

SAP Supply Chain Management 7.0 Including SAP Enhancement Package 1[®]

Using SAP SCM 7.0 including SAP enhancement package 1, SAP ERP 6.0, and SAP NetWeaver[®] 7.0 including SAP enhancement package 2

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Documentation on the SAP Service Marketplace

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

Typographic Conventions

Table 1

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
Example ➤	Textual cross-references to an internet address, for example, 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 ➤
Example	<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 service.sap.com/instguides .

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

Table 2

Version	Date	Description
1.0	2010-12-20	New Version
1.1	2010-12-20	Correction in section <i>Enhancement Package Implementation</i>
1.2	2011-05-23	Miscellaneous corrections, including the following: <ul style="list-style-type: none">• Update of section <i>Important SAP Notes</i>• Update of section <i>List of SAP Notes</i>• Update of section <i>System Landscape</i>• Deletion of the section <i>Main SAP Documentation Types</i>
1.3	2011-11-07	Miscellaneous corrections, including the following: <ul style="list-style-type: none">• Update of the section <i>Business Processes of SAP SCM</i> (guide locations corrected)• Update of title
1.4	2012-04-24	Update of the section <i>List of Documents</i> (reference to Software Update Manager added)
1.5	2015-07-16	Update of the section <i>SAP liveCache (SCM LC)</i>
1.6	2015-08-02	Update of the following sections: <ul style="list-style-type: none">• <i>About this Document</i> and <i>Software Component Matrix</i> (reference to the <i>Scenario Component List Viewer</i> removed)• <i>Important SAP Notes</i> (new note added)• <i>Media List</i>
1.7	2016-04-27	Updated links in the following sections: <ul style="list-style-type: none">• <i>Important SAP Notes</i>• <i>Overall Implementation</i>• <i>Related Information</i>• <i>SAP Solution Manager</i>

Content

1	Getting Started	9
1.1	About this Document	9
1.2	Related Information	10
1.3	Important SAP Notes	12
2	SAP Supply Chain Management Overview	13
2.1	Software Units of SAP Supply Chain Management	13
	Application Components	13
	Technology Components	15
2.2	Enhancement Package Key Concept	16
2.3	Key Facts About Enhancement Packages	17
2.4	Enhancement Package Implementation	18
2.5	Software Component Matrix	19
2.6	System Landscape	24
2.7	Overall Implementation Sequence	25
2.8	Integration of SAP BusinessObjects	27
3	Business Processes of SAP SCM	29
3.1	Demand and Supply Planning	30
	Customer Forecast Management	30
	Demand Planning & Forecasting	31
	Vendor-Managed Inventory	33
	Safety Stock Planning	34
	Distribution Planning	35
	Supply Network Planning	36
3.2	Transportation	40
	Transportation Planning	40
3.3	Service Parts Planning	40
	Parts Forecasting	41
	Stocking List Determination	41
	Safety Stock Calculation	42
	Distribution Requirements Planning	42
	Pull Deployment	43
	Inventory Balancing	44
	Parts Monitoring	44
	OEM-Managed Inventory	45
3.4	Available to Promise	46
	Availability Check	46
	Backorder Processing	47
3.5	Production Planning and Detailed Scheduling (PP/DS)	48
	Production Scheduling with Capacity Reservation	48
	MRP-Based Detailed Scheduling	49
	Production Scheduling with Tank Planning	49
	Production Scheduling with Resource Networks	52

3.6	Order Fulfillment	53
	Sourcing	53
	Supersession	54
3.7	Manufacturing (Planning & Operations)	54
	Production Planning (Process Manufacturing)	55
	Production Planning (Discrete Manufacturing)	57
	Production Planning (Repetitive Manufacturing)	60
	Production Scheduling	63
	Manufacturing Execution	67
	Cross-Location Planning with PP/DS	71
	Replenishment Planning in PP/DS	71
3.8	Procurement	72
	Purchase Order Processing for Service Parts	72
	Release Processing for Service Parts	73
4	Solution-Wide Topics	74
4.1	SAP Solution Manager	74
4.2	Extended Implementation Content in SAP Solution Manager	74
4.3	Service-Oriented Architecture (SOA)	75
	Service Enablement	75
	Installation of the Service-Oriented Architecture (SOA)	77
	Related Documentation	78
A	Appendix	79
A.1	Implementable Steps	79
	Implementable Steps in SAP Solution Manager	79
A.2	Tools and Resources for Planning Your System Landscape	84
	Business Process Repository (BPR) Viewer	85
	Using the BPR Viewer	86
A.3	List of Documents	86
A.4	List of SAP Notes	87
A.5	Media List	88




1 Getting Started

1.1 About this Document

This SAP SCM Master Guide provides a central starting point for the technical implementation of SAP SCM. It contains all the information for the implementation of SAP SCM business processes.

To facilitate the implementation process, this document is organized by business processes and business process groups. You can choose from among several generic business processes and find all the information that is relevant for the technical implementation of a specific business process in that section.

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 service.sap.com/instguides .

Information in the Master Guide

Use the Master Guide to get a technical overview of SAP SCM and its processes. The Master Guide is a planning tool that helps you to design your system landscape and refers you to more detailed documentation such as the following:

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

For a general overview of the available SAP documentation, see *The Main SAP Documentation Types* in the *Appendix*.

Content

Below is a summary of the sections of this guide that you can refer to during the implementation of the business processes.

- The *Getting Started* contains valuable information about using this document and related information (documentation and SAP Notes) crucial to the installation and upgrade.
- [SAP Supply Chain Management Overview \[page 13\]](#)
 - The *Software Component Matrix* provides the information about which business processes use which component and whether the corresponding component is mandatory or optional.
 - *System Landscape* provides an overview of a possible system landscape and also provides installation information.
- [Business Processes of SAP SCM \[page 29\]](#) contains the following information for each business process:
 - A short overview of the business process
 - A software component matrix for each business process that shows which components the business process uses and whether the component is mandatory or optional
 - References to further information about the business process

- [Solution-Wide Topics \[page 74\]](#) provides information about SAP Solution Manager.
- Depending on the specific business process, different installation and master guides are required during the business process implementation. In *Appendix*, you can find an overview of all required documentation referenced in this Master Guide.

i Note

You can find the most current information about the technical implementation of SAP SCM and the latest installation and configuration guides on SAP Service Marketplace at service.sap.com/instguides.

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

Constraints

- The business processes that we present here serve as examples of how SAP software can be used. They are only intended as models and do not necessarily operate as we describe them in your customer-specific system landscape. Check your requirements and systems to determine whether these processes can be used at your site and be sure to test all processes thoroughly to ensure that they work as desired in your environment.
- This Master Guide primarily discusses the overall technical implementation of SAP SCM 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

Planning Information and Further Useful Links

The following list contains links to crucial information for implementing SAP SCM.

Table 3: Planning Information and Further Useful Links

Content	Location
Latest version of installation and upgrade guides for SAP components	service.sap.com/instguides
General information about SAP SCM	service.sap.com/scm
SAP Business Maps – information about applications and business scenarios	service.sap.com/businessmaps
Sizing, calculation of hardware requirements – such as CPU, disk and memory resource – with the Quick Sizer tool	service.sap.com/quicksizer
Released platforms and technology-related topics such as maintenance strategies and language support	service.sap.com/platforms
Platform Availability Matrix	support.sap.com/pam
Information about network security – SAP Security Guides	service.sap.com/securityguide

Content	Location
Information about high availability	www.sdn.sap.com/irj/sdn/netweaver ➔
Performance	service.sap.com/performance ➔
Information about Support Package Stacks, latest software versions and patch level requirements	support.sap.com/sp-stacks ➔
Information about Unicode technology	www.sdn.sap.com/irj/sdn/i18n ➔
Information about SAP Notes	support.sap.com/notes ➔
Information about creating error messages	support.sap.com/incident ➔
SAP Software Distribution Center (software download and ordering of software)	support.sap.com/swdc ➔
SAP Online Knowledge Products (OKPs) – role-specific Learning Maps	service.sap.com/rkt ➔
Documentation on SAP Help Portal	help.sap.com ➔

Related Master Guides

This Master Guide is based on Component Master Guides. The documents listed below contain detailed information about the relevant components:

Table 4: List of Related Master Guides

Content	Location
SAP NetWeaver 7.0	► service.sap.com/instguides ➔ ► SAP NetWeaver ► SAP NetWeaver 7.0 (2004s) ► Installation ► Master Guide ►
SAP ERP 6.0	► service.sap.com/instguides ➔ ► SAP Business Suite Applications ► SAP ERP ► SAP ERP 6.0 ► Installation ► Master Guide ►
SAP EWM 7.0 including SAP enhancement package 1	► service.sap.com/instguides ➔ ► SAP Business Suite Applications ► SAP SCM ► SAP EWM ► Using SAP enhancement package 1 for SAP EWM 7.0 ► Master Guide ►
SAP SNC 7.0 including SAP enhancement package 1	► service.sap.com/instguides ➔ ► SAP Business Suite Applications ► SAP SCM ► SAP SNC ► Using SAP enhancement package 1 for SAP SNC 7.0 ► Master Guide ►
SAP Event Management 7.0 including SAP enhancement package 1	► service.sap.com/instguides ➔ ► SAP Business Suite Applications ► SAP SCM ► SAP EM ► Using SAP enhancement package 1 for SAP EM 7.0 ► Master Guide ►
SAP CRM 7.0 including SAP enhancement package 1	► service.sap.com/instguides ➔ ► SAP Business Suite Applications ► SAP CRM ► SAP CRM 7.0 including SAP enhancement package 1 ► Master Guide ►

Content	Location
Industry Upgrade Master Guides	► service.sap.com/instguides ► <i>Industry Solutions</i> ► <i>Industry Solution Guides</i> ►

1.3 Important SAP Notes

This section contains important SAP Notes for SAP SCM.

Caution












Read the SAP Installation Notes before you start the installation. These notes contain the most recent information about the installation, as well as changes 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 support.sap.com/notes.

Note

As of software provisioning manager 1.0 SP07 (SL Toolset 1.0 SP12), the term “product instance” replaces the term “usage type” for SAP systems based on SAP NetWeaver 7.3 including enhancement package 1 and higher. There is no terminology change for older releases and the mentioned terms can be used as synonyms.

Table 5

SAP Note Number	Title
836200 	SAP NetWeaver 7.0: Importing process integration content
915367 	TDL: Automatic activation of the transaction data
1115322 	Restriction for Availability Check and Backorder Services
1152640 	SAP NetWeaver 7.1 including EHPs: Importing ESR
1224284 	Enterprise Services Bundles – Required Technical Usages and Business Functions (This note lists business-related grouping of Enterprise Services.)
1320498 	Installation / Upgrade SCM_BASIS 701
1330450 	Implementing SCM Optimizer Version 7.01
1371027 	Missing TERM and GLOSSARY Texts in ERP60x Products
1388258 	Version Interoperability within the SAP Business Suite
1515223 	SAP NetWeaver Process Integration: Release Recommendation
1574235 	SAP NetWeaver 7.3: Import of ESR content

2 SAP Supply Chain Management Overview

SAP Supply Chain Management (SAP SCM) can help your organization transform a linear supply chain into an adaptive supply chain network that enables you to access the knowledge and resources of your peers, to quickly adapt to changing market conditions, and to remain customer-focused.

SAP SCM enables adaptive supply chain networks by providing companies with planning and execution capabilities for managing enterprise operations. In addition, SAP SCM provides companies with coordination and collaboration technology to extend their operations beyond corporate boundaries. These capabilities are summarized below.

- **Supply Chain Planning and Collaboration**

SAP SCM enables you to model your existing supply chain, to set goals, and to forecast, optimize, and schedule time, materials, and other resources. Supply chain planning functionality enables you to maximize your return on assets and to ensure a profitable match of supply and demand.

- **Supply Chain Execution**

SAP SCM enables you to carry out supply chain planning in an efficient and cost effective manner. With SAP SCM, you can easily monitor and respond to demand by using a supply chain network in which distribution, transportation, and logistics are integrated into real-time planning processes.

- **Supply Chain Visibility Design and Analytics**

By giving you visibility across your extended supply chain, SAP SCM allows you to perform strategic as well as day-to-day planning. It also enables collaboration and analytics, so you can monitor and analyze the performance of your extended supply chain.

2.1 Software Units of SAP Supply Chain Management

This section provides additional information about the most important software components of SAP SCM.

i Note

Specific business processes only require a subset of these components. For a process-specific overview of components, see the section [Business Processes of SAP SCM \[page 29\]](#).

2.1.1 Application Components

2.1.1.1 SAP Supply Chain Management Server (SAP SCM Server)

SAP Supply Chain Management Server (SAP SCM Server) is part of the SAP Supply Chain Management application suite. 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 to improve customer service and order fulfillment.

Embedded SAP BI

SAP SCM Server is shipped with an embedded SAP enhancement package 1 for SAP NetWeaver 7.0 usage type BI (SAP BI) that, together with SAP liveCache, enhances the performance of forecasting and replenishment tasks.

i Note

SAP SCM Server uses the embedded SAP BI architecture to plan for technical reasons (such as using info cubes), that is, the SAP BI embedded in SAP SCM Server is not meant to be used for reporting purposes of your company.

2.1.1.2 SAP SCM Optimizer

The component SAP SCM Optimizer offers optimization engines for most of the SCM applications:

You can use SAP SCM Optimizer for Detailed Production Scheduling, Supply Network Planning, Supply Demand Matching, Transportation Planning and Vehicle Scheduling, and Sequencing.

For SNP, PP/DS and the automotive solution the optimizers are optional planning methods.

The optimizers are tightly integrated into the application and work without any own persistence.

Integration is administrated via the Remote-Control & Communication-Framework.

Each optimizer is working with a specialized algorithm to get the best possible planning results for the different applications.

SAP has developed an innovative and flexible APS optimization solution, which opens SAP SCM's advanced planning and scheduling capabilities to an external optimization technology:

The Optimization Extension Workbench. It is part of the SCM Server and allow the customer to integrate own optimization engines in parallel to the SAP Optimizer.

2.1.1.3 SAP ERP 6.0

Product instance SAP ERP 6.0 – SAP ECC Server (SAP ERP Central Component) consists of product version SAP ECC 6.0. It is the central component of SAP ERP 6.0 and is the successor component of SAP ECC 5.0, and the successor of the former SAP R/3 releases. For more information, see the ERP Master Guide on SAP Service Marketplace at ► service.sap.com/instguides ► *SAP Business Suite Applications* ► *SAP ERP* ► *SAP ERP 6.0* ► *Planning* ►.

2.1.1.4 SAP Supply Network Collaboration (SAP SNC)

SAP Supply Network Collaboration (SAP SNC) is an application that supports participants in a complex supply chain network to collaborate efficiently with each other. SAP SNC supports, among other things, the management

of inventories by suppliers and customers, timely shipments of replenishments, and advanced shipping notification and invoice creation. It also supports forecasting processes and work order collaboration.

2.1.2 Technology Components

2.1.2.1 SAP NetWeaver Usage Type PI

Based on a native Web infrastructure that leverages open standards, SAP NetWeaver Process Integration (SAP PI) makes it possible to manage the broad diversity of highly heterogeneous components from a multitude of vendors and to run in various technological environments. The integration capabilities capture shared business semantics and act as a mediator between the services and their technical implementations. It includes technical functions, such as Web service discovery, queuing, mapping, and routing. It also establishes an infrastructure for business process management and high-performance execution within and across organizational boundaries.

Exchange-based process integration removes the problems of direct connections by extracting shared collaboration knowledge. These shared business semantics ease the integration of both external and internal components. Instead of directly coding point-to-point interfaces for each new component, the exchange infrastructure allows instant plug-in of new components. This provides the flexibility needed in today's fast-changing business world, and it reduces integration costs compared to the direct connection approach.

2.1.2.2 SAP liveCache (SCM LC)

SAP liveCache for SAP SCM

SAP liveCache ensures the highest SAP SCM performance. SAP liveCache is SAP's state-of-the-art memory-based computing technology for real-time, high-speed processing of large data volumes in Supply Chain Management.

You have the following options to install the SAP liveCache:


1. SCM Server is installed on a (non-HANA) database, while SAP liveCache (based on MaxDB technology) is installed on a separate server. This configuration is called "external liveCache".
2. SCM Server is installed on the SAP HANA database with the HANA integrated liveCache. SCM Server and SAP liveCache are running on the same database instance.

As of SCM 7.14, the configuration "SCM Server on HANA with an external liveCache" is no longer supported for new installations. Upgrades from previous SCM EhPs based on this configuration are still supported.

➔ Recommendation

We strongly recommend you to use liveCache integrated in SAP HANA database as it will grant you the following advantages compared to using external liveCache:

- Lower TCO
- Simplified backup and recovery
- Changes to SQL data and liveCache objects are handled by common transactions
- Significantly better performance

For more information about liveCache technology infrastructure, requirements, and performance recommendations, see SAP Service Marketplace at service.sap.com/scm .

LCA Routines for SAP SCM

ABAP programs and SAP APO optimizers use native SQL for communicating through the standard SAP database interface to liveCache. SAP liveCache has an SQL interface that is used to communicate with the SAP instances. With native SQL, ABAP programs call stored procedures in the SAP liveCache that point to Component Object Model (COM) routines written in C++. An SQL class provides access from the LCA routines (formerly known as COM routines) to the SQL data. The LCA routines are part of a dynamic link library that runs in the process context of the SAP liveCache instance. The LCA routines have direct access to the objects stored in the SAP liveCache and can change them. This includes creation and deletion of objects in the SAP liveCache.

2.2 Enhancement Package Key Concept

We have adapted our major release strategy to better fit your adoption cycle. To ensure that you benefit from new developments and innovations while minimizing the impact on your core operational systems, SAP uses enhancement packages to speed up the delivery of new functions.

With SAP enhancement packages, you can install and activate new functions depending on your business needs without having to perform a system upgrade.

Implementation

There are three different scenarios to implement an enhancement package:

- Installation of an enhancement package on an existing SAP system
- New installation of an SAP system including an enhancement package
- Upgrade of an SAP system including an enhancement package

The installation process of enhancement packages consists of two different steps:

- Technical installation of an enhancement package
- Activation of new functions using the switch framework technology

From a business point of view, functional enhancements are grouped into business functions (BFs). The technical installation of the business functions does not change the system behavior. The new functions are available in the system, but are not active. After the installation, no user interface or process change takes place. You must explicitly activate new functions so that they become visible in the system. As a result, changes are predictable and there are no side effects as only the activated areas change.

With the switch framework technology (transaction SFW5), it is possible to control the activation of new SAP objects in ABAP-based SAP systems. The activation process triggers a background job that automatically performs all changes in the SAP system.



Caution

You cannot reverse most business function once they are activated. Due to technical restrictions, only a limited number of business functions are reversible.

After you have activated a business function, you can see the changes and new developments in the SAP system, for example:

- Menu entries

- New screens
- New fields on the application user interfaces
- IMG activities required for the implementation
- New table entries in Customizing tables and system tables

You can create a transport request with the current settings of the switch framework. You can check functional changes and the impact of an activated business function in advance in the business function documentation.

➔ Recommendation

Test the installation and activation on a sandbox system.

Maintenance

SAP enhancement packages have Support Packages of their own that are equivalent to the Support Package versions of the underlying SAP system. We highly recommend installing the enhancement package in combination with the latest available Support Package stack. This approach reduces installation, modification adjustment, and testing effort. Using this strategy, you can install SAP enhancement packages as a normal maintenance activity together with Support Package stacks.

An enhancement package requires a specific Support Package stack level in the source release SAP system. If the SAP system is on a lower Support Package stack level, all relevant Support Package stacks are automatically included into the download queue, as well as the latest available Support Packages for the enhancement package.

Tools

The enhancement package installation requires the following tools:

- SAP Solution Manager Maintenance Optimizer
- Installation or upgrade tools (depending on your scenario)

The SAP Solution Manager Maintenance Optimizer (transaction `DSWP`) supports the download of a consistent queue that includes all necessary support packages and enhancement packages. In addition, SAP Solution Manager calculates a valid import queue for the selected SAP system and generates the enhancement package stack configuration file that you require for the installation.

For the new installation of an SAP system including an enhancement package, you use the standard installation tool (`SAPinst`).

To install an enhancement package on an existing SAP system, you use the Software Update Manager (`SUM`).

2.3 Key Facts About Enhancement Packages

The following list summarizes important facts about the enhancement package concept and recommended approaches:

- SAP enhancement packages are cumulative, meaning that each new enhancement package includes new innovations of its own as well as all innovations delivered with prior packages.
- We recommend installing the latest available enhancement package version.
- Install enhancement packages and Support Packages in one single step (this includes the preconditioned Support Packages).
- SAP enhancement packages have Support Packages of their own that are equivalent to the Support Package versions of the underlying SAP system.

- SAP enhancement packages have the same maintenance period as the underlying core application.
- The installation of an enhancement package is irreversible.
- As long as you do not activate a business function, the installation of an enhancement package has no impact on existing business processes or user interfaces.

You can only activate business functions in ABAP-based systems, not in Java-based SAP systems.

- The activation of most business functions and extension sets is irreversible. Only a small number of business functions is reversible.

Test the installation process and activation of new functions in advance on a sandbox system. Ensure that you evaluate the runtime and the SAP system behavior, its dependencies and impacts. Make sure that your SAP system is free of errors before going live.

2.4 Enhancement Package Implementation

In the following, you will find an overview of the steps involved in the three different enhancement package implementation scenarios.

Process

Enhancement Package Installation in an Existing SAP System

Process

1. You find out, which of the new functions are interesting for your business.
2. You analyze the landscape dependencies.
3. You identify the enhancement package you want to install.
4. You make sure that you have set up your SAP Solution Manager system for the download of packages and that the Maintenance Optimizer is configured.
5. You download the installation queue.
6. You perform the installation.
7. You analyze the impact of the business function activation with the dependency analyzer and impact analyzer (transaction SFW5).
8. You activate the business functions.
9. You perform additional Customizing, if necessary.
10. You test the new functions.

Tools

- SAP Solution Manager Maintenance Optimizer (mandatory)
- Software Update Manager (SUM)
- Switch framework with Dependency Analyzer and Impact Analyzer in SAP Solution Manager (transaction SFW5)

New Installation of an SAP System with Enhancement Packages

Process

1. You install the SAP system. This includes the installation of the enhancement package.
2. You activate the business functions using the switch framework (transaction SFW5).
3. You perform the Customizing for the SAP system.
4. You test the SAP system.

Tools

- Standard Installation tool `SAPinst`
- Switch framework with Dependency Analyzer and Impact Analyzer in SAP Solution Manager (transaction SFW5)

Upgrade to an SAP System Including an Enhancement Package Installation

Process

1. You plan the upgrade to the new release.
If you want to include Support Package stacks in your release upgrade, you require the SAP Solution Manager Maintenance Optimizer. Make sure that you have set up an SAP Solution Manager system and configured the Maintenance Optimizer for the download of the Support Packages.
2. You perform the upgrade to the new release. The upgrade includes the enhancement package.
3. You activate the business functions using the switch framework (transaction SFW5).
4. You perform the delta Customizing for the SAP system.
5. You test the SAP system.

Tools

- Standard upgrade tools: SAPup for the ABAP stack, SAPJup for the Java stack
- SAP Solution Manager Maintenance Optimizer

2.5 Software Component Matrix

This section provides an overview of the components that are used by each SAP SCM business process.

Note

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

Table 6

SAP SCM Business Processes		Software Component								
		Key: X = mandatory; (X) = optional								
Process Group	Business Process	SAP SCM Server 7.0	SAP enhancement package 1 for SAP SCM 7.0	SAP liveCache 7.0	SAP SCM Optimizer 7.0	SAP ERP 6.0	SAP NW 7.02 usage type BI	SAP NW 7.02 usage type PI	SAP CRM 7.0	SAP SNC 7.0
Demand and Supply Planning	Customer Forecast Management	X		X						
	Demand Planning & Forecasting	X	(X)	X			(X)			
	Forecast Release and Consumption for Variant Configuration	X		X		(X)				
	Vendor-Managed Inventory	X		X	(X)	X				
	Safety Stock Planning	X		X						
	Distribution Planning	X		X	(X)					
	Supply Network Planning Heuristic	X		X						
	Supply Network Optimization	X		X	X					
	Multilevel Demand and Supply Match	X	(X)	X	X					
	Characteristics-Based CTM	X		X		(X)				
Transportation	Transportation Planning	X		X	(X)					
Services Parts Planning	Parts Forecasting	X		X		(X)	X		(X)	
	Stocking List Determination	X		X						
	Safety Stock Calculation	X		X						

SAP SCM Business Processes		Software Component								
		Key: X = mandatory; (X) = optional								
Process Group	Business Process	SAP SCM Server 7.0	SAP enhancement package 1 for SAP SCM 7.0	SAP liveCache 7.0	SAP SCM Optimizer 7.0	SAP ERP 6.0	SAP NW 7.02 usage type BI	SAP NW 7.02 usage type PI	SAP CRM 7.0	SAP SNC 7.0
	Distribution Requirements Planning	X		(X)		X		(X)		
	Pull Deployment	X		(X)		(X)				
	Inventory Balancing	X		(X)		X				
	Parts Monitoring	X		X		(X)	X		(X)	X
	OEM-Managed Inventory	X		X		X	X			
ATP	Availability Check	X		X						
PP/DS	Production Scheduling with Capacity Reservation	X		X	(X)	(X)				
	MRP-Based Detailed Scheduling	X		X	(X)	X				
	Production Scheduling with Tank Planning	X		X	X	(X)				
	Production Scheduling with Resource Networks	X		X	(X)	(X)				
Order Fulfillment	Sourcing	X		X		(X)				
	Supersession	X		X		(X)				
Manufacturing (Planning & Operations)	Production Planning (Process Manufacturing) MTS in SCM	X		X	(X)	(X)				

SAP SCM Business Processes		Software Component								
		Key: X = mandatory; (X) = optional								
Process Group	Business Process	SAP SCM Server 7.0	SAP enhancement package 1 for SAP SCM 7.0	SAP liveCache 7.0	SAP SCM Optimizer 7.0	SAP ERP 6.0	SAP NW 7.02 usage type BI	SAP NW 7.02 usage type PI	SAP CRM 7.0	SAP SNC 7.0
	Production Planning (Process Manufacturing) MTO in SCM	X		X	(X)	(X)				
	Production Planning (Discrete Manufacturing) MTS in SCM	X		X	(X)	(X)				
	Production Planning (Discrete Manufacturing) MTO in SCM	X		X	(X)	(X)				
	Production Planning (Discrete Manufacturing) CTO in SCM	X		X	(X)	(X)				
	Production Planning (Discrete Manufacturing) ETO in SCM	X		X	(X)	(X)				
	Production Planning (Repetitive Manufacturing) MTS in SCM	X		X	(X)	(X)				
	Production Planning (Repetitive Manufacturing) MTO in SCM	X		X	(X)	(X)				
	Production Planning (Repetitive Manufacturing) MTO in SCM	X		X	(X)	(X)				
	Production Planning (Repetitive Manufacturing) MTO in SCM	X		X	(X)	(X)				

SAP SCM Business Processes		Software Component								
		Key: X = mandatory; (X) = optional								
Process Group	Business Process	SAP SCM Server 7.0	SAP enhancement package 1 for SAP SCM 7.0	SAP liveCache 7.0	SAP SCM Optimizer 7.0	SAP ERP 6.0	SAP NW 7.02 usage type BI	SAP NW 7.02 usage type PI	SAP CRM 7.0	SAP SNC 7.0
	Manufacturing) CTO in SCM									
	Production Scheduling (Manual Scheduling)	X		X	X					
	Production Scheduling with Scheduling Heuristics	X		X	X					
	Production Scheduling Optimization	X		X	X					
	Production Scheduling with Block Planning	X		X	(X)					
	Production Scheduling with Production Campaigns	X		X	(X)					
	Manufacturing Execution (Process Manufacturing)	(X)		(X)		X				
	Manufacturing Execution (Discrete Manufacturing)	(X)		(X)		X				
	Manufacturing Execution (Repetitive Manufacturing)	(X)		(X)		X				

SAP SCM Business Processes		Software Component								
		Key: X = mandatory; (X) = optional								
Process Group	Business Process	SAP SCM Server 7.0	SAP enhancement package 1 for SAP SCM 7.0	SAP liveCache 7.0	SAP SCM Optimizer 7.0	SAP ERP 6.0	SAP NW 7.02 usage type BI	SAP NW 7.02 usage type PI	SAP CRM 7.0	SAP SNC 7.0
	Cross-Location Planning with PP/DS	X		X		(X)				
	Replenishment Planning in PP/DS	X		X		(X)				
Procurement	Purchase Order Processing for Service Parts	X				X		X		X
	Release Processing for Service Parts	X				X		X		X

2.6 System Landscape

Possible System Landscape

The following figure provides an overview of a possible system landscape for the business processes of SAP SCM.

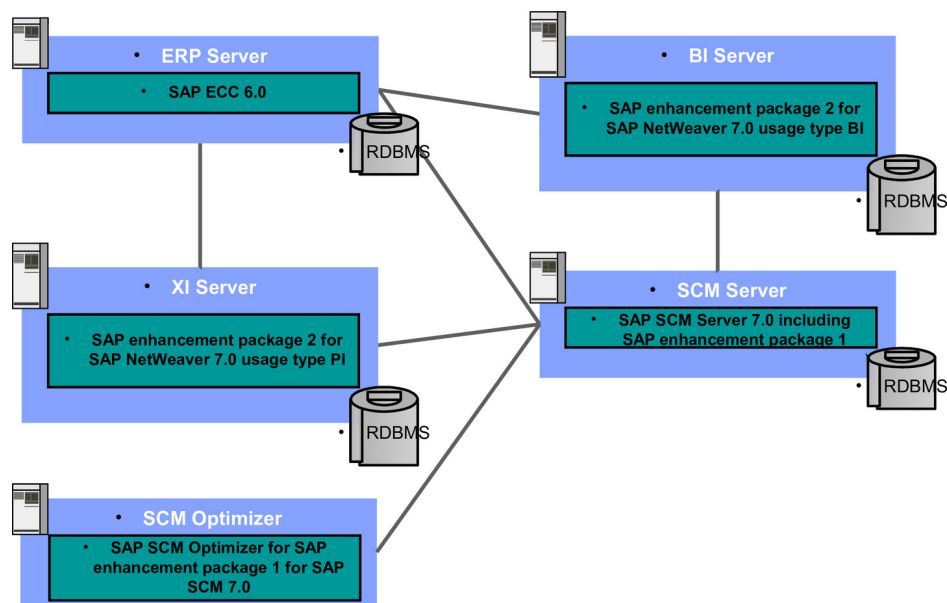


Figure 1: System Landscape

1 Note

All processes described in this Master Guide can run with SAP NetWeaver 7.0 usage type PI or higher. For more information about higher PI releases, see SAP Note [1515223](#).

➔ Recommendation

We do not recommend installing all components on one host. Instead, you can distribute the components among several hosts, as displayed in the figure above. The figure represents one of several ways of distributing 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.

➔ Recommendation

Before you start the installation, ensure that you know which components are required for the business process you plan to use. For more information about the required components, see the software component matrix for each business process.

Remark Regarding SAP Identity Management

For an overview of the planning and installation information necessary for implementing SAP NetWeaver Identity Management, see the Installation Overview available on the SAP Help Portal at [help.sap.com/nw71](#) > [SAP NetWeaver Identity Management 7.1](#).

2.7 Overall Implementation Sequence

The following tables show the installation sequence for the different servers and point you to detailed information about each one.

Process

Table 7

Step	Action	Documentation
1	Installation of SAP ERP 6.0	For more information, see the SAP ERP Installation Guide on SAP Service Marketplace at ▶ service.sap.com/instguides ▶ <i>SAP Business Suite Applications</i> ▶ <i>SAP ERP</i> ▶ <i>SAP ERP 6.0</i> ▶ <i>Installation</i> ▶.
2	Installation of SAP SCM Server 7.0 including SAP enhancement package 1	For more information, see the SAP SCM Installation Guide on SAP Service Marketplace at ▶ service.sap.com/instguides ▶ <i>SAP Business Suite Applications</i> ▶ <i>SAP SCM</i> ▶ <i>SAP SCM Server</i> ▶ <i>Using SAP enhancement package 1 for SAP SCM 7.0 Server</i> ▶.
3	Installation of SAP NetWeaver 7.0 usage type PI	For more information, see service.sap.com/installNW70 ▶.
4	Installation of XI Content for SAP SCM 7.0 including SAP enhancement package 1	For more information, see SAP Note 836200 ▶. You can download the XI content for SAP SCM from SAP Service Marketplace at ▶ support.sap.com/swdc ▶ <i>Download</i> ▶ <i>Support Packages and Patches</i> ▶ <i>Entry by Application Group</i> ▶ <i>SAP Application Components</i> ▶ <i>SAP SCM</i> ▶ <i>SAP SCM 7.0 including SAP enhancement package 1</i> ▶ <i>Entry by Component</i> ▶ <i>XI Content</i> ▶ <i>XI Content SCM 7.0 including SAP enhancement package 1</i> ▶.
5	Installation of SAP NetWeaver 7.0 usage type BI	For more information, see service.sap.com/installNW70 ▶.
6	BI Content 7.05	For more information, see SAP Note 1321293 ▶. You can download the BI content for SAP SCM from SAP Service Marketplace at ▶ support.sap.com/swdc ▶ <i>Download</i> ▶ <i>Support Packages and Patches</i> ▶ <i>Entry by Application Group</i> ▶ <i>SAP Application Components</i> ▶ <i>SAP SCM</i> ▶ <i>SAP SCM 7.0 including SAP enhancement package 1</i> ▶ <i>Entry by Component</i> ▶ <i>BI Content</i> ▶ <i>BI Cont 7.05</i> ▶.
7	Installation of SAP SCM Optimizer 7.0 including SAP enhancement package 1	For more information, see ▶ service.sap.com/instguides ▶ <i>SAP Business Suite Applications</i> ▶ <i>SAP SCM</i> ▶ <i>Using SAP SCM Server</i> ▶ <i>Using SAP enhancement package 1 for SAP SCM 7.0</i> ▶ <i>Installation</i> ▶.

i Note

Depending on the data volume that your company handles, the integrated BI of the SCM server may be sufficient. In this case, you do not need a separate BI server.

2.8 Integration of SAP BusinessObjects

The integration of SAP BusinessObjects Crystal Reports and SAP BusinessObjects Xcelsius in SAP Business Suite provides you with analysis functions that are integrated in the user interface and processes: Embedded Analytics.

Predefined reports and dashboards provide a detailed, graphical, or interactive display of (transaction) data from SAP Business Suite or from SAP NetWeaver BW.

Embedded Analytics contains the following integrations:

- Crystal Reports as an alternative for displaying simple lists in SAP GUI ALV Grid, Web Dynpro ABAP ALV, and POWER list (not in SAP CRM)
- Crystal Reports for the formatted display of data from queries
- Xcelsius for the graphical or interactive display of data from queries in dashboards

Users can call these functions in SAP NetWeaver Business Client, SAP NetWeaver Portal, or SAP CRM.

Technical Requirements

- Crystal Reports for Displaying Simple Lists

You require Crystal Reports Viewer for Business Suite Applications 1.0 or higher. Note the corresponding license terms.

- Crystal Reports with Queries

To display the Crystal Reports provided, you require SAP BusinessObjects Enterprise XI 3.1 (SP02) and SAP BusinessObjects Integration for SAP XI 3.1 (SP02). Note the corresponding license terms for SAP BusinessObjects.

To create your own Crystal Reports, you require Crystal Reports 2008 V1 (SP02). Note the corresponding license terms.

- Xcelsius Dashboards with Queries

To display the Xcelsius dashboards provided, you require Adobe Flash Player version 9. You must also check the license terms for SAP BusinessObjects.

To create your own dashboards, you require SAP BusinessObjects Xcelsius Enterprise 2008 (SP03, FP1). Note the corresponding license terms for SAP BusinessObjects.

For displaying data from queries via the predefined content, the following system requirements also apply:

- SAP NetWeaver 7.0 including enhancement package 2 (SP04)
- SAP NetWeaver 7.0 BI Content Add-On 5
- Extension for SAP NetWeaver 7.02 BI Content Add-On 5

More Information

For more information about the different topics, see the information sources in the following table.

Table 8

Topic	Information Source
General Information	SAP Help Portal at ► help.sap.com ► under ► <i>SAP ERP or SAP CRM</i> ► <i>Processes and Tools for Enterprise Applications (CA-EPT)</i> ► <i>Embedded Analytics</i> ►
Installation Information	SAP Service Marketplace at ► service.sap.com/bosap-instguides ► and SAP Help Portal at ► help.sap.com ► <i>SAP BusinessObjects</i> ► <i>All Products</i> ►
Configuration Information	SAP Solution Manager under ► <i>Solutions/Applications</i> ► <i>Basic Configuration</i> ► <i>Embedded Analytics</i> ►
Installation Instructions	SAP Notes 1353044 (Crystal Reports Viewer for Business Suite Applications 1.0) and 1345320 (Crystal Reports with Queries)

3 Business Processes of SAP SCM

This section contains short process descriptions and information about the technical landscape of the business processes.

➔ Recommendation

A detailed process description and configuration documentation is part of SAP Solution Manager implementation content ST-ICO 150 L022 (SP25).

i Note

If SAP enhancement package 1 for SAP SCM 7.0 is not listed as a mandatory or optional component for a process, you can also implement the process with SAP enhancement package 1 for SAP SCM 7.0.

This guide does not cover processes related to the following products and applications:

- SAP Supply Network Collaboration (SAP SNC)
- SAP Extended Warehouse Management (SAP EWM)
- SAP Event Management

For more information about the excluded processes, see the following guides on SAP Service Marketplace:

- [▶ service.sap.com/instguides](https://service.sap.com/instguides) ▶ *SAP Business Suite Applications* ▶ *SAP SCM* ▶ *SAP SNC* ▶ *Using SAP Enhancement Package 1 for SAP SNC 7.0* ▶.
- [▶ service.sap.com/instguides](https://service.sap.com/instguides) ▶ *SAP Business Suite Applications* ▶ *SAP SCM* ▶ *SAP EWM* ▶ *Using SAP Enhancement Package 1 for SAP EWM 7.0* ▶.
- [▶ service.sap.com/instguides](https://service.sap.com/instguides) ▶ *SAP Business Suite Applications* ▶ *SAP SCM* ▶ *SAP Event Management* ▶ *Using SAP Enhancement Package 1 for SAP Event Management 7.0* ▶.

SAP SCM Business Process Groups

SAP SCM consists of the following business process groups:

- *Demand and Supply Planning*
- *Transportation*
- *Service Parts Planning*
- *Available to Promise*
- *Production Planning and Detailed Scheduling (PP/DS)*
- *Order Fulfillment*
- *Manufacturing (Planning & Operations)*
- *Procurement*

i Note

You can find an overview of the SAP SCM functionality in the solution map located at [▶ service.sap.com/bmet](https://service.sap.com/bmet) ▶ *SAP Business Maps* ▶ *Cross-Industry Maps* ▶ *Supply Chain Management* ▶.

With SAP enhancement package 1 for SAP SCM 7.0, the following business processes are new or changed:

- Demand Planning and Forecasting (Changed)
- Multilevel Demand and Supply Match (Changed)
- Purchase Order Processing for Service Parts (New)
- Release Processing for Service Parts (New)

3.1 Demand and Supply Planning

The process group *Demand and Supply Planning* contains the following business processes:

- Customer Forecast Management [page 30]
- Demand Planning & Forecasting [page 31]
- Forecast Release and Consumption for Variant Configuration [page 33]
- Vendor-Managed Inventory [page 33]
- Safety Stock Planning [page 34]
- Distribution Planning [page 35]
- Supply Network Planning [page 36]
 - Supply Network Planning Heuristic [page 36]
 - Supply Network Optimization [page 37]
 - Multilevel Demand and Supply Match [page 38]
 - Characteristics-Based CTM [page 39]

3.1.1 Customer Forecast Management

Description

You can use this business process to receive and analyze incoming customer forecasts and make the necessary adjustments before releasing them to Demand Planning for downstream planning. An analysis of forecasts enables you as a vendor to sense tendencies and changes in customer demand and integrate this information into replenishment planning. Customer Forecast Management ensures higher responsiveness to fluctuations in demand and also contributes to the prevention of stock-outs.

For more information about customer forecast management, see SAP Help Portal at ► help.sap.com ► *SAP Business Suite* ► *SAP Supply Chain Management* ► *SAP SCM 7.0* ► *Application Help EN* ► *SAP Supply Chain Management (SAP SCM)* ► *SAP Advanced Planning and Optimization (SAP APO)* ► *Demand Planning* ► *Customer Forecast Management* ►.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process. The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl ►.

Table 9

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.1.2 Demand Planning & Forecasting

Description

You can use this business process to perform your demand planning and forecasting activities in SAP Supply Chain Management (SCM). Demand Planning is often the starting point of the entire supply chain planning process and is used to create a forecast of market demand for your company's products.

This business process contains the following major planning processes:

- Consensus Demand Planning
- Forecasting and Lifecycle Planning
- Promotion Planning

Consensus Demand Planning

Consensus demand planning brings together all available information and enables a collaborative planning process that includes all partners. Forecasts and promotion plans are included automatically. Various calculations can be carried out to combine all information or to check for critical situations that are highlighted as alerts.

The result of consensus demand planning is a final demand plan that can be transferred to:

- Supply planning for further planning
- Execution (in an ERP system of SAP) to trigger production or procurement
- SAP Business Intelligence (SAP BI) for archiving, reporting, or integrating to other systems and solutions

Consensus demand planning includes the following areas:

- Data handling
- Collaborative demand planning
- Macro calculation

Data Handling

Demand Planning should include all available information regarding historical sales, budgets, strategic company plans, or sales targets. This data can be obtained from different sources. Then, it can be transferred from any source to InfoCubes of SAP Business Intelligence (SAP BI). From there, the data can be read directly or transferred first to the liveCache to improve performance.

Furthermore, the data can be restructured to generate characteristic combinations to be used as a planning basis. For aggregated planning, the results often need to be disaggregated to lower levels of detail. In this case, the historical data can be used to calculate the corresponding proportions of all details.

Planned data (such as forecasts or a demand plan) is stored in liveCache. From there it can be extracted to InfoCubes for reporting, archiving, or integration into other systems or solutions.

Collaborative Demand Planning

Demand Planning includes a very flexible interactive planning interface to enable manual planning, simulation, forecasting, and work on critical situations for all involved planners.

Furthermore, all Demand Planning data is available on the web so as to include internal and external partners in the planning process. This ensures that all partners agree on the defined quantities, horizons, and conditions.

Macro Calculation

Macros enable calculation on the planning grid. They can be freely defined by planners using a simple macro language in the easy-to-use MacroBuilder.

Macros can be executed during background processing and on the planning grid. In particular, they are used to combine different kinds of information, to derive dependent measures, or to calculate alerts based on any check.

More sophisticated macros can also add new planning logic, which increases the flexibility and strength of the application.

Forecasting and Lifecycle Planning

A company's product portfolio probably includes a variety of products that are in different stages of their lifecycle and have different demand types. Unfortunately, a single forecasting method that creates accurate statistical forecasts for mature, slow-moving or new products does not exist. Therefore, various methods have to be used to get the right answers. Forecasting and Lifecycle Planning offers a toolbox for practical, proven forecasting that can be divided into three methods:

- Statistical Forecasting
- Causal Forecasting
- Composite Forecasting

Lifecycle Planning can be combined with each of these methods.

Promotion Planning

In Demand Planning, you can plan promotions or other special events separately. You can use promotion planning to record either one-time events or repeated events, such as quarterly advertising campaigns. Other examples of promotions are trade fairs, trade discounts, dealer allowances, product displays, coupons, contests, free-standing inserts, as well as non-sales-related events, such as competitors' activities, market intelligence, upward/downward economic trends, strikes, and natural disasters, such as hurricanes or earthquakes.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 10

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP enhancement package 1 for SAP NetWeaver 7.0 usage type BI		X

For more information about the installation of these components, see section System Landscape in this guide.

i Note

Depending on the data volume that your company handles, the integrated BI of the SCM server may be sufficient. In this case you do not need a separate BI server.

3.1.2.1 Forecast Release and Consumption for Variant Configuration

Description

Forecast Release and Consumption for Variant Configuration (VC) allows you to release the forecast with its own configuration for the Variant Configuration scenario. These forecasts are released to SNP or PP/DS, into a new planning segment called Characteristics-Based Planning Without Final Assembly. The released forecasts can be consumed by sales orders with a matching configuration. The orders can be integrated back to characteristics-based forecasting (CBF) as well.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 11

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0		X

3.1.3 Vendor-Managed Inventory

Description

You can use this business process to perform replenishment planning as a vendor on behalf of your customers. Vendor-managed inventory (VMI) aims at the integration of key customers in supply chain planning. By receiving regular sales and stock data from the customer, the vendor has better access to actual customer requirements and can make informed decisions about how to distribute goods for different customers. This ensures improved customer service, lower transportation costs, less inventory, and lower sales costs. Besides the standard VMI process, you can also implement a consigned VMI process (a combination of customer consignment and vendor-managed inventory) or a parallel consigned and non-consigned scenario.

For more information about vendor-managed inventory, see SAP Help Portal at help.sap.com > *SAP Business Suite* > *SAP Supply Chain Management* > *SAP SCM 7.0* > *Application Help EN* > *SAP Supply Chain Management (SAP SCM)* > *SAP Advanced Planning and Optimization (SAP APO)* > *Supply Network Planning* > *Vendor Managed Inventory*.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 12

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0	X	

i Note

SAP enhancement package 4 for SAP ERP 6.0 is required for the consigned VMI process and the parallel consigned and nonconsigned scenario. The standard, nonconsigned VMI process does not require SAP enhancement package 4 for SAP ERP 6.0.

For more information about the installation of these components, see section System Landscape in this guide.

3.1.4 Safety Stock Planning

Description

You can use this business process to plan the quantity of additional stock to procure and hold in case of unexpectedly high fluctuations in demand. Safety Stock Planning allows you to meet a target service level while creating a minimum necessary amount of safety stock throughout your entire supply chain for all intermediate and finished products at their respective locations.

Two different groups of safety stock calculation methods are offered:

- Basic safety stock planning
- Extended safety stock planning

Basic Safety Stock Planning

The easiest way to plan your safety stock is to define a time-dependent or time-independent safety stock level, or to define a number of safety days of supply values for materials required at any stock holding location. The system applies these settings and calculates the resulting safety stock automatically. The safety stock is then considered during subsequent supply network planning runs and during the production run.

Extended Safety Stock Planning

The extended safety stock planning method can calculate and consider the variability on the demand and supply side. Simulations of the service level and the forecast error can also be performed. Besides service levels, the system also supports reorder cycle and reorder point strategies.

For more information about safety stock planning, see SAP Library for SAP Supply Chain Management under [SAP Advanced Planning and Optimization \(SAP APO\)](#) > [Supply Network Planning](#) > [Safety Stock Planning](#).

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 13

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.1.5 Distribution Planning

Description

You can use this business process to plan distribution for your deployment run. When production is completed, deployment determines which demands can be fulfilled by the existing supply. Deployment decides by product where available quantities will be transported. If there are insufficient quantities available to fulfill the demand or the quantities available exceed the demand, deployment makes adjustments to the plan created by the SNP run.

The deployment run generates deployment stock transfers based on the SNP stock transfers that were created during the SNP run. The Transport Load Builder (TLB) then uses these deployment stock transfers to create transport loads, thus generating TLB shipments.

i Note

You cannot use deployment for stock transfers involving storage location MRP areas. For more information, see SAP Help Portal at help.sap.com > *SAP Business Suite* > *SAP Supply Chain Management* > *SAP SCM 7.0* > *Application Help EN* > *SAP Supply Chain Management (SAP SCM)* > *SAP Advanced Planning and Optimization (SAP APO)* > *Cross-Application Topics* > *Supply Chain Planning Within a Plant* > *Stock Transfer with Storage Location MRP Areas*.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 14

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.1.6 Supply Network Planning

Supply Network Planning (SNP) contains the following business processes:

- [Supply Network Planning Heuristic \[page 36\]](#)
- [Supply Network Optimization \[page 37\]](#)
- [Multilevel Demand and Supply Match \[page 38\]](#)
- [Characteristics-Based CTM \[page 39\]](#)

3.1.6.1 Supply Network Planning Heuristic

Description

You can use this business process to integrate purchasing, production, distribution (of demands), and transportation so that comprehensive midterm to long-term tactical planning and sourcing decisions can be simulated and performed on the basis of a single, global, consistent model or sub-model.

Supply Network Planning (SNP) offers three basic algorithms to carry out the planning:

- Heuristics (together with capacity leveling capability)
- Optimization
- Multilevel supply and demand matching (capable-to-match)

Starting from a demand plan, SNP determines a permissible medium- to long-term plan for fulfilling the estimated and real sales volumes. The algorithms plan for all sources of supply from the customer, through distribution centers, to the plants and their suppliers.

Each algorithm does the following:

- Distributes production over the plants
- Selects production options and alternatives
- Explodes the bill of materials
- Determines the procurement of semi-finished goods and raw materials

The algorithms differ in the way they make decisions, the constraints (for such factors as production, storage, or transportation) which they consider, and on which level of aggregation they perform the planning.

The result is best, but not necessarily optimal, purchasing, production, and distribution decisions as well as reduced order fulfillment times and inventory levels, and an improved customer service level.

SNP is based on a model of the supply network. The model represents a specific supply chain (or network) and consists of individual nodes, links, and other elements. The nodes represent different locations of the network, such as customer locations, distribution centers, plants, or suppliers. The links between the nodes are represented by the transportation lanes. Elements such as products, bills of materials, routings, and different kinds of resources are also essential parts of the supply network.

The supply network definition itself is not part of the ongoing SNP process, but it is an important prerequisite. The structure of the model and the detailed settings influence the results of the planning run.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 15

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.1.6.2 Supply Network Optimization

Description

You can use this business process to integrate purchasing, production, distribution (of demands), and transportation using optimization and multilevel supply so that comprehensive midterm to long-term tactical planning and sourcing decisions can be simulated and performed on the basis of a single, global, consistent model or submodel.

Supply Network Optimization is best performed in planning versions that are different from the active planning version. Executing Supply Network Planning (SNP) and Production Planning and Detailed Scheduling (PP/DS) in different planning versions has the following advantages:

- High degree of stability in SNP
- Checked SNP plans can be released to PP/DS
- SNP and PP/DS can be performed in different frequency.
- SNP can build up stock.
- Adjustment of production and requirements is possible.
- Make-to-order is possible.
- There are no restrictions to periodic lots in PP/DS.
- Key performance indicators (KPIs) of what-if scenarios for different planning versions can be compared in the Business Intelligence (BI) system.

Supply Network Planning offers three basic algorithms to carry out the planning:

- Heuristics (together with capacity leveling capability)
- Optimization
- Multilevel supply and demand matching (capable-to-match)

Starting from a demand plan, SNP determines a permissible medium to long-term plan for fulfilling the estimated and real sales volumes. The algorithms plan for all sources of supply from the customer, through distribution centers to the plants and their suppliers.

Each algorithm does the following:

- Distributes production over the plants
- Selects production options and alternatives
- Explodes the bill of materials
- Determines the procurement of semifinished goods and raw materials

The algorithms differ in the way that they make decisions, the constraints (for such factors as production, storage, or transportation) that they consider, and the level of aggregation that they perform the planning. The result is best purchasing, production, and distribution decisions as well as reduced order fulfillment times and inventory levels, and improved customer service.

SNP is based on a model of the supply network that represents a specific supply chain (or network) and consists of individual nodes, links, and other elements. The nodes represent different locations of the network, such as customer locations, distribution centers, plants, or suppliers. The links between the nodes are represented by the transportation lanes. Elements such as products, bills of materials, routings, and different kinds of resources are also essential parts of the supply network.

The supply network definition itself is not part of the ongoing Supply Network Planning and Outsourcing process, but is an important prerequisite. The structure of the model and the detailed settings influence the results of the planning run.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 16

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.1.6.3 Multilevel Demand and Supply Match

Description

You can use this business process to integrate purchasing, production, distribution (of demands), and transportation so that comprehensive mid-term to long-term tactical planning and sourcing decisions can be simulated and performed on the basis of a single, global, consistent supply chain model.

Starting from a demand plan, Capable-to-Match (CTM) - the key application in the Multilevel Supply and Demand Match process - determines a permissible mid-term to long-term plan for fulfilling the estimated and real sales volumes. CTM plans all sources of supply in the supply chain model, for example, it performs the planning from the distribution centers to the plants and their suppliers.

You can use CTM to do the following:

- Distribute production across the plants
- Select production options and alternatives
- Explode the bill of materials
- Determine the procurement of semi-finished goods and raw materials

CTM performs a finite and order-oriented planning of the demands in your supply chain based on priorities and quota arrangements. During the planning run, the algorithm tries to match prioritized demand elements against

categorized receipt elements by considering capacity constraints. The results of the planning run depend directly on the prioritization and categorization rules you maintained in your system. The CTM result is the most suitable according to these priorities and categories but not necessarily the optimal purchasing, production, and distribution plan in terms of costs.

CTM planning is based on a model of the supply network. The model represents a specific supply chain (or network) and consists of individual nodes, links, and other elements. The nodes represent different locations of the network, such as customer locations, distribution centers, plants, or suppliers. Transportation lanes are the links between the nodes. Elements such as products, bills of materials, routings, and different kinds of resources are also essential parts of the supply network. The supply network definition itself is not part of the ongoing supply chain planning process but is an important prerequisite. The structure of the model influences the results of the CTM planning run significantly.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 17

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP enhancement package 1 for SAP SCM 7.0		X
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.1.6.4 Characteristics-Based CTM

Description

With this business process, the Capable-to-Match (CTM) process considers characteristics while executing a multilevel, finite planning of demands in your supply chain. Characteristics-based CTM uses the PP/DS production data structure (PDS) and supports certain object dependencies, for example, select conditions and procedures with or without reference characteristics. It allows you to carry out block-based planning.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 18

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.2 Transportation

Transportation contains the following business processes: [Transportation Planning \[page 40\]](#).

3.2.1 Transportation Planning

Description

You can use this process to create optimized shipments and transfer these shipments to SAP ERP for execution. To do this, Transportation Planning/Vehicle Scheduling (TP/VS) first reads transportation-relevant business documents (for example, sales orders, purchase orders, or stock transfer orders) from SAP ERP. Next, TP/VS assigns the loads represented by these documents to resources such as trucks or railcars to create planned shipments that it assigns to carriers, and, finally, tenders the shipments to the assigned carriers.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 19

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.3 Service Parts Planning

The process group Service Parts Planning contains the following business processes:

- [Parts Forecasting \[page 41\]](#)

- [Stocking List Determination \[page 41\]](#)
- [Safety Stock Calculation \[page 42\]](#)
- [Distribution Requirements Planning \[page 42\]](#)
- [Pull Deployment \[page 43\]](#)
- [Inventory Balancing \[page 44\]](#)
- [Parts Monitoring \[page 44\]](#)
- [OEM-Managed Inventory \[page 45\]](#)

3.3.1 Parts Forecasting

Description

You can use this business process to capture historical demand, model that demand according to the structure of the service parts supply chain, and perform forecasts for determining future demand. Demand planning is done in an adaptive way which continuously analyses past forecast performance and adjusts forecast models and parameters accordingly.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 20

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0		X
SAP CRM 7.0		X
SAP enhancement package 1 for SAP NetWeaver 7.0 usage type BI	X	

For more information about the installation of these components, see section System Landscape in this guide.

For gathering data for the demand history, you can choose whether you use SAP ERP 6.0 or SAP CRM 7.0 as source system.

3.3.2 Stocking List Determination

Description

You can use this business process to determine the optimal stocking points of a product within the service parts supply chain by considering the characteristics of the product, its demand, and the supply chain structure.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 21

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.3.3 Safety Stock Calculation

Description

You can use this business process to simultaneously optimize the safety stock and an economic order quantity by using forecast demand information and its standard deviation to determine the amount of safety stock to be kept at each stocking point in the supply chain. This enables you to handle demand and supply uncertainty according to a target service level. Service levels are determined dynamically and differentiated based on demand, demand frequency, product classification, or cost of a product at the given location.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 22

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.3.4 Distribution Requirements Planning

Description

You can use this business process to determine rounded net requirement needs throughout the service parts supply chain. These requirements are aggregated along the hierarchical supply chain structure to result in supply proposals which are covered either by supply of remanufactured parts or by purchase requisitions or schedules for individual products or kits to one or more suppliers. The distribution requirements planning calculation considers full interchangeability to use up existing inventory of a predecessor product, minimum net demand for

slow moving items, schedule adjustments for seasonal demands and inventory build-up, as well as supplier schedule stability rules.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 23

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0		X
SAP enhancement package 1 for SAP NetWeaver 7.0 usage type BI		X
SAP ERP 6.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.3.5 Pull Deployment

Description

Pull deployment is triggered based on a material need of a subordinate location in the supply chain. It determines a prioritized fair share distribution among all subordinate locations of the same level, but only creates stock transfer requisitions to the triggering locations. Pull deployment uses the current inventory situation within the supply chain network as the basis for decision making.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 24

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.3.6 Inventory Balancing

Description

You can use this business process to manage lateral material movement in the service parts supply chain. Triggered by a number of events such as an unfulfilled Pull Deployment requisition, Inventory Balancing determines excess and shortage locations within a predefined balancing area. It suggests stock transfers based on a cost-benefit analysis that compares the additional cost of a lateral transfer with the inventory, warehouse, and service benefits.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 25

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0		X
SAP ERP 6.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.3.7 Parts Monitoring

Description

You use this process to provide visibility for all planning-related processes and for potential follow-up activities.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 26

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SNC 7.0	X	
SAP ERP 6.0		X
SAP CRM 7.0		X

Component	Mandatory	Optional
SAP enhancement package 1 for SAP NetWeaver 7.0 usage type BI	X	

For more information about the installation of these components, see section System Landscape in this guide. You only have to install SAP SNC 7.0 if you wish to use supplier delivery performance rating.

3.3.8 OEM-Managed Inventory

Description

You, being an original equipment manufacturer (OEM) and owner of Service Parts Planning (SPP), can use this business process to plan the inventory of certain service parts for certain customers or dealers. In doing so, you can support these customers or dealers to optimize their planning and their inventory situation. The customers and dealers that you include in this process do not actively have to order service parts from you any more, but you as OEM trigger the stock transport to the customer's or dealer's location based on your planning. The customer or dealer, whom you involve in the OEM-managed inventory process, has stored his or her sales data and his or her stock data either in an SAP system or in an external system. The customer or dealer provides you with information about this data in a business-to-business (B2B) process. This B2B process is an XML-based process between business partners, which allows these business partners (especially smaller business partners, as your customers or dealers might be) to exchange XML documents. SPP uses the sales data that you receive from your customer or dealer, to create a demand history for the relevant service parts. On the basis of this demand history, SPP continues the regular planning (including forecasting, inventory planning, distribution requirements planning, deployment, and so on) for the service parts at the customer's or dealer's location.

You can display all the planning results for service parts at your customer's or dealer's location on the SPP screens on which you also display the planning results of your OEM-locations. Your customer or dealer can display the planning results that are relevant to him or her in the customer's worklist, which he or she can access using a Web browser.

Additionally, the customer or dealer has the following options to influence the planning result:

- Agree or disagree to a stocking or destocking decision.
- Approve and change replenishment orders for his or her location.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 27

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0	X	

Component	Mandatory	Optional
SAP enhancement package 1 for SAP NetWeaver 7.0 usage type BI	X	

i Note

Note the following requirements regarding enhancement packages:

- If you use Service Parts Planning in a landscape with SAP CRM, you do not need any enhancement package of SAP ERP 6.0.
- If you use Service Parts Planning in a landscape without SAP CRM, you must work with SAP enhancement package 2 for SAP ERP 6.0 or higher.
- If you want to use the repair or buy function with a global ATP check, you must work with SAP enhancement package 4 for SAP ERP 6.0.

For more information about the installation of these components, see section System Landscape in this guide.

3.4 Available to Promise

This business process group contains the following business processes:

- [Availability Check \[page 46\]](#)
- [Backorder Processing \[page 47\]](#)

3.4.1 Availability Check

Description

You can use this business process in a heterogeneous system landscape to provide required real time information as quickly as possible. The availability check is an online search that ensures that your company can provide the requested product at the requested time in the requested quantity. The availability check automates business decisions about how to best service your customer, by using simple to complex rule definitions. It helps companies provide better customer service by increasing and meeting fulfillment expectations and can increase revenue by selling what you have, reducing overall operating expenses, and increasing your company's efficiency.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 28

Component	Mandatory	Optional
SAP SCM Server 7.0	X	

Component	Mandatory	Optional
SAP liveCache 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.4.2 Backorder Processing

Description

You can use this business process to analyze and resolve backorder situations for your orders automatically. The business process *Backorder Processing* is relevant to you if you use Global Availability-to-Promise (Global ATP) in SAP Advanced Planning and Optimization (SAP APO) to determine the availability of the products for your orders. You combine backorder processing, for example, with the business process *Availability Check*, which you use, for example, to determine the product availability in sales order processing.

From an ATP perspective, a backorder situation exists for an order item in the following cases:

- An order item is not yet completely confirmed.
- A requested delivery date is not confirmed.
- An overconfirmation exists, meaning that the cumulative confirmed quantity exceeds the available quantity.

Backorder processing allows you to change quantities and dates that result from a previous ATP check (that was performed, for example, during sales order creation). In particular, you can redistribute the confirmed quantities from low-priority order items to high-priority order items. The goal of backorder processing is to improve the confirmation situation for your high-priority orders (ideally a complete confirmation), if necessary at the cost of lower-priority orders.

The business process *Backorder Processing* uses batch backorder processing, that is, backorder processing in the background using the report `/SAPAPO/BOF`. You can schedule this report as a periodic background job (always running, for example, after a SNP or PP/DS planning run) or you can call it up manually (for example, if you receive high-priority orders at the last minute). The batch backorder processing report selects items according to your selection criteria and brings the items into a processing sequence according to your priorities. It then carries out an ATP check for all selected items in the defined sequence, and triggers the transmission of the results to the connected ERP system (SAP), where the corresponding order documents are updated automatically.

You can combine batch backorder processing and interactive backorder processing. In interactive backorder processing, you can process confirmations manually to redistribute quantities from low-priority orders to high-priority orders. You can even create overconfirmations if necessary, which you only should use, however, if you can resolve the overconfirmation situation by the start of the order fulfillment execution at the latest.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 29

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.5 Production Planning and Detailed Scheduling (PP/DS)

The process group Production Planning and Detailed Scheduling contains the following business processes:

- [Production Scheduling with Capacity Reservation \[page 48\]](#)
- [MRP-Based Detailed Scheduling \[page 49\]](#)
- [Production Scheduling with Tank Planning \[page 49\]](#)
- [Production Scheduling with Resource Networks \[page 52\]](#)

3.5.1 Production Scheduling with Capacity Reservation

Description

You use this business process to model capacity reservations on resources. It is possible to reserve capacity for up to three different reservation characteristics on a single resource. For example you can reserve capacity for certain customers on a resource, capacity for a sales region, and capacity for certain account directors as well. In this case, the selected characteristics are customer, sales region, and account director.

Additionally, you can maintain a release date to prevent reserved capacity from remaining unused. This date specifies when the unused reserved capacity can be released for reassignment to other characteristics.

Capacity reservations help shorten delivery times to strategic customers by reserving capacity for them. During a capable-to-promise (CTP) check, capacity reservations are checked and a realistic delivery date can be returned to the customer.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 30

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X

Component	Mandatory	Optional
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.5.2 MRP-Based Detailed Scheduling

Description

MRP-based detailed scheduling allows you to combine material requirement planning (MRP) in SAP ERP and detailed scheduling in SAP Advanced Planning and Optimization (SAP APO) without transferring bills of materials (BOMs), routings, or production versions to SAP APO. This process enables you to derive the benefits of detailed scheduling in APO while continuing to use the planning functions of SAP ERP.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 31

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.5.3 Production Scheduling with Tank Planning

Description

A container is a resource in which a product can be stored. Such a resource is limited not only by time, but also by capacity (defined as volume, weight, or other dimension).

A container resource is considered occupied only when it contains product (downtimes are not considered). This means that upstream or downstream operations determine how long the resource will be used, rather than the direct operation (filling, emptying) of the resource itself. Capacity is consumed even without executing a production order or planned order.

Depending on the nature of the container resource, certain limitations may apply — for example, if the container resource can hold only one material at a time, or if it must be emptied to zero before it can be filled with a new product.

Single-product container resources can contain only one product at a time, while multi-product container resources can contain several products at the same time.

Container Planning in SAP Supply Chain Management (SAP SCM) considers the material capacity limitations of such container resources as dedicated product container resources, holding or buffer containers, mobile containers, stockpiles, silos, reactors, or blend vessels with storage functionality (common in the chemical, food & beverage, and other process industries).

Container resources are used over the entire supply chain for purchased material, intermediates, and finished products. These can be liquids as well as bulk solids (the latter typically stored in silos).

➔ Recommendation

Only container resources that pose real bottlenecks should be considered as container resources in SAP SCM for best performance and transparency. End of the recommendation.

Below are several examples of container planning scenarios:

- A container resource with a dedicated product holds a product over a long period of time (months or even years), and cannot be used for other products during that time. The container is filled and emptied without being drained between a minimum and maximum fill level.
Relevant for scheduling is the available (remaining) capacity, not the availability of the resource itself. The major scheduling objective is to avoid overflow of the container.
- An interchangeable buffer container holds multiple products, but only one at a time. Between a product change, the container must be drained and often cleaned to avoid contamination by the predecessor product. The container usually is filled in one step and then emptied to zero in one or several steps.
Relevant for scheduling is the capacity as well as the availability of the resource itself. Even if the resource is filled at only 5%, it is not available for another operation with a different product. The major scheduling objectives are to minimize the holding time of the containers and to use containers with the appropriate capacity, thus maximizing container utilization.
- Blending/Mixing with storage allows modeling the mixing of different materials in a vessel with storage characteristics. After completion of the process, that new material is stored in the same resource over a period of time. It means that the product(s) or components put into the container are different from the product withdrawn from the container.
The relevance for scheduling is similar to the interchangeable buffer container case described above, with the objective of maximizing asset utilization.
- Multiple product storage facilities hold more than one product at a time. Such cases are found in piece-oriented production and discrete manufacturing, where the pieces can be stored and withdrawn individually.

The business process Production Scheduling with Tank Planning contains the following major processes:

- Product Storage Definition
- PP/DS optimization run with the storage constraint
- Manual rescheduling

Product Storage Definition

A new master data element in SAP SCM, Product Storage Definition, defines storage options and thus the modeling of enhanced product flow. It supports both sources of supply types, production process model (PPM) and production data structure (PDS). This master data can be integrated with the product flow data from SAP ERP. You can set priorities for container resource alternatives.

Resource Master Data

Selecting the *Allow Multiple Products* checkbox allows multiple products to be stored together at the same time in a container resource, without generating an alert.

Selecting the *Set Remaining Fill Levels to Zero* checkbox allows the system to assume zero of a product in a container resource so it can be filled with a different product thereafter. Not selecting the checkbox means that the planned level must be zero in order to fill the resource with a different product.

PP/DS optimization run with the storage constraint

The PP/DS optimization run respects the maximum fill level of container resources as an additional constraint in concert with such other constraints as requirement due dates, capacity, or work time calendars. The optimization strategy determines if container resource properties such as maximum fill level are considered as constraints or not.

Orders may be created or deleted, or order quantities (lot sizes) adjusted during optimization.

The optimization does not support the generation of production campaigns while considering container resource constraints or creating orders.

Filling and withdrawing material into or from a container resource is modeled as immediate, not as continuous material flow for the optimization run. Draining is considered the start of the activity; filling is the end.

The optimizer supports simple mixing scenarios, but does not support chemical conversions (reactions) in container resources.

The result is a finite schedule whose optimization model takes into account the major scheduling constraints, and which is close to the theoretically optimal plan (depending on user-defined settings, weights, and priorities). Users can use their experience and knowledge of the current plant environment to refine this schedule manually.

Manual rescheduling

Pegging logic conforms to the container resources and is stored as a new setting in the product master. This feature can be disabled.

Alerts are generated for any container resource constraint violation, which allows the user to quickly identify and resolve those issues manually.

The Detailed Scheduling Planning Board in SAP SCM is the recommended tool for interactive manipulation of the production schedule.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 32

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0	X	
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.5.4 Production Scheduling with Resource Networks

Description

Resource networks simplify the modeling of resource restrictions for consecutive operations/orders. For process industries in particular, certain production restrictions often apply. For example, if an operation takes place on a resource such as a reactor or blend vessel, then only a limited set of successor resources (such as storage tanks for intermediates or finished bulk products or filling lines) can be used for the successor operation.

With resource networks, you will be able to model existing production constraints more precisely, with the objective of creating a finite and technically feasible production schedule. Resource networks also reduce the combinatorial complexity of mode coupling as an alternative way of modeling resource connections and availability.

Resource networks are intended to define allowed physical connections between resources. They basically represent pipes or other means of transport to move products produced by one resource to another resource where it is consumed. A product flow in this application is a real product flow, meaning that it may not necessarily be a product known within the system (PEGID) that is transported, but may be an intermediate product that exists between the operations or phases within an order.

The business process Production Scheduling with Resource Networks contains the following processes:

- Definition of resource networks
- PP/DS (Production Planning/Detailed Scheduling) optimization run with resource network constraints
- Manual rescheduling (resource networks within orders)

Definition of Resource Networks

The resource network is a new business object in SAP APO. It is defined by a positive list of allowed directed connections between two or more resources. (A “directed connection” means that the connection from resource 1 to resource 2 is not the same as the inverse connection from resource 2 to resource 1.)

Priorities are defined for resource linkages, and a resource can be a member of more than one resource network. By default, a resource is connected to itself, but this setting can be overridden.

Defining resource networks as separate business objects reduces the number of master data permutations in the PPM and PDS by eliminating the need for mode coupling.

A resource network's data needs to be created and maintained in APO, and can be modified at any time. There is no integration to resource networks that can be defined as part of a master recipe in SAP R/3 PP-PI (Production Planning — Process Industries).

PP/DS Optimization Run with Resource Network Constraints

The PP/DS optimization run respects resource networks as additional constraints in concert with such other constraints as requirement due dates, capacity, or work time calendars. The optimization strategy defines resource linkages within orders, and allows for deactivating this constraint as well.

The result is a finite schedule that considers all major scheduling constraints as part of the optimization model, and is close to the theoretically optimal plan (depending on user-defined settings, weights, and priorities).

Users can refine this schedule manually based on their experience and knowledge of the current plant environment.

Manual Rescheduling (Resource Networks Within Orders)

The SAP liveCache applications scheduler respects all resource network constraints within orders and between orders.

Alerts are generated for any resource network violation, allowing the user to quickly identify and rectify the issue(s) manually.

The Detailed Scheduling Planning Board in SAP SCM is the recommended tool for interactive manipulation of production scheduling.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 33

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.6 Order Fulfillment

The process group Order Fulfillment contains the following business processes:

- [Sourcing \[page 53\]](#)
- [Supersession \[page 54\]](#)

3.6.1 Sourcing

Description

You can use this business process to answer the critical question “Do I have stock to sell?” in all its complexities. In most businesses, across all industries, it is not an easy question to answer. Some customer orders may have priority over others. A material may be maintained in some locations, but not in others. So the simple question “Do I have stock to sell?” quickly evolves into “Do I have stock to sell in the location closest to the customer, and if not, can I find stock somewhere else in my supply chain?” or “Do I have stock that has been promised to another customer that I would be willing to sell to this other customer instead?”

This process enables better visibility of material activity, clearly showing and guiding the processes of material sales, transfers between internal locations, and use of materials in manufacturing processes. With clear visibility, better business decisions can be made, answering other key questions. For instance: “Are we selling too many products to one-time customers while neglecting our established customer base?”

The benefits of being able to intelligently and knowledgeably answer these questions are felt through-out the supply chain, often resulting in higher customer-satisfaction ratings, higher fill-rates, and lower shipping costs.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 34

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.6.2 Supersession

Description

You can use this business process to enable chains of product substitution. In many business scenarios, particularly those in manufacturing, it is common for parts to be discontinued and replaced by one or more other parts. Part B replaces Part A, and eventually, Part C replaces Part B. Using supersession chains in SAP SCM, it is possible to create and maintain this relationship among parts. When an ATP check is performed in gATP (from a sales order) for Part A after it has been replaced by Part B, Part B will be the part sold.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 35

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7 Manufacturing (Planning & Operations)

The process group Manufacturing (Planning & Operations) contains the following areas:

- [Production Planning \(Process Manufacturing\) \[page 55\]](#)

- [Production Planning \(Discrete Manufacturing\) \[page 57\]](#)
- [Production Planning \(Repetitive Manufacturing\) \[page 60\]](#)
- [Production Scheduling \[page 63\]](#)
- [Manufacturing Execution \[page 67\]](#)
- [Cross-Location Planning with PP/DS \[page 71\]](#)
- [Replenishment Planning with PP/DS \[page 71\]](#)

3.7.1 Production Planning (Process Manufacturing)

The area Production Planning (Process Manufacturing) contains the following business processes:

- [Production Planning \(Process Manufacturing\) MTS in SCM \[page 55\]](#)
- [Production Planning \(Process Manufacturing\) MTO in SCM \[page 56\]](#)

3.7.1.1 Production Planning (Process Manufacturing) MTS in SCM

Description

You use this business process to carry out make-to-order production in SAP SCM. Make-to-order production is carried out without reference to a sales order.

This business process is used in process industries. This includes the chemical and pharmaceutical industries, food and beverage industry, and the process-oriented electronics industry.

The requirement quantities for the finished products are determined in demand planning. Incoming sales orders are delivered from the warehouse.

The order is used to plan material requirements across all BOM levels, based on the requirements for the finished products and components (from the forecast and demand plan, or when the threshold value for the available stock falls short (reorder point)). These orders represent receipt elements for in-house production and external procurement.

In process industries, make-to-stock production is frequently used at the bulk ware level (unpackaged goods), whereas finished products are normally manufactured with make-to-order production.

The business process includes analysis, planning according to MRP logic, and evaluation of the planning results. It is normally carried out in Production Planning and Detailed Scheduling (PP/DS) in SAP SCM. Extensive planning steps such as material planning (MRP) normally run in the background in the production planning run; they can also be carried out manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 36

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.1.2 Production Planning (Process Manufacturing) MTO in SCM

Description

You use this business process to carry out make-to-order production in SAP SCM.

Make-to-order production is carried out with reference to a sales order, meaning that, as a rule, the items in a manufacturing order are only manufactured for a certain customer.

This business process is used in process industries. This includes the chemical and pharmaceutical industries, food and beverage industry, and the process-oriented electronics industry. The order is used to plan material requirements across all BOM levels, based on the customer requirements for the finished products and components. These orders represent receipt elements for in-house production and external procurement.

In the process industry, make-to-order production is frequently used for finished products only (such as packaged goods), while raw materials and unpackaged goods (bulk ware) are often produced with make-to-stock production. After the sales order has been received, the bulk ware is packaged for the customer; in some cases, the bulk ware is packaged using customer-specific packing materials.

The business process includes analysis, planning according to MRP logic, and evaluation of the planning results. It is normally carried out in Production Planning and Detailed Scheduling (PP/DS) in SAP SCM. Extensive planning steps such as product planning (MRP) normally run in the background in the production planning run; they can also be carried out manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 37

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.2 Production Planning (Discrete Manufacturing)

The area Production Planning (Discrete Manufacturing) contains the following business processes:

- [Production Planning \(Discrete Manufacturing\) MTS in SCM \[page 57\]](#)
- [Production Planning \(Discrete Manufacturing\) MTO in SCM \[page 58\]](#)
- [Production Planning \(Discrete Manufacturing\) CTO in SCM \[page 59\]](#)
- [Production Planning \(Discrete Manufacturing\) ETO in SCM \[page 59\]](#)

3.7.2.1 Production Planning (Discrete Manufacturing) MTS in SCM

Description

You can use this business process to carry out make-to-stock production in SAP SCM.

Make-to-stock production is carried out without reference to a sales order. The requirement quantities for the finished products are determined in demand planning. Incoming sales orders are delivered from the warehouse.

This business process is used in discrete industries. This includes the consumer products industry, mechanical engineering, metal and paper production, and the electronics industry.

You can use the order to plan material requirements across all BOM levels, based on the requirements for the finished products and components from the forecast and demand plan, or when the threshold value for the available stock falls short (reorder point). These orders represent receipt elements for in-house production and external procurement.

This business process includes analysis, planning according to MRP logic, and evaluation of the planning results. It is normally carried out in Production Planning and Detailed Scheduling (PP/DS) in SAP SCM. Extensive planning steps, such as product planning (MRP), normally run in the background in the production planning run; although they can also be carried out manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 38

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X

Component	Mandatory	Optional
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.2.2 Production Planning (Discrete Manufacturing) MTO in SCM

Description

You can use this business process to carry out make-to-order production in SAP SCM.

In make-to-order production, the in-house production or procurement of products is only started when the sales order has been received.

This business process is suitable for products with short replenishment lead times for the finished product and for all incoming assemblies and components.

This business process is useful if the costs of procurement and production of assemblies and components is high. With this business process, additional storage costs can be avoided if incorrect forecasts have been made.

In case of long replenishment lead times for assemblies and components and low costs, forecasting for assemblies is useful to reduce the delivery time for the sales order.

This business process is used in discrete industries such as consumer products (high-quality consumer products), machine construction, metal and paper production, and electronics. You can use the generated orders to plan material requirements across all BOM levels, based on the sales orders. These orders represent receipt elements for in-house production and external procurement, and can be displayed according to the customer. The material flow between the BOM levels can be coordinated.

This business process includes analysis, planning according to MRP logic, and evaluation of the planning results. Extensive planning steps, such as material requirements planning usually run in the background although they can also be planned manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 39

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.2.3 Production Planning (Discrete Manufacturing) CTO in SCM

Description

You use this business process to carry out configure-to-order production in SAP SCM.

In make-to-order production, the in-house production or procurement of products is only started when the sales order has been received. The product characteristics are determined when creating the sales order.

This business process is suitable for identical products with characteristics that the customer can define when creating the sales order. Therefore, it is not useful to plan at the finished product level. You can implement planning at the assembly level for the assemblies that are not influenced by customer requirements. This affects assemblies that contain a large number of finished products.

This business process is used in discrete industries. This includes the machinery and automotive industries, the aerospace and electronics industries, and component supplier industries. Orders are generated that are used to plan material requirements across all BOM levels, based on the sales orders. These orders represent receipt elements for in-house production and external procurement, and can be displayed according to customer. The material flow between the BOM levels can be harmonized.

The business process includes analysis, planning according to MRP logic, and evaluation of the planning results. Extensive planning steps such as material requirements planning usually run in the background, although they may also be planned manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 40

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP LiveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.2.4 Production Planning (Discrete Manufacturing) ETO in SCM

Description

You can use this business process to carry out engineer-to-order production in SAP SCM.

Engineer-to-order production is carried out with reference to a project from the project system; that is, the items in a manufacturing order are manufactured for a specific project.

This business process is used in discrete industries. This includes the machinery and plant engineering and construction industry, and the aerospace industry.

You can use the order to plan material requirements across all BOM levels, based on the requirements for the finished products and components required in the project. These orders represent receipt elements for in-house production and external procurement.

This business process includes analysis, planning according to MRP logic, and evaluation of the planning results. Extensive planning steps, such as material requirements planning, usually run in the background, although they can also be planned manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 41

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.3 Production Planning (Repetitive Manufacturing)

The area Production Planning (Repetitive Manufacturing) contains the following business processes:

- [Production Planning \(Repetitive Manufacturing\) MTS in SCM \[page 60\]](#)
- [Production Planning \(Repetitive Manufacturing\) MTO in SCM \[page 61\]](#)
- [Production Planning \(Repetitive Manufacturing\) CTO in SCM \[page 62\]](#)

3.7.3.1 Production Planning (Repetitive Manufacturing) MTS in SCM

Description

You use this business process to create a production plan for repetitive manufacturing.

Repetitive manufacturing is suitable for companies that manufacture similar products in large quantities, which are not based on sales orders. The requirement quantities for the finished products are determined in demand planning. Incoming sales orders are delivered from the warehouse.

This business process is used in discrete industries. This includes the consumer goods industry, the machine construction and automotive industries, the electronics industry, and the component supplier industries. The

system generates orders for finished products and components to cover the requirements across all BOM levels, based on planned independent requirements such as forecast values, demand plan, or when the stock level falls short. These orders represent receipt elements for in-house production and external procurement.

The main aims of repetitive manufacturing are to evenly schedule resources and simplify order processing in production. The material flow between the BOM levels can be harmonized.

This business process includes procurement planning, analysis, and evaluation of planning results. Extensive planning steps such as material requirements planning usually run in the background, although they may also be planned manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 42

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.3.2 Production Planning (Repetitive Manufacturing) MTO in SCM

Description

You use this business process to create a production plan for repetitive manufacturing.

In make-to-order repetitive manufacturing, the in-house production or procurement of products is only started when the sales order has been received. This business process is suitable for products with short replenishment lead times for the finished product and all incoming assemblies and components. This business process is useful if the costs of procurement and production of assemblies and components is very high; additional storage costs can be avoided in case of incorrect forecasts. In case of long replenishment lead times for assemblies and components and low costs, forecasting for assemblies is useful in order to reduce the delivery time for the sales order.

This business process is used in discrete industries. This includes the machine construction and automotive industries, the electronics industry, and the component supplier industries. The system generates orders based on the sales orders to cover the requirements across all BOM levels. These orders represent receipt elements for in-house production and external procurement, and can be displayed according to customer.

The main aims of repetitive manufacturing are to evenly schedule resources and simplify order processing in production. The material flow between the BOM levels can be harmonized.

This business process includes procurement planning, analysis, and evaluation of planning results. Extensive planning steps such as material requirements planning usually run in the background, although they may also be planned manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 43

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.3.3 Production Planning (Repetitive Manufacturing) CTO in SCM

Description

You use this business process to create a production plan for configurable products that are manufactured with repetitive manufacturing.

In make-to-order repetitive manufacturing with configurable products, the in-house production or procurement of products is only started when the sales order has been received. You define the product characteristics when creating the sales order.

This business process is suitable for identical products with characteristics that the customer can define when creating the sales order. Therefore, it is not useful to carry out forecasting at the finished product level. You can implement forecasting at the assembly level for the assemblies that are not influenced by customer requirements. This affects assemblies that contain a large number of finished products.

This business process is used in discrete industries. This includes the automotive industry, the electronics industry, and the component supplier industries. The system generates orders based on the sales orders to cover the requirements. These orders represent receipt elements for in-house production and external procurement. The main aims of repetitive manufacturing are to evenly schedule resources, to simplify order processing in manufacturing, and reducing setup times. The material flow between the BOM levels can be harmonized.

The business process includes procurement planning, and takes into account capacities, and the analysis and adjustment of planning results. Extensive planning steps such as material requirements planning usually run in the background, although they may also be planned manually.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 44

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.4 Production Scheduling

The area Production Scheduling contains the following business processes:

- [Production Scheduling \(Manual Scheduling\) \[page 63\]](#)
- [Production Scheduling with Scheduling Heuristics \[page 64\]](#)
- [Production Scheduling Optimization \[page 65\]](#)
- [Production Scheduling with Block Planning \[page 65\]](#)
- [Production Scheduling with Production Campaigns \[page 66\]](#)

3.7.4.1 Production Scheduling (Manual Scheduling)

Description

In production planning, detailed scheduling is combined with procurement planning. Detailed scheduling is used to compare the capacity requirements from the manufacturing orders with the available production capacity. Different planning methods and strategies can be combined with one another depending on what is required by the user.

Detailed scheduling with manual scheduling can be used for all industries; it can also be combined with other variants in detailed scheduling, such as optimization.

The business process includes problem analysis, scheduling and creating orders and operation sequences and the analysis and evaluation of planning results. The business process is carried out in the component Production Planning and Detailed Scheduling in SAP APO.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 45

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.7.4.2 Production Scheduling with Scheduling Heuristics

Description

In production planning, detailed scheduling is linked to procurement planning. Detailed scheduling is used to compare the capacity requirements from the manufacturing orders with the available production capacity. You can combine different planning methods and strategies depending on what the user requires.

Heuristics are planning functions that carry out scheduling for selected objects (products, resources, operations, or line networks for each planning focus) based on rules that are stored in the function. This includes sort and priority rules. In detailed scheduling, planning mostly focuses on resources and operations.

Detailed scheduling with heuristics can be used for all industries; it can also be combined with other variants in detailed scheduling, such as optimization. For special planning problems, there are branch-specific heuristics available (such as for the metal and paper industries).

The business process includes problem analysis, scheduling in detailed scheduling, and the analysis and evaluation of planning results. It is executed in the component Production Planning and Detailed Scheduling in SAP APO.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 46

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.7.4.3 Production Scheduling Optimization

Description

In production planning, detailed scheduling is combined with procurement planning. Detailed scheduling is used to compare the capacity requirements from the manufacturing orders with the available production capacity. Detailed scheduling with optimization generates a production plan that is optimized according to certain business criteria. Different criteria (such as setup time and lead time optimization) can be combined with one another according to what the user requires.

Detailed scheduling with optimization can be used for all industries; it can also be combined with other variants in detailed scheduling, such as manual scheduling.

The business process includes problem analysis, optimization of the production plan, and the analysis and evaluation of planning results. It is executed in the component Production Planning and Detailed Scheduling in SAP APO.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 47

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.7.4.4 Production Scheduling with Block Planning

Description

In production planning, procurement planning is followed by detailed scheduling. You can use detailed scheduling to adjust capacity requirements from manufacturing orders to the available production capacity.

Detailed scheduling with block planning completes the different types of detailed scheduling (detailed scheduling with manual scheduling, heuristics, and optimization). Detailed scheduling with block planning entails forecasting or preassigning resources for products with certain properties for better utilization of capacities.

In industries such as metal and paper, orders are scheduled based on predefined planning as well as on delivery dates, priority, and availability. You define which product types and products are combined according to their production requirements. The reason for this is that combining these products for production can take advantage of the same production setup and reduce the number of production runs. Specified product sequences and maintenance required in fixed intervals are important, especially for block durations. Blocks can also represent production cycles and periods in which only certain products can be manufactured (planning at characteristics

level). Block definitions are determined by technical conditions for production, for example, steel type A is only manufactured every first week, and steel type B every second week.

Block planning has no effect on a sequence defined by a setup key. It runs in the blocks.

Detailed scheduling with block planning is normally used in the metal and paper processing industries, but it can also be used in other industries, such as food processing, where products with certain characteristics must be grouped into predefined blocks.

This business process covers block definitions, scheduling, and analyzing and evaluating planning results. It is carried out in the following components of SAP APO:

- Production Planning and Detailed Scheduling (PP/DS)
- Multilevel Supply and Demand Matching (SDM) in the planning application Capable-to-Match (CTM)

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 48

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.4.5 Production Scheduling with Production Campaigns

Description

In production planning, detailed scheduling is combined with procurement planning. Detailed scheduling is used to compare the capacity requirements from the manufacturing orders with the available production capacity.

A production campaign is a combination of orders that are required to manufacture products on a production line without having to perform major setup activities. Generally, setup and clean-out activities are required on the production resources between two campaigns.

In SAP APO, the planned and manufacturing orders are combined for manufacturing one or more products.

Detailed scheduling with production campaigns is mostly used in the process industries (such as chemical, pharmaceutical, and food industries). However, it can also be used in industries in which several orders are grouped together based on certain criteria, and must be maintained together.

The business process includes pre-processing setup and clean-out orders, creating the production plan, campaigns, setup and clean-out orders, analyzing and evaluation planning results, and managing the production campaigns. It is executed in the component Production Planning and Detailed Scheduling (PP/DS) in SAP APO.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 49

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP SCM Optimizer 7.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.7.5 Manufacturing Execution

The area Manufacturing Execution contains the following business processes:

- [Manufacturing Execution \(Process Manufacturing\) \[page 67\]](#)
- [Manufacturing Execution \(Discrete Manufacturing\) \[page 68\]](#)
- [Manufacturing Execution \(Repetitive Manufacturing\) \[page 69\]](#)
- [Cross-Location Planning with PP/DS \[page 71\]](#)
- [Replenishment Planning in PP/DS \[page 71\]](#)

3.7.5.1 Manufacturing Execution (Process Manufacturing)

Description

You can use process manufacturing with process orders in process industries for batch-oriented manufacturing based on recipes. This business process is used in industries such as the chemical and pharmaceutical industries, food and beverage industries, and the process-oriented electronics industry, where production control and internal activity planning and accounting for products is carried out using orders.

In addition to these orders, you get an object that helps you to track your work in process (WIP). The so-called WIP batch comprises the quantity of material being produced and describes the state of the material between the individual production operations. In production, you can use the WIP batches not only to document the progress made in production on a quantity basis (via confirmations) but also to record the current properties/ characteristics of the material that is to be produced.

In addition, the WIP batch ensures end-to-end batch tracking because the system can automatically record n:m relationships between input and goods receipt batches with this function.

Whether or not it would make sense to use WIP batches depends on the business scenario in your enterprise.

You can define the following with a process order:

- Which product is to be produced

- When production is to take place
- What capacity is to be used
- What production will cost

As soon as a planned order or another request is generated from material requirements planning, the information is passed on to shop floor control. The order-relevant data is also added to ensure complete order processing.

You use process orders to monitor production and control cost accounting within a company.

Process manufacturing supports the following:

- Production campaigns (equal distribution of setup and clean-out costs)
- Joint production
- Mass processing of process orders
- Active ingredient management and material quantity calculation (cost and quantity calculation is dependent on batch characteristics such as concentrations)
- HTML-based PI sheets (integrated interface for creating and processing various production-relevant data)
- Electronic batch records to continuously document the production process (to meet FDA/GMP regulations)
- In-process monitoring (inspection results in quality management)
- Integration at field device level (for example, bar code scanners)
 - Asynchronous via the PI-PCS interface/SAP XI
 - Synchronous via OPC interface (Open Process Connectivity)

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 50

Component	Mandatory	Optional
SAP SCM Server 7.0		X
SAP liveCache 7.0		X
SAP ERP 6.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.7.5.2 Manufacturing Execution (Discrete Manufacturing)

Description

You can use this business process to carry out work-to-order manufacturing based on bills of material and routings. This business process is used in industries with discrete manufacturing, such as the automotive industry and mechanical engineering, where production control, internal activity planning, and accounting for materials and assemblies is carried out using orders.

In addition, the WIP batch ensures end-to-end batch tracking because the system can automatically record n:m relationships between input and goods receipt batches with this function.

Whether or not it would make sense to use WIP batches depends on the business scenario in your enterprise.

You use a production order to determine the following:

- Which material/product is to be produced
- When production is to take place
- Which capacity is to be dispatched
- What production will cost

As soon as a planned order or other request is generated from material requirements planning, the information is passed on to shop floor control. The order-relevant data is also added to ensure complete order processing.

Production orders are used to control and monitor production within a company and also to support cost accounting.

Production order processing supports the following:

- Collective orders (planned orders or production orders that are linked to one another over several production levels)
- Joint production
- Batch-specific material unit of measure (product quantity management)
- Assembly orders (the system can create an assembly order automatically when you create a sales order)
- Order splits
- Mass processing of production orders
- In-process monitoring (inspection results in quality management)

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 51

Component	Mandatory	Optional
SAP SCM Server 7.0		X
SAP liveCache 7.0		X
SAP ERP 6.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.7.5.3 Manufacturing Execution (Repetitive Manufacturing)

Description

You can use repetitive manufacturing for production planning and control within repetitive manufacturing and flow manufacturing environments. The main areas of use are industries with discrete manufacturing such as the automotive industry, or industries with continuous production processes, such as the chemical industry.

The aims of repetitive manufacturing are:

- Creation and revision of production quantities on a period and quantity basis (reduction in individual lot and order-specific processing)
- Reduction of work in production control and simplification of the back flush

You can implement repetitive manufacturing if the following applies to your production process:

- You produce the same or similar products over a lengthy period of time.
- You do not manufacture in individually defined lots. Instead, you produce a total quantity over a certain period of time, for example, at a certain rate per part or period.
- Your products always follow the same sequence through the machines and work centers in production.
- Routings tend to be simple and do not vary much.
- The costs are settled per material or per version using a product cost collector (product cost by period), and you do not need to perform controlling based on production orders.

ERP supports the following variants:

- You only use repetitive manufacturing for make-to-stock production. This means that production is controlled without a direct reference to a sales order. Run schedule quantities determine the dates and quantities. The requirements are generated by demand management. Sales order quantities are delivered from stock and consume the planned independent requirement quantities in demand management according to the planning strategy you select. A product cost collector is used to collect actual data and to settle costs.
- You use repetitive manufacturing in a make-to-order production environment. The system creates one or several planned orders that directly reference the sales order item, on the basis of which material is manufactured. Production is triggered by sales orders. If you are a repetitive manufacturer and work in a make-to-order environment with valuated sales order stock, you create a product cost collector for the material that is delivered to the sales order stock. The costs incurred for the production of the inventory are collected by the product cost collector and can be analyzed there.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 52

Component	Mandatory	Optional
SAP SCM Server 7.0		X
SAP liveCache 7.0		X
SAP ERP 6.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.7.6 Cross-Location Planning with PP/DS

Description

With this set of business processes, Production Planning and Detailed Scheduling (PP/DS) supports the following cross-location planning functions:

- Demand Propagation
This cross-location planning function enables you to propagate demand across locations connected by transportation lanes. For example, from distribution center to plant.
- Descriptive Characteristics Propagation
This function enables you to propagate the descriptive characteristics associated with the demand across locations. It can be used in several scenarios, including forecast consumption and capacity reservation.
- Interactive Sourcing
This function enables you to interactively decide the locations of supply from which procurement proposals must be sourced. Information on key resources and key components for each source location are displayed.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.

The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl.

Table 53

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0		X

3.7.7 Replenishment Planning in PP/DS

Description

With this set of business processes, the following replenishment planning tasks can be performed:

- Characteristics-based PP/DS Deployment
With the help of deployment heuristics for PP/DS, you can create confirmed stock transfer requisitions (STR) only when the characteristics of a planned STR match those of the available-to-deploy quantity (ATD). The characteristics to be considered during deployment can be maintained in the deployment characteristics profile.
If the characteristics profile is not specified, confirmed STRs are created according to the ATD receipts in the source location.

i Note

Only pull deployment is supported. This is valid for both MTO and MTS scenarios.

- Characteristics-based splitting of STRs and conversion to Transport Load Builder orders (Optional)
Transportation Planning/Vehicle Scheduling (TP/VS) can be used for splitting orders based on characteristics. In this special case, TP/VS uses STRs created by PP/DS deployment as input. These split STRs can be converted to stock transfer orders (or Transport Load Builder orders) as a next step.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 54

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP liveCache 7.0	X	
SAP ERP 6.0		X

For more information about the installation of these components, see section System Landscape in this guide.

3.8 Procurement

The business process group Procurement contains the following business processes:

- [Purchase Order Processing for Service Parts \[page 72\]](#)
- [Release Processing for Service Parts \[page 73\]](#)

3.8.1 Purchase Order Processing for Service Parts

Description

You use this business process to send out purchase orders and collaborate with the external supplier on confirmations and ASNs. Purchase orders are generated as part of the distribution requirements planning run, sent to the supplier, and published in SAP Supply Network Collaboration (SAP SNC). Suppliers can monitor the purchase orders in SAP SNC, confirm them, enter or send advanced shipping notifications (ASNs), and ship the required parts.

The main business value is derived from the fact that the parts purchase orders can be communicated accurately and in real-time to the supplier, replacing older methods, such as paper-based, phone, fax, or e-mail. Suppliers can access SAP SNC using a web browser and are pro-actively alerted to exception situations. Suppliers can respond to the requirements quickly and accurately by using confirmations and ASNs.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 55

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP ERP 6.0	X	
SAP enhancement package 1 for SAP NetWeaver 7.0 usage type PI	X	
SAP SNC 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

3.8.2 Release Processing for Service Parts

Description

You can use this business process to send out scheduling agreement releases and collaborate with the external supplier on confirmations and advanced shipping notifications (ASNs). The system generates scheduling agreement releases as part of the distribution requirements planning run, sends them to the supplier and publishes them in SAP Supply Network Collaboration (SAP SNC). Suppliers can monitor the releases in SAP SNC, confirm them, enter or send ASNs and ship the required parts.

The main business value is derived from the fact that the releases can be communicated accurately and in real-time to the supplier, replacing older methods, such as paper-based, phone, fax, or e-mail. Suppliers can access the SAP SNC system through a web browser and are proactively alerted to exception situations. Suppliers can respond to the requirements quickly and accurately by means of confirmations and ASNs.

Technical System Landscape

The following software components are either mandatory or optional, as indicated below, for the technical implementation of this process.


The following table provides just one way to implement the business process. For other combinations, see SAP Service Marketplace at service.sap.com/scl .

Table 56

Component	Mandatory	Optional
SAP SCM Server 7.0	X	
SAP ERP 6.0	X	
SAP enhancement package 1 for SAP NetWeaver 7.0 usage type PI	X	
SAP SNC 7.0	X	

For more information about the installation of these components, see section System Landscape in this guide.

4 Solution-Wide Topics

4.1 SAP Solution Manager

SAP provides the SAP Solution Manager as a highly recommended platform to efficiently support the implementation of your solution. Using SAP Solution Manager significantly accelerates the implementation process and helps you achieve your business goals. At the same time, SAP delivers 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 at support.sap.com/solutionmanager ➔.

Caution

In the installation or upgrade process, an SAP Solution Manager system is required to generate the SAP Solution Manager Key. Without the SAP Solution Manager Key, you cannot continue the installation process. The generation of the required key is implemented into the SAP Solution Manager as of Release 3.2 SP8. For details, see SAP Service Marketplace at support.sap.com/notes ➔, SAP Note [811923](#) ➔.

4.2 Extended Implementation Content in SAP Solution Manager

In the business process repository of SAP Solution Manager, you can find high-quality business processes under **Solutions/Applications** ➤ **Extended Implementation Content for Lines of Business** ▾. These business processes are highly demanded by consultants and customers and provide optimized configuration information for various lines of business (for example, Finance, Sales, Manufacturing, and Supply Chain).

Extended implementation content for lines of business is characterized by carefully drafted configuration information, including the following:

- Configuration information is assigned to all business processes. This process-specific configuration information always contains a clear reference to additional basic configuration settings that are available for the required components of a process. Therefore, when you include a business process in a self-defined scenario, you can easily identify all relevant configuration settings that are relevant for your project.
- Configuration information that is specific for an optional process step is directly assigned to that process step. Therefore, when you remove an optional process step from your project because you do not need it, the corresponding configuration activities are also automatically excluded from your implementation project.

For your implementation project, this means:

- With the extended implementation content, the implementation of a business process is easier than before.
- You can adjust SAP business processes to your own enterprise-specific requirements.
- You can be sure to get all required configuration information if you include an SAP business process in a self-defined business scenario.

4.3 Service-Oriented Architecture (SOA)

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.

4.3.1 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.

i Note

Most asynchronous services can only be consumed in a mediated scenario.

i Note

We recommend that you use the highest version of SAP NetWeaver Process Integration. For more information, see SAP Note [1515223](#) and SAP Note [1388258](#).

- **Enterprise Services Repository**

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

i Note

In a SAP NetWeaver 7.0 landscape you will require the Integration Repository to create and enhance enterprise service definitions in a design time environment.

- **Services Registry**

The Services Registry is shipped with SAP NetWeaver PI 7.1 and SAP NetWeaver CE 7.1 or higher and is 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.

- **SAP Solution Manager 7.0**

The Solution Composer, shipped with SAP Solution Manager 7.0, is required to host the enterprise service online documentation.

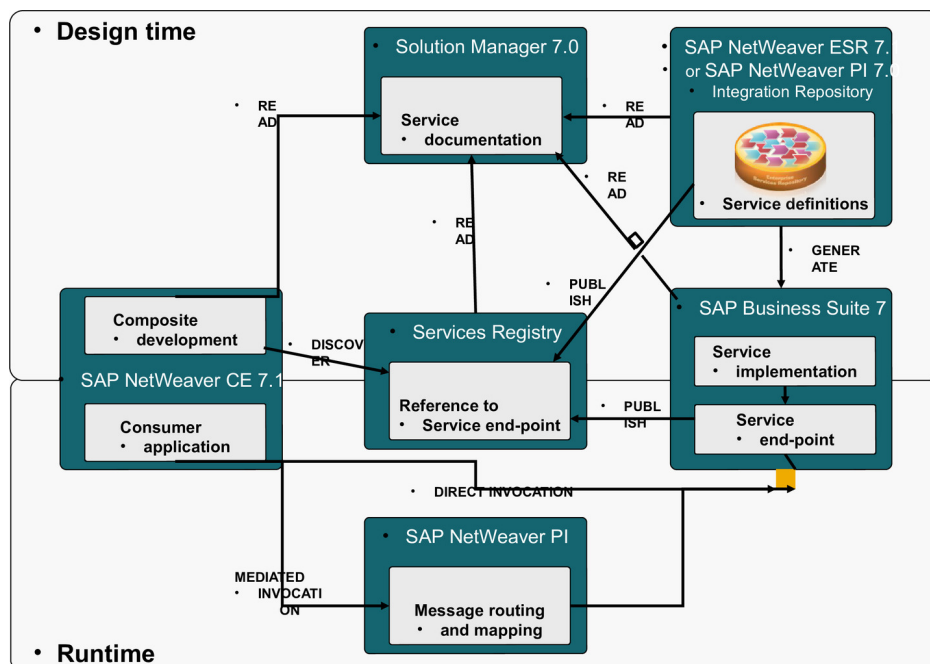


Figure 2: Overview: SAP's Applications for SOA Enablement

The following table describes the SAP applications required or recommended for different runtime and design time use cases:

Table 57

	SAP Applications					
	SAP Business Suite	SAP NetWeaver PI 7.0 (Integration Repository)	SAP NetWeaver PI 7.1 (ES Repository)	SAP NetWeaver CE 7.1 (ES Repository)	SAP Solution Manager 7.0 (Solution Composer)	SAP NetWeaver 7.1 Services Registry
Runtime Usage:						
Enterprise Service Provisioning	Required					Optional
Process integration and mediated communication		One option required				

Design Time Usage:						
Create and enhance enterprise service definitions	Required	One option required			Recommended	
View enterprise service models			One Option Required		Recommended	
Design and develop composite applications				Required	Recommended	Recommended
Enterprise service online documentation					Required	
Publications of enterprise service end-points					Optional	Required

4.3.2 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**

SAP Note [1324838](#) 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**

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.

- **Enterprise service definitions for SAP NetWeaver PI 7.0 or ES Repository (SAP NetWeaver 7.1)** (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 both SAP NetWeaver 7.0 and 7.1 versions. Unpack the ZIP file and copy the tpz files corresponding to your SAP NetWeaver version into the import directory of your Integration Repository (for SAP NetWeaver PI 7.0) or Enterprise Services Repository (for SAP NetWeaver ES Repository 7.1). Use the import function to import the content files into the corresponding repository (Integration Repository or Enterprise Services Repository). (Choose ► [Tools](#) ► [Import Design Objects](#) ►)


- **Enterprise service models for ES Repository (SAP NetWeaver 7.1)** (optional)

To install the content required for the enterprise service models you must select the technical usage “ESR Content” in the enhancement package installation process. This usage type downloads the content files for SAP NetWeaver ES Repository 7.1. Unpack the ZIP file and copy the tpz files into the import directory of your Enterprise Services Repository. Use the import function to import the content files into the Enterprise Services Repository. (Choose ► [Tools](#) ► [Import design objects](#) ►)

Note

The enterprise service models are not available for the Integration Repository (SAP NetWeaver PI 7.0)

- **Enterprise service online documentation for Solution Composer** (optional)

To install the content required for the enterprise service online documentation you must download the content file for the corresponding Business Suite application product version from the Service Marketplace. Then you must import the content file into your Solution Composer. Refer to SAP Note [1224284](#)  for further information.







- **Services Registry** (optional)

The services registry is shipped with SAP NetWeaver PI 7.1 and CE 7.1. You must install 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 installation of SAP NetWeaver PI, CE and ES Repository, refer to the corresponding SAP NetWeaver Installation and Master Guides.

4.3.3 Related Documentation

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

- SDN Community in the SAP Network at www.sdn.sap.com/irj/sdn/soa  (registration required)
- The SAP Enterprise Service Workplace at ESWorkplace.sap.com 
- The Enterprise Services Wiki in the SAP Network at wiki.sdn.sap.com/wiki/x/LQ0  (registration required)
- SAP Note [1224284](#) : Enterprise Services, Installing and Accessing the SOA Documentation
- SAP Note [1359215](#) : Technical prerequisites for using enterprise services
- SAP note [838402](#) : Problems with non-Unicode system landscapes

A Appendix

A.1 Implementable Steps

In the following section, you will get an overview of implementable steps offered by SAP. An implementable step is part of an end-to-end process and describes the scope of an implementation project (which typically lasts approximately one to three months). It addresses a single line of business. It creates value in itself and therefore represents an entity that is implementable. The implementable steps listed here are grouped according to business logic. Each implementable step belongs to one or several end-to-end processes.

i Note

The list of implementable steps in this section contain **all** of the implementable steps that are available for SAP Business Suite customers. It was created to give you an overview of what is available in addition to the business processes or business scenarios that are described in detail in this Master Guide. Note that implementable steps often run across several SAP components such as SAP ERP, SAP CRM, SAP SCM, or SAP SRM. So if you want to implement an implementable step, make sure that you have licensed and installed the required SAP components and releases.

You can find the implementable steps in the business process repository (BPR) of SAP Solution Manager. To read the descriptions of the implementable steps or to find more information about required components and releases, use the BPR viewer. For more information about this tool, see [Tools for Planning Your System Landscape \[page 84\]](#).

A.1.1 Implementable Steps in SAP Solution Manager

You can find the following implementable steps in the business process repository of SAP Solution Manager under ► [Solutions/Applications](#) ► [Cross-Application Implementation Packages](#) ► [Scenarios](#) ►:

Table 58

End-to-End Process	Implementable Step
Accelerate Financial Close	Group Close
	Local Close
Accelerating Lead-to-Cash	Accelerating Lead-to-Cash
	Account and Contact Management
	Campaign Management
	Lead and Opportunity Management
	Lead-to-Cash
	Sales Performance Management

End-to-End Process	Implementable Step
	Sales Planning
Account & Trade Promotion Management	Account & Trade Promotion Management
	Account and Content Management
	Sales Planning
	Trade Promotion Management
Asset Safety and Compliance	Keep the Assets Safe
	Keep the Environment Safe
	Keep the People Safe
	Keep the Stakeholders Informed and Involved
Asset Visibility and Performance	Conduct Improvement Programs
	Optimize Maintenance & Plant Operations
	Set Up Plant Dashboards and Act on Alerts
Automate Global HR and Payroll	Administer HR Data
	Analyze Labor Costs
	Benefits Administration
	Financials: Period-End Close
	Run Payroll
	Time Management
Build the Workforce	Onboarding
	Planning & Budgeting
	Reporting & Analytics
	Talent Acquisition
Centralized Sourcing and Contract Management	Central Contract Management
	Central Sourcing
	Operational Procurement
	Supplier Management
Collaborative Demand and Supply Planning	Collaborative Demand Management
	Sales & Operations Planning
	Supply Planning
Consume to Cash in High Volume Business	Convergent Charging
	Convergent Invoicing

End-to-End Process	Implementable Step
	Credit & Collections Management
	Financial Customer Care and Dispute Management
	Receivables Management and Payment Handling
Continuous Product Change and Transformation	Change Audit and Approval
	Change Implementation
	Change Initiation
	Change Investigation
Continuous Product and Service Innovation	Managing Innovation
	Portfolio Management
	Program and Project Management
	Strategy and Planning
Corporate Shared Service Center	Multifunctional Shared Service Framework
	Shared Services Operations
	Track Delivery Performance
Creating the Optimal Offer	Additional Processes for Creating the Optimal Offer
	Campaign Management
	Catalog Management in CRM
	Creating the Optimal Offer
	IC Sales with CRM Sales Order
	Quotation and Order Management in CRM (with CRM Billing and Rebates)
	Quotation and Order Management in CRM Web Channel
Customer To Cash (B2B)	Accounts Receivable
	Billing
	Collections Management
	Credit Evaluation and Management
	Customer Care
	Dispute Resolution
	e-Invoicing
Develop a High-Performing Workforce	Compensation Management
	Employee Performance Management
	Succession Management

End-to-End Process	Implementable Step
	Talent Assessment and Review
	Talent Development & Learning
	Talent Intelligence
Differentiation Through Service Excellence	Complaints and Returns Management
	Differentiation Through Service Excellence
	IC Management
	IC Service
	Service Contract Management
	Service Order Management
	Service Planning
Drive Efficient HR Operations	HCM Service Delivery
	Operations & Governance
	Shared Services Framework
Efficient Manufacturing Operations for Discrete Industries	Enterprise-Level Planning and Control (Discrete Industries)
	Manufacturing Execution (Discrete Industries)
	Plant-Level Operations (Discrete Industries)
Efficient Manufacturing Operations for Process Industries	Enterprise-Level Planning and Control (Process Industries)
	Manufacturing Execution (Process Industries)
	Plant-Level Operations (Process Industries)
Embedded Product Compliance	Developing Compliant Product
	Maintaining Compliant Product
	Manufacturing Compliant Product
Integrated Product Development for Discrete Industries	Component and Task Sourcing
	Product Design
	Ramp-Up for Production
Integrated Product Development for Process Industries	Material Sourcing
	Product Development
	Ramp-Up for Production
Integrated Sourcing and Procurement	Contract Management
	Operational Procurement
	Spend Analytics

End-to-End Process	Implementable Step
	Strategic Sourcing
Interactive Customer Lifecycle Management	Account and Contact Management
	Campaign Management
	Campaign Management in CRM Web Channel
	IC Marketing
	IC Sales with CRM Sales Order
	Interactive Customer Lifecycle Management
	Lead-to-Cash
	Loyalty Management
	Modeling the Enterprise Data Warehouse (EDW)
	Quotation and Order Management in CRM Web Channel
	Segmentation and List Management
Invoice To Pay	Bank Communications Automation
	Core Accounts Payable
	Invoice Management Automation
	Record Retention and Archiving
Logistics and Fulfillment Management	Customer Commitment
	Global Trade Management
	Inbound Freight Management
	Storage and Fulfillment
Manage Financial and Operational Performance	Improve Planning and Forecasting
	Profitability Management
Managing Risk and Compliance	Access Management
	Duty Reduction & Trade Compliance
	Enterprise Risk Management
	Risk-Based Internal Controls
Managing Treasury and Financial Risk	Manage Global Financial Risks
	Managing Cash and Liquidity
	Optimize Debt and Investments Strategies
	Optimize Payments and Bank Communication
Manufacturing Network Planning and Execution	Manufacturing Network Planning

End-to-End Process	Implementable Step
	Material Supply & Replenishment
	Outsourced Manufacturing
	Production Planning & Execution
Optimize Workforce Scheduling	Service Optimization
	Service Order Completion
	Service Order Management
	Shift & Schedule Management
Optimized Asset Operations and Maintenance	Asset Planning and Scheduling
	Operations and Maintenance
	Service Procurement
	Spare Parts Management
Planning, Building and Commissioning Assets	Asset Information Management
	Asset Portfolio Management
	Capital Project Management
Real Estate Lifecycle Management	Acquisition & Construction Management
	Facilities Management
	Lease & Space Management
Service Parts Planning and Logistics	Service Parts Claims and Returns
	Service Parts Planning and Procurement
	Service Parts Sales
	Service Parts Warehousing

A.2 Tools and Resources for Planning Your System Landscape

To plan your system landscape, you can use a few tools and resources that are available to you as SAP customer.

Tools

On SAP Service Marketplace, we provide the Business Process Repository (BPR) Viewer to look up descriptions of business scenarios, business processes, and implementable steps.

In addition, there are tools in SAP Solution Manager that support you before, during, or after the installation of your SAP product or SAP enhancement package. These tools include:

Table 59: Tools for Supporting Installations and Upgrades

Tool	Purpose
Solution Manager System Landscape	To model and set up your system landscape
SAP Solution Manager Maintenance Optimizer	To install support packages and SAP enhancement packages
Business Process Repository	To access configuration documentation, links to Customizing activities and master data transactions, specifically tailored for individual business processes, business scenarios, or implementable steps
Business Process Change Analyzer (available with SAP enhancement package 1 for SAP Solution Manager 7.0)	To analyze the effects of transports and support packages as well as activation logs for business functions

i Note

As of SAP Solution Manager 7.0 with support package 23, these tools have been enhanced to provide a better support for the setup of your system landscape and for installing and activating business functions. For more information, see SAP Library for SAP Solution Manager on SAP Help Portal at help.sap.com under *SAP Solution Manager*.

SAP Solution Manager: Implementation Content

To get implementation content that supports you during the configuration of your business processes, business scenarios, and implementable steps, you need the SAP Solution Manager add-on *Implementation Content* ST-ICO 155 L022 (SP25).

Planning Guide – SAP Business Suite Landscape Implementation

To get an overview of the necessary steps for planning a system landscape, use the *Planning Guide - SAP Business Suite Landscape Implementation* on SAP Service Marketplace at service.sap.com/instguides under **SAP Business Suite Applications**. The guide also provides you with more information about the following:

- Examples of reference system landscapes
- Planning tools such as the business process repository
- Deployment options
- Typical implementation process

A.2.1 Business Process Repository (BPR) Viewer

The business process repository viewer (BPR viewer) is a tool on SAP Service Marketplace that allows you to preview the existing business scenarios, business processes, and implementable steps that are shipped as part of SAP Solution Manager content. You can make use of the information in SAP Solution Manager during your implementation project by taking the pre-delivered implementation content as the starting point for your project scope. The implementation content is delivered with the following assigned information:

- Description of the business scenario, process, or implementable step
- Configuration content (Customizing activities or configuration documentation)

A.2.2 Using the BPR Viewer

Procedure

Calling Up the BPR Viewer

You can call up the BPR viewer directly using the Internet address implementationcontent.sap.com/bpr. Alternatively, you can also call up the Internet address service.sap.com/bpr first, to see more background information about the BPR viewer and additional material on SAP Service Marketplace.

Working with the BPR Viewer

To call up information about business scenarios, business processes, or implementable steps, navigate the following paths in the BPR viewer:

Table 60

BPR Object	Location
Business scenario	Under <i>Solutions/Applications</i>
Business process	Under <i>Organizational Areas</i>
Implementable step	Under <i>Solutions/Applications</i>

For each business scenario, business process, or implementable step, you can select between different versions that depend on varying components and releases. To display the descriptions of a business scenario, business process, or implementable step, choose the *Documentation* tab page. To display configuration documentation, choose the *Configuration* tab page.

i Note

The BPR Viewer displays all descriptions, but only a selection of the configuration documentation. To view all configuration documentation, install and use SAP Solution Manager at your customer site.

A.3 List of Documents

In the following tables, you find a list of referenced documentation for SAP SCM and its business processes:

Table 61: Installation Guides

Installation Guides	Where to Find
Updating SAP Systems Using Software Update Manager	► service.sap.com/altoolset ► <i>Software Logistics Toolset <latest version></i> ► <i>SUM</i> ►
Installation Guides for SAP enhancement package 1 for SAP SCM 7.0	► service.sap.com/instguides ► <i>SAP Business Suite Applications</i> ► <i>SAP SCM</i> ► <i>SAP SCM Server</i> ► <i>Using SAP enhancement package 1 for SAP SCM 7.0 Server</i> ► <i>Installation Guides</i> ►
Installation Guides for SAP NetWeaver 7.0 (including	► service.sap.com/installNW70 ►

Installation Guides	Where to Find
information on how to install the XI Server and the BI Server)	
Installation Guide for SAP Solution Manager	▶ service.sap.com/instguides ▶ SAP Components ▶ SAP Solution Manager ▶
Installation Guides for SAP ERP 6.0	▶ service.sap.com/instguides ▶ SAP Business Suite Applications ▶ SAP ERP ▶ SAP ERP 6.0 ▶






Table 62: Master Guides






Master Guide	Where to Find
Master Guide for SAP NetWeaver 7.0	▶ service.sap.com/instguides ▶ SAP NetWeaver ▶ SAP NetWeaver 7.0 (2004s) ▶ Installation ▶ Master Guide ▶
Master Guide for SAP ERP 6.0	▶ service.sap.com/instguides ▶ SAP Business Suite Applications ▶ SAP ERP ▶ SAP ERP 6.0 ▶ Installation ▶ Master Guide ▶
Master Guide for SAP enhancement package 1 for SAP EWM 7.0	▶ service.sap.com/instguides ▶ SAP Business Suite Applications ▶ SAP SCM ▶ SAP EWM ▶ Using SAP enhancement package 1 for SAP EWM 7.0 ▶ Master Guide ▶
Master Guide for SAP enhancement package 1 for SAP SNC 7.0	▶ service.sap.com/instguides ▶ SAP Business Suite Applications ▶ SAP SCM ▶ SAP SNC ▶ Using SAP enhancement package 1 for SAP SNC 7.0 ▶ Master Guide ▶
Master Guide for SAP enhancement package 1 for SAP Event Management 7.0	▶ service.sap.com/instguides ▶ SAP Business Suite Applications ▶ SAP SCM ▶ SAP EM ▶ Using SAP enhancement package 1 for SAP EM 7.0 ▶ Master Guide ▶
Master Guide for SAP enhancement package 1 for SAP CRM 7.0	▶ service.sap.com/instguides ▶ SAP Business Suite Applications ▶ SAP CRM ▶ SAP CRM 2006s (with SAP CRM 7.0) including SAP enhancement package 1 ▶ CRM Cross Component ▶ Master Guide ▶

A.4 List of SAP Notes


The following table lists all SAP Notes mentioned in this Master Guide.

Table 63

SAP Note Number	Title
811923 	Generating the SAP Solution Manager key
836200 	SAP NetWeaver 7.0: Importing process integration content
915367 	TDL: Automatic activation of the transaction data
1115322 	Restriction for Availability Check and Backorder Services
1152640 	SAP NetWeaver 7.1 including EHPs: Importing ESR

SAP Note Number	Title
1224284 	Enterprise Services Bundles – Required Technical Usages and Business Functions (This note lists business-related grouping of Enterprise Services.)
1320498 	Installation / Upgrade SCM_BASIS 701
1330450 	Implementing SCM Optimizer Version 7.01
1345320 	Business Objects Enterprise Integration to NetWeaver BI
1353044 	Installation Guide Crystal Report Adapter
1371027 	Missing TERM and GLOSSARY Texts in ERP60x Products
1388258 	Version Interoperability within the SAP Business Suite
1515223 	SAP NetWeaver Process Integration: Release Recommendation
1574235 	SAP NetWeaver 7.3: Import of ESR content

A.5 Media List

You can download installation media from the SAP Software Download Center (SWDC) on the SAP Service Marketplace at support.sap.com/swdc .

Note

Since the material numbers of DVDs, CDs, and archives may change when they are updated, we recommend that you visit the SWDC to make sure that you always use the most recent version of the indicated data carriers.

www.sap.com

Material Number: Not Applicable

