation Management 8.0.

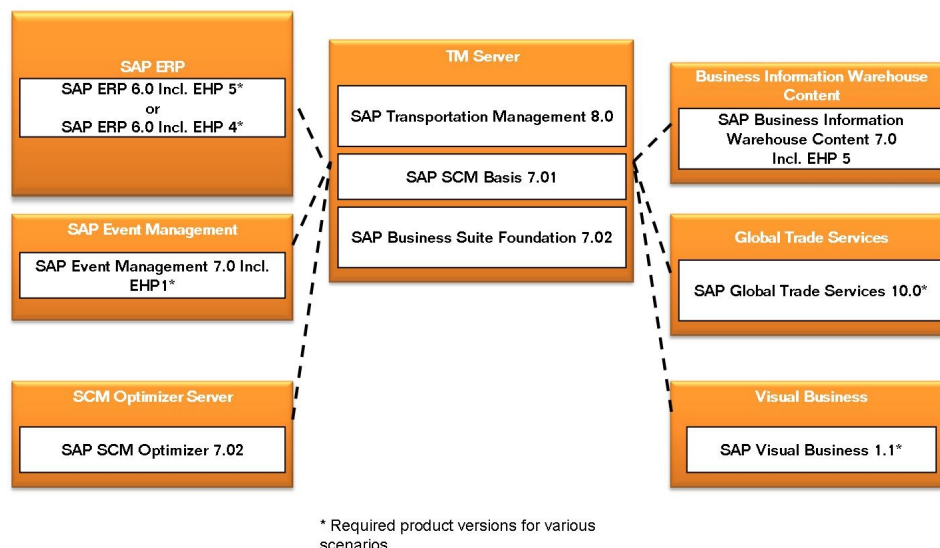


Figure 1: Possible System Landscape

We do not recommend installing all components on one host. You should distribute the components among several hosts, as shown in the diagram above. This diagram provides just one example; there are several ways to distribute the components. The distribution depends on many factors, such as sizing, security, available hardware, and so on. In practice, any distribution of components among hosts is possible.

Additional Information Regarding Printing: You need Adobe Document Services (ADS) if you want to print documents such as bills of lading. For more information, see the SAP Library for SAP NetWeaver under *Configuration of Adobe Document Services for Print Applications*.



NOTE

SAP Visual Business is a user interface for visualizing data from various sources in interactive geographical or three-dimensional applications. In Transportation Management 8.0, SAP Visual Business is used to visualize TM Data on geographical maps and provide interaction functionality (e.g. planning of transports). This provides a seamless integration of maps into the user interface of Transportation Management 8.0. Prerequisite for the usage of SAP Visual Business is an installation of a front-end client. For more information about SAP Visual Business, see the corresponding Installation and Configuration Guide on SAP Service Marketplace at <http://service.sap.com/instguides>.

Additional Information Regarding Enterprise Services

Enterprise services are shipped with SAP Transportation Management 8.0. There is one technical scenario for enterprise services:

2.5 Overall Implementation Sequence

- Using asynchronous enterprise services (TM services): To run asynchronous enterprise services, installation of an SAP NetWeaver Exchange Infrastructure (SAP NetWeaver XI) is required. Note that SAP SNC services run with an SAP ERP system for message exchange.

For more information about the installation of SAP NetWeaver, see the Master Guide for SAP NetWeaver 7.0 including enhancement package 2 on SAP Service Marketplace at <http://service.sap.com/instguides>. For more information about the required releases and support packages, see the respective sections about the business processes for SAP Transportation Management.

Setting Up the Documentation Infrastructure for Enterprise Services

SAP Transportation Management 8.0 enterprise services documentation is to be run with SAP Solution Composer, which is part of SAP Solution Manager. For more information about how to set up the documentation infrastructure for enterprise services, see SAP Note [1224284](#) (*Enterprise Services, Installing and Accessing the SOA Docu*).

2.5 Overall Implementation Sequence



CAUTION

Before you start installation, you **must** know which components and which release of these components 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 for each business process.

The following table describes the overall installation sequence for SAP Transportation Management 8.0:

Process

TM Host

Step	Action/Required Documentation	Remarks/Subsequent Steps
1	Installation of SAP NetWeaver 7.0 including enhancement package 2 SP06 – Installation Guide	For more information, see http://service.sap.com/installnw70 or http://service.sap.com/instguidesnw70 .
2	Installation of SAP Transportation Management 8.0 SP01 and higher – installation notes	For more information, see installation note 1510597 <i>Installing SAPTM 100 on NetWeaver 7.0 EHP2 and SAPTM 100 SP installation note 1556224</i> .

SCM Optimizer Host

Step	Action/Required Documentation	Remarks/Subsequent Steps
1	Installation of SAP SCM Optimizer 7.02 – Installation Guide	For more information, see installation note 1489763 <i>Importing SCM Optimizer Version 702</i> .

3 Business Processes of SAP Transportation Management

3.1 TM: Managing Transportation Requirements

Overview

This process enables companies to tightly integrate their SAP ERP system and their transportation planning and execution system. The process supports shippers by passing order information from SAP ERP to SAP Transportation Management (SAP TM), thus providing the planning system with transportation requirements at a very early stage. This enables transportation planning to take advantage of longer planning horizons, which leads to better results in the optimization process and greater flexibility in the decisions that need to be taken during transportation planning.

The SAP ERP system creates different types of orders, that is, sales orders, purchase orders, and stock transport orders, as well as the corresponding returns orders for all of these order types. The SAP TM system captures the orders as order-based transportation requirements (OTRs), based on which it creates freight units. The freight units are used as the input for planning and optimization in SAP TM. The planning results in SAP TM form the basis of delivery creation in SAP ERP. SAP TM can trigger the creation of the following deliveries:

- Outbound deliveries for sales orders, stock transport orders, returns stock transport orders, and returns purchase orders
- Returns deliveries for sales order returns
- Inbound deliveries for purchase orders

The deliveries are scheduled according to the planning results in SAP TM, thus enabling further execution to be synchronized with transportation planning.

The basic process steps (that is, transferring an order from SAP ERP to SAP TM, and creating one or more deliveries for the order) can be combined in the following ways:

- Order integration and delivery integration; SAP ERP triggers the creation of the deliveries
- Order integration and delivery integration; SAP TM triggers the creation of the deliveries
- Delivery integration without order integration; SAP ERP triggers the creation of the deliveries
- Order integration without delivery integration; SAP ERP triggers the creation of the deliveries



NOTE

In the process description, order is used as a placeholder for sales order, purchase order, stock transport order, or returns order. Delivery is used as a placeholder for outbound delivery, returns delivery, or inbound delivery.

Further Information

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.2 TM: Managing Forwarding Orders

Overview

This process enables companies to tightly integrate their SAP ERP system and their transportation planning and execution system. The process supports shippers by passing order information from SAP ERP to SAP Transportation Management (SAP TM), thus providing the planning system with transportation requirements at a very early stage. This enables transportation planning to take advantage of longer planning horizons, which leads to better results in the optimization process and greater flexibility in the decisions that need to be taken during transportation planning.

The SAP ERP system creates different types of orders, that is, sales orders, purchase orders, and stock transport orders, as well as the corresponding returns orders for all of these order types. The SAP TM system captures the orders as order-based transportation requirements (OTRs), based on which it creates freight units. The freight units are used as the input for planning and optimization in SAP TM. The planning results in SAP TM form the basis of delivery creation in SAP ERP. SAP TM can trigger the creation of the following deliveries:

- Outbound deliveries for sales orders, stock transport orders, returns stock transport orders, and returns purchase orders
- Returns deliveries for sales order returns
- Inbound deliveries for purchase orders

The deliveries are scheduled according to the planning results in SAP TM, thus enabling further execution to be synchronized with transportation planning.

The basic process steps (that is, transferring an order from SAP ERP to SAP TM, and creating one or more deliveries for the order) can be combined in the following ways:

- Order integration and delivery integration; SAP ERP triggers the creation of the deliveries
- Order integration and delivery integration; SAP TM triggers the creation of the deliveries
- Delivery integration without order integration; SAP ERP triggers the creation of the deliveries
- Order integration without delivery integration; SAP ERP triggers the creation of the deliveries

**NOTE**

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Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.3 TM: Managing Bookings

Overview

You can use this business process to create, change, and update bookings. In the booking process steps, you mainly check transportation demands and assign them to bookings, which may already exist or which you are going to create. Finally, the booking process steps include triggering deliveries, sending and receiving confirmations from the carriers, and archiving completed bookings.

**NOTE**

This business process is often carried out by the Transportation Planner role.

Further Information

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.4 TM: Managing Freight Orders

Overview

You can use this business process to create, change, and update freight orders. In the freight order process steps, you mainly check transportation demands and assign them to freight orders, which may

3.5 TM: Planning Freight and Selecting Carriers

already exist or which you are going to create. Finally, the process steps include triggering deliveries, sending and receiving confirmations from the carriers, and archiving completed freight orders.

**NOTE**

This business process is often carried out by the Transportation Planner role.

Further Information

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.5 TM: Planning Freight and Selecting Carriers

Overview

You can use this business process to create and execute the business objects that are required for driving the transportation execution process, thus enabling margin maximization.

Based on the forwarding order maintained in SAP Transportation Management (SAP TM), freight orders are created. SAP TM offers multiple tools to create and manage the planning processes like best-in-class optimization, dynamic routing and scheduling and continuous move optimization. For creating the freight orders, the system uses the transportation charges and freight agreements, considering resource, equipment, and carrier availability at the same time.

Further Information

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.6 TM: Tendering Freight

Overview

You can use this business process to send freight requests for quotation (freight RFQs) to carriers.

Carriers can accept or decline these freight requests for quotation and change data like the price when

sending the freight quotations back to you. You can then automatically accept the tendering and send the freight order back to the awarded carrier. A tendering process starts if you or the system determines more than one possible carrier. This tendering process can use a mixture of different modes of tendering (peer-to-peer or broadcast tendering). In the system, a time-out can be defined, so that the system will either tender the transportation activity to another carrier or switch from one tendering type to the next. The tendering process results in one carrier being selected for executing the freight order.

**NOTE**

This process is carried out by the Transportation Planner role.

Further Information**NOTE**

To run this process, you must also implement the relevant settings for mail processing. For more information, see SAP Library for SAP NetWeaver on SAP Help Portal at ► <http://help.sap.com> → *SAP NetWeaver* → *SAP NetWeaver 7.0 Including Enhancement Package 1* → *Functional View* → *SAP NetWeaver by Key Capability* → *Application Platform by Key Capability* → *Platform-Wide Services* → *Connectivity* → *Communication Interfaces for Mail and Telephony* → *SAPconnect (BC-SRV-COM)* → *SMTP Configuration Guide* ◀.

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.7 TM: Executing and Monitoring Freight

Overview

This process covers the actual execution of the transportation process. The transportation planner checks whether freight orders are ready for execution, the customs declaration is done, and the relevant documents are printed. If a customs process is involved, freight orders are blocked. After the GTS system has returned a positive result, the actual execution can start. In this process, the freight orders are loaded and deliveries are performed. Furthermore, it deals with the various exceptions that may occur during the execution of the transportation activities. Finally, you receive the corresponding execution information.

During the transportation execution process in SAP Transportation Management (SAP TM), you perform the following activities:

3.8 TM: Settling Freight Orders

- Print the transportation documents
- Track the status of executed activities
- Adjust freight orders that are in execution
- Receive the confirmation of the completed execution

The execution process can be integrated with other systems, for example a customs management or a warehouse management system.

Further Information

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.8 TM: Settling Freight Orders

Overview

This business process triggers the creation of a self-invoice or the verification of an invoice for subcontracted transportation services. The actual invoice verification takes place in SAP ERP. This business process ensures that the paid amounts are correct for the logistical ordering and execution process.

**NOTE**

This business process is carried out by the Carrier Settlement Specialist role.

Further Information

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

3.9 TM: Settling Forwarding Orders

Overview

This business process triggers the creation of an invoice to send to a customer when charging for transportation services. SAP ERP creates the accounting-relevant invoice and posts the revenue to

accounting. You can monitor the payment for the transportation services, and this business process ensures that the revenues are in alignment with the logistical ordering and execution process.

**NOTE**

This business process is carried out by the Customer Settlement Specialist role.

Further Information

The following documents provide more information about this process:

Content	Location
Process Description	The process description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

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4 Business Scenarios of SAP Transportation Management

Prerequisites

Before you start to configure the scenarios you have to make sure that the settings described in the following two documents are implemented:

Content	Location
Basic Settings for SAP ERP	This configuration guide is part of SAP Solution Manager implementation content ST-IC0150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Basic Settings for SAP Transportation Management	This configuration guide is part of SAP Solution Manager implementation content ST-IC0150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

4.1 International Outbound Transportation

Description

This scenario describes the freight forwarding process for transporting three twenty-foot standard dry containers for a customer from US to Germany via sea. The entire trip is managed by the freight forwarder Simon Express Corporation US and its European subsidiary Deutsche Übersee AG. In this scenario, the customer, New York Abrasives USA, delivers three twenty-foot standard dry containers containing steel parts to the forwarder's warehouse (Simon Express Corp.) at Newark USA. The containers are to be delivered to the consignee Lebensmittelgroßhandlung Meyer in Dusseldorf, Germany by sea.

Simon Express Corp. reserves the required ocean freight space with the ocean liner Europa Express and also organizes the customs clearance and drayage of the cargo to Newark Port.

Europa Express, the container shipping line, ships the containers from Newark to Rotterdam.

Once the containers reach the port of Rotterdam, Simon Express Corp.'s subsidiary in Europe organizes the customs clearance of the cargo from the port. It also organizes a trucking service for delivering the three containers to the consignee Lebensmittelgroßhandlung Meyer in Dusseldorf.

Europa Express bills the shipper for handling, ocean transport, customs and delivery services.

The scenario comprises of the following business processes:

1. Processing Transportation Requests in SAP TM
2. Booking Ocean Carriers in SAP TM

4.2 Outsourced Transportation

3. Planning Logistics and Selecting Carriers in SAP TM
4. Dispatching and Monitoring Transportation
5. Calculation and Settlement of Supplier Freight Cost
6. Managing Customer Transportation Charges in SAP TM

Technical System Landscape

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

Software Unit (Component)	Mandatory	Optional
SAP Transportation Management SAP TM 8.0	X	
SAP ERP 6.0 EHP 5	X	
SAP SCM 7.01 (Event Management)	X	
Geocoding	X	
SAP SCM 7.02 Optimizer	X	
XI Content for 7.01	X	
Highest version of SAP NetWeaver PI	X	

Software Units

For more information about software units (components), see *Software Component Matrix* [page 13].

Implementation Sequence

For more information, see *Overall Implementation Sequence* [page 16].

Further Information

The following documents provide more information about the scenario:

Content	Location
Scenario Description	The scenario description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

4.2 Outsourced Transportation

Description

You use this business scenario to manage your Outsourced Transportation process. As a Shipper you send shipments out to customers from your warehouse or Distribution Center. Basis for the deliveries is the Sales Orders. You hand over the transportation planning and execution responsibility to a third party, for example, Logistics Service Provider or Forwarding Agent.

4.2 Outsourced Transportation

In this scenario, the Shipper owns the transportation system that performs transportation optimization and passes the results to the Forwarding Agent to perform transportation activities on his behalf, ending up outsourcing all transportation activities to the Agent.

Having integrated SAP Enterprise Resource Management (ERP), SAP Transportation Management (TM), and SAP Event Management (EM), you can

- Accomplish Integrated and Automated Sales Order based planning, Carrier Selection and Tendering – Order changes are propagated automatically to the Transportation System
- Breaking down Transportation Requirements to transportable Freight Units
- Distribute Planning responsibility to people with regional expertise (stage level planning)
- Reduce work effort by planning via the optimizer
- Perform carrier selection based on actual costs
- Perform automatic tendering where the system responds to RFQ responses automatically by triggering the follow-up activities based on tendering profiles
- Manage incompatibilities between carriers and orders
- Increase visibility and monitoring of Shipments during execution at all times for different roles using the Event Manager

The business processes run as follows:

- Sales Order Processing
- TM: Managing Transportation Requirements
- TM: Planning Freight and Selecting Carriers
- TM: Tendering Freight
- TM: Executing and Monitoring Freight
- TM: Settling Freight Orders
- Verifying Logistics Invoices Online
- Processing Evaluated Receipt Settlement (ERS) in ERP
- TM: Managing Freight Orders

Technical System Landscape

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

Software Unit (Component)	Mandatory	Optional
SAP Transportation Management SAP TM 8.0	X	
SAP ERP 6.0 EHP 5	X	
SAP SCM 7.01 (Event Management)		X
SAP SCM Basis 7.01 Incl. EHP 1	X	
SAP Visual Business 1.1		X
Highest Version of SAP NetWeaver PI	X	

Software Units

For more information about software units (components), see *Software Component Matrix* [page 13].

Implementation Sequence

For more information, see *Overall Implementation Sequence* [page 16].

Further Information

The following documents provide more information about the scenario:

Content	Location
Scenario Description	The scenario description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

4.3 International Inbound Logistics (Chemicals)

Description

The International Inbound Logistics (Chemicals) scenario comprises the following business processes:

1. Managing Transportation Requirements
2. Managing Bookings
3. Planning Freight and Selecting Carriers
4. Managing Transportation Requirements
5. Executing and Monitoring Freight
6. Settling Freight Orders

Technical System Landscape

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

Software Unit (Component)	Mandatory	Optional
SAP Transportation Management SAP TM 8.0	X	
SAP ERP 6.0 EHP 5	X	
SAP SCM 7.01 (Event Management)		X
SAP Visual Business 1.1		X
Highest Version of SAP NetWeaver PI		X

Software Units

For more information about software units (components), see *Software Component Matrix* [page 13].

Implementation Sequence

For more information, see *Overall Implementation Sequence* [page 16].

Further Information

The following documents provide more information about the scenario:

Content	Location
Scenario Description	The scenario description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

4.4 Domestic Inbound Transportation (Automotive)

Description

The Domestic Inbound Transportation (Automotive) scenario comprises of the following business processes:

1. Managing Transportation Requirements
2. Planning Freight and Selecting Carrier
3. Tendering Freight (optional)
4. Managing Freight Orders
5. Executing & Monitoring Freight (optional)
6. Settling Freight Orders

Technical System Landscape

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

Software Unit (Component)	Mandatory	Optional
SAP Transportation Management SAP TM 8.0	X	
SAP ERP 6.0 EHP 5	X	
SAP SCM 7.01 (Event Management)		X
SAP Visual Business 1.1		X
SAP NW 7.0 BI CONT ADDON 7.05		X
Highest version of SAP NetWeaver Process Integration		X

Software Units

For more information about software units (components), see *Software Component Matrix* [page 13].

Implementation Sequence

For more information, see *Overall Implementation Sequence* [page 16].

Further Information

The following documents provide more information about the scenario:

4.5 Domestic Outbound Transportation (Food)

Content	Location
Scenario Description	The scenario description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

4.5 Domestic Outbound Transportation (Food)

Description

This scenario is used by a shipper who wants to manage their domestic outbound freight. The shipper will either be a distributor or manufacturer of their own products and distributes them through their network of plants, distribution centers, and possibly, third party warehouse operations.

The shipper has a logistics organization which is responsible for the timely, cost effective, and efficient transportation of their products between and from their facilities to the end customer (i.e. prepaid).

In some cases, they may also be responsible for certain portions of the transportation operations for customer-arranged freight (i.e. collection).

The scenario comprises the following business processes:

1. Managing Transportation Requests
2. Planning Freight and Selecting Carriers
3. Tendering Freight
4. Executing and Monitoring Freight
5. Settling Freight Orders

Technical System Landscape

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

Software Unit (Component)	Mandatory	Optional
SAP Transportation Management SAP TM 8.0	X	
SAP ERP 6.0 EHP 5	X	
SAP SCM 7.01 (Event Management)		X
SAP Visual Business 1.1		X
Highest Version of SAP NetWeaver PI		X

Software Units

For more information about software units (components), see *Software Component Matrix* [[page 13](#)].

Implementation Sequence

For more information, see *Overall Implementation Sequence* [[page 16](#)].

Further Information

The following documents provide more information about the scenario:

Content	Location
Scenario Description	The scenario description is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .
Configuration Documentation	The configuration documentation is part of SAP Solution Manager implementation content ST-IC0 150_700 SP28. For more information about SAP Solution Manager, see http://service.sap.com/solutionmanager .

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5 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 SAP Service Marketplace at <http://service.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, Software Lifecycle Manager, see the current Master Guide and Upgrade Master Guide for SAP NetWeaver on SAP Service Marketplace at <http://service.sap.com/installnw70> and <http://service.sap.com/upgradenw70>.

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