



Administration Guide | PUBLIC

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Administrator's Guide - SAP ERP, Supply Chain Integration Add-On for SAP Integrated Business Planning 1.1

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Document History

⚠ Caution

Before you start the implementation, make sure you have the latest version of this document. You can find the latest version at the following location: http://help.sap.com/ibp_erp_addon.

Document History

Version	Date	Description
23.0	2023-08-04	Information about BAdI implementation has been added to sections <i>Defining Extractors</i> and <i>Filling the Additional Fields of Extractors</i> .
22.0	2023-03-03	The sections <i>Filling the Additional Fields of Extractors</i> and <i>Defining Extractors</i> have been added with restored information about working with extractors for time-series-based integration.
21.0	2022-08-05	The following changes have been made: <ul style="list-style-type: none">Information about the new role template <code>SAP_IBPINT_SDI_7.0</code> has been added to the section <i>Security Information</i>.The section <i>Extensions for Time-Series-Based Integration</i> has been updated with information about the new extractor <code>/IBP/OPEN_ORDERS_REV_KF</code>.The section <i>Integrating Factory Calendars</i> has been enhanced with more information about setting up the RFC destination.
20.1	2022-07-01	The prerequisites have been updated in the <i>Getting Started</i> section.

Version	Date	Description
20.0	2022-05-04	<p>The following changes have been made:</p> <ul style="list-style-type: none"> List of field names for the BD52 transaction has been corrected in the <i>Setting Up the System Infrastructure</i> section. Information about maintaining the logical system has been updated in the <i>Setting Up the System Infrastructure</i> and <i>Configuration for Time-Series-Based Integration</i> sections.
19.0	2021-10-27	References have been updated in the <i>Integrating Factory Calendars</i> section.
18.0	2021-08-04	Information about maintaining the logical system has been updated in the <i>Setting Up the System Infrastructure</i> and <i>Configuration for Time-Series-Based Integration</i> sections.
17.3	2021-06-22	The <i>Setting Up the System Infrastructure</i> and <i>Configuration for Time-Series-Based Integration</i> sections have been updated with information about BAdI method SAVE_LOCNO.
17.2	2021-05-24	The <i>Getting Started</i> section has been updated with a new prerequisite SAP Note 3056309 .
17.1	2021-05-07	The <i>Setting Up the System Infrastructure</i> and <i>Configuration for Time-Series-Based Integration</i> sections have been updated with information about existing BAdIs.

Version	Date	Description
17.0	2021-05-05	<p>The following changes have been made:</p> <ul style="list-style-type: none"> • SAP Cloud Platform Integration for data services has been renamed to SAP Cloud Integration for data services • The <i>Configuration for Time-Series-Based Integration</i> section has been updated with information about Disable Auto Order Processing. • The <i>Setting Up the System Infrastructure</i> and <i>Configuration for Time-Series-Based Integration</i> sections have been updated with information about existing BAdIs.
16.0	2021-02-03	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> • The <i>Configuration for Time-Series-Based Integration</i> section has been updated with information about BAdI methods for /IBP/ETS_PIR_IN and new BAdI /IBP/ECC_TRANS_DELTA. • The <i>Administering the Data Transfer</i> section has been updated with information about existing BAdIs. • Information has been added to the <i>Example BAdI Implementations</i> section about the /IBP/ETS_PIR_IN_SAMPLE sample BAdI implementation. • <i>Security Information</i>: whitelist has been changed to allowlist as of SDI Agent version 2.5.2.0.
15.0	2020-10-28	<p>The <i>Setting Up the System Infrastructure</i> section has been updated with information about activating change pointers per change document and BAdI method for /IBP/ECC_SAVE_LOCATION has been corrected.</p>

Version	Date	Description
14.1	2020-08-28	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> The <i>Getting Started</i> section has been updated with a new SAP Note 2910234. New SAP Note has been added in the <i>Security Information</i> section.
14.0	2020-07-29	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> Information about required security roles has been updated in the <i>Security Information</i> section (SAP_IBPINT_SDI_6.0 and SAP_IBPINT_SDI_TECH_2.0). List of recommended fields to activate change pointers per change document has been added in the <i>Setting Up the System Infrastructure</i> section. The <i>Getting Started</i> section has been updated with a new SAP Note. A reference has been added to the <i>Integrating Factory Calendars</i> section. The <i>Uploading IBP Time Profiles for Aggregation</i> section has been enhanced with the <i>Correct Entries</i> function.
13.0	2020-04-29	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> Information about required roles and authority objects has been updated in the <i>Security Information</i> section. The <i>Setting Up the System Infrastructure</i> section has been updated with information about corresponding tables in OpenAPI. The <i>Getting Started</i> section has been updated with new prerequisite SAP Notes.
12.1	2020-03-05	<p>The <i>Getting Started</i> section has been updated with a new prerequisite note 2898727.</p>

Version	Date	Description
12.0	2020-01-29	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> Information about integrating factory calendars to IBP has been added to the <i>Integrating Factory Calendars</i> section. The <i>Extensions for Time-Series-Based Integration</i> has been updated with information about the new extractor. The <i>Setting Up the System Infrastructure</i> section has been updated with information about integrating list of planning calendars from IBP and a new BAdI method DELETE_PDS. The <i>Getting Started</i> section has been updated with new prerequisite SAP Note.
11.0	2019-11-06	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> The <i>Setting Up the System Infrastructure</i> and <i>Configuration for Time-Series-Based Integration</i> have been updated with the information about a new BAdI method SAVE_CONSUMPTION_PREP The <i>Extensions for Time-Series-Based Integration</i> has been updated with information about the new extractors, and a new subsection <i>Example BAdI Implementations</i> has been added
10.0	2019-08-06	<p>Miscellaneous updates in the following sections:</p> <ul style="list-style-type: none"> <i>Extensions for Time-Series-Based Integration</i> <i>Administering the Data Transfer</i> <i>Customizing in SAP ERP</i>

Version	Date	Description
9.1	2019-07-01	The <i>Security information</i> section has been updated with the information about the SAP_IBPINT_SDI_ORDER_IN_1 . 0 role required to process orders received from an SAP IBP system automatically if you use SDI ABAP adapter.
9.0	2019-05-07	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> • <i>Setting Up the System Infrastructure and Extensions for Time-Series-Based Integration</i> have been updated with information about transaction BDL5. • Security Information has been updated with an information about new SAP_IBPECC_DDMRP_1 . 0 role required to work with demand-driven replenishment data, and a new subsection <i>Virus Scanning for DDMRP File Upload</i> • <i>Connecting SAP ERP to SAP Integrated Business Planning</i> has been updated with information about SAP HANA DP Agent versions. • <i>Configuration for Time-Series-Based Integration and Extensions for Time-Series-Based Integration</i>: miscellaneous updates, including new BAdIs and extractors • New section <i>Uploading IBP Time Profiles for Aggregation</i> has been added.

Version	Date	Description
8.0	2019-02-05	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> • <i>Getting Started</i> has been updated with new prerequisite note. • <i>Security Information</i>: the <i>Authorization Concept</i> and the <i>Whitelisting</i> sections have been updated. • <i>Configuration for Time-Series-Based Integration</i> has been updated. • <i>Extensions for Time-Series-Based Integration</i>: a field extension concept for integration to time-series-based planning areas using extractors has been extended. <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p>i Note</p> <p>The approach described in the version 7.1 of this guide is still valid, but we recommend that you use a new approach.</p> </div>
7.1	2018-11-20	<p><i>Setting Up the System Infrastructure</i>: BTEs information has been updated.</p>
7.0	2018-11-06	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> • <i>Security Information</i>: the <i>Authorization Concept</i> and the <i>Whitelisting</i> sections have been updated. • New sections have been added: <i>Configuration for Time-Series-Based Integration</i> and <i>Extensions for Time-Series-Based Integration</i>. • <i>Setting Up the System Infrastructure</i>: information on new and updated BAdI methods have been added.
6.0	2018-08-07	<p>The <i>Setting Up the System Infrastructure</i> has been updated with the information about new BAdI / IBP / ECC_ABAP_IN.</p>

Version	Date	Description
5.0	2018-05-08	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> • <i>Getting Started</i>: the <i>Important SAP Notes</i> section has been added with a new prerequisite SAP note 2517976. • <i>Security information</i>: the <i>Authorization Concept</i> section has been updated with the information about authorizations required to integrate calendar, unit of measure, and currency data using SAP HANA SDI.
4.0 SAP Cloud Integration for Data Services	2018-04-04	The <i>Getting Started</i> section has been updated with SAP note 2542968 .
3.2	2017-12-18	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> • <i>Getting Started</i>: the <i>Prerequisites</i> section has been added. • <i>Setting Up the System Infrastructure</i>: the <i>Maintaining the Logical System</i>, <i>Activating Change Transfer of Info Records</i>, and <i>Using Business Add-In Implementations</i> sections have been enhanced.
3.1	2017-11-28	The <i>Setting Up the System Infrastructure</i> and <i>Technical System Landscape</i> sections have been updated.
3.0	2017-11-07	<p>The following sections have been updated:</p> <ul style="list-style-type: none"> • <i>Getting Started</i> • <i>Technical System Landscape</i> • <i>Security Information</i>
2.2	2017-09-28	The <i>Security Information</i> section has been updated with information about the <code>IBPE_INT</code> authorization object.
2.1	2017-09-14	The <i>Security Information</i> section has been updated.
2.0	2017-09-07	The <i>Important SAP Notes</i> section in chapter 1 has been updated.

Version	Date	Description
1.9	2017-08-14	The <i>Security Information</i> section has been updated.
1.8	2017-08-11	The <i>Important SAP Notes</i> section in chapter 1 has been updated.
1.7	2017-08-08	The following chapters have been updated with the information about SDI ABAP adapter: <ul style="list-style-type: none"> • Getting Started • Technical System Landscape • Security Information • Connecting SAP ERP to SAP Integrated Business Planning • Administering the Data Transfer Information relevant only for file adapter has been removed.
1.6	2017-07-04	The <i>Important SAP Notes</i> section in chapter 1 has been updated.
1.5	2017-05-10	The <i>Important SAP Notes</i> section in chapter 1 has been updated.
1.4	2017-02-28	The following information has been updated: <ul style="list-style-type: none"> • The <i>Important SAP Notes</i> section in chapter 1 • SDI agent version in the chapter 4.1
1.3	2017-02-14	The <i>Activating Change Transfer of Info Records</i> section added to the chapter 4.3
1.2	2016-12-07	Maintaining Logical System in chapter 4.1 enhanced
1.0	2016-10-18	Update of SDI agent version in the chapter 4.1

1 Getting Started

About This Document

This document is a single source of information for the implementation of the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning. It contains implementation and security information, and is divided into the following main sections:

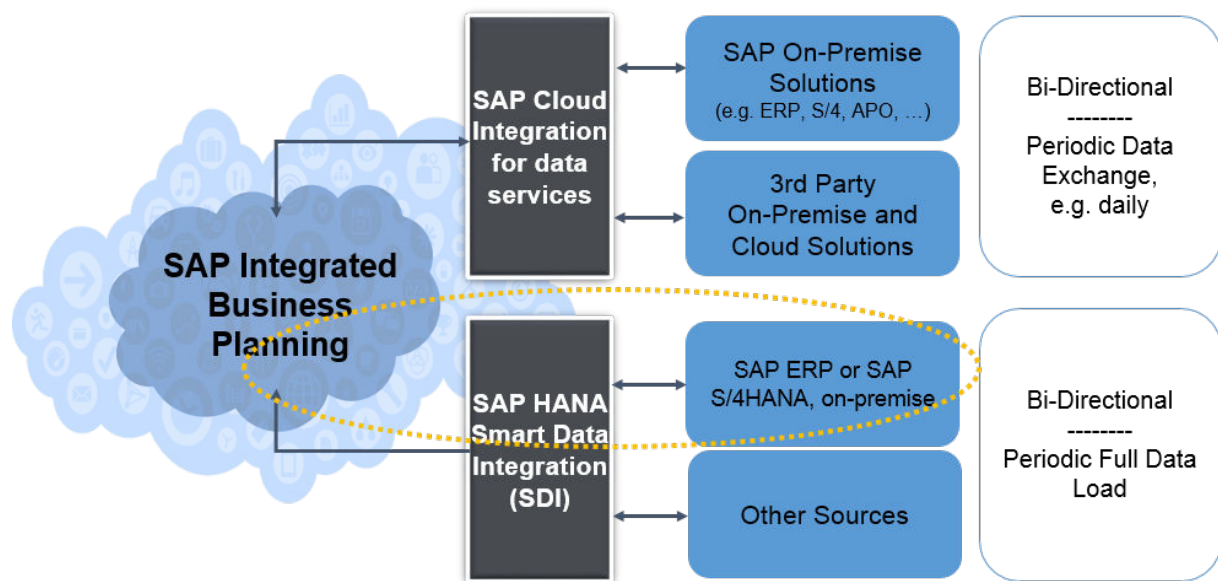
- Technical system landscape
- Security information
- Configuration information

Overview

The SAP ERP, supply chain integration add-on for SAP Integrated Business Planning prepares data for the transfer from your SAP ERP system to SAP Integrated Business Planning (IBP). The integrated data is used as input for order-based planning.

In SAP ERP, data is transformed into a simplified format and stored in tables. The simplified tables can be transferred to IBP by using the OpenAPI interface via SAP HANA Smart Data Integration (SDI). Only certain attributes are transferred. To define which attributes are transferred, you use an integration model.

The yellow circle in the following diagram shows an overview of the integration process.



Integration Overview

Prerequisites

- You are using a supported SP level of SAP ERP. For the required support packages, see SAP Note [2268538](#).
- You have installed the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.

Related Information

For more information about implementation topics not covered in this guide, see the following content on SAP Service Marketplace:

Content	Location
Information about the latest version of installation guides, upgrade guides, and security guides for SAP components	See the Help Portal page for each product at http://help.sap.com .
Sizing, calculation of hardware requirements — such as CPU, disk and memory resource — with the Quick Sizer tool	https://www.sap.com/about/benchmark/sizing.quick-sizer.html .
Released platforms and technology-related topics such as maintenance strategies and language support	https://support.sap.com/release-upgrade-maintenance.html . To access the Platform Availability Matrix directly, enter https://support.sap.com/release-upgrade-maintenance/pam.html .
Performance	https://www.sap.com/about/benchmark/sizing/performance.html .
Information about Support Package Stacks, latest software versions and patch level requirements	https://support.sap.com/en/my-support/software-downloads/support-package-stacks.html .

Further Useful Links

The following table lists further useful links on SAP Service Marketplace:

Content	Location on SAP Service Marketplace
Information about reporting incidents	https://support.sap.com/incident .
SAP Notes search	https://support.sap.com/notes .

SAP Software Distribution Center (software download and ordering of software) <https://support.sap.com/swdc>







Early Knowledge Transfer innovations for project head-start <https://support.sap.com/ekt>

succeeds Ramp-Up Knowledge Transfer approach

Important SAP Notes

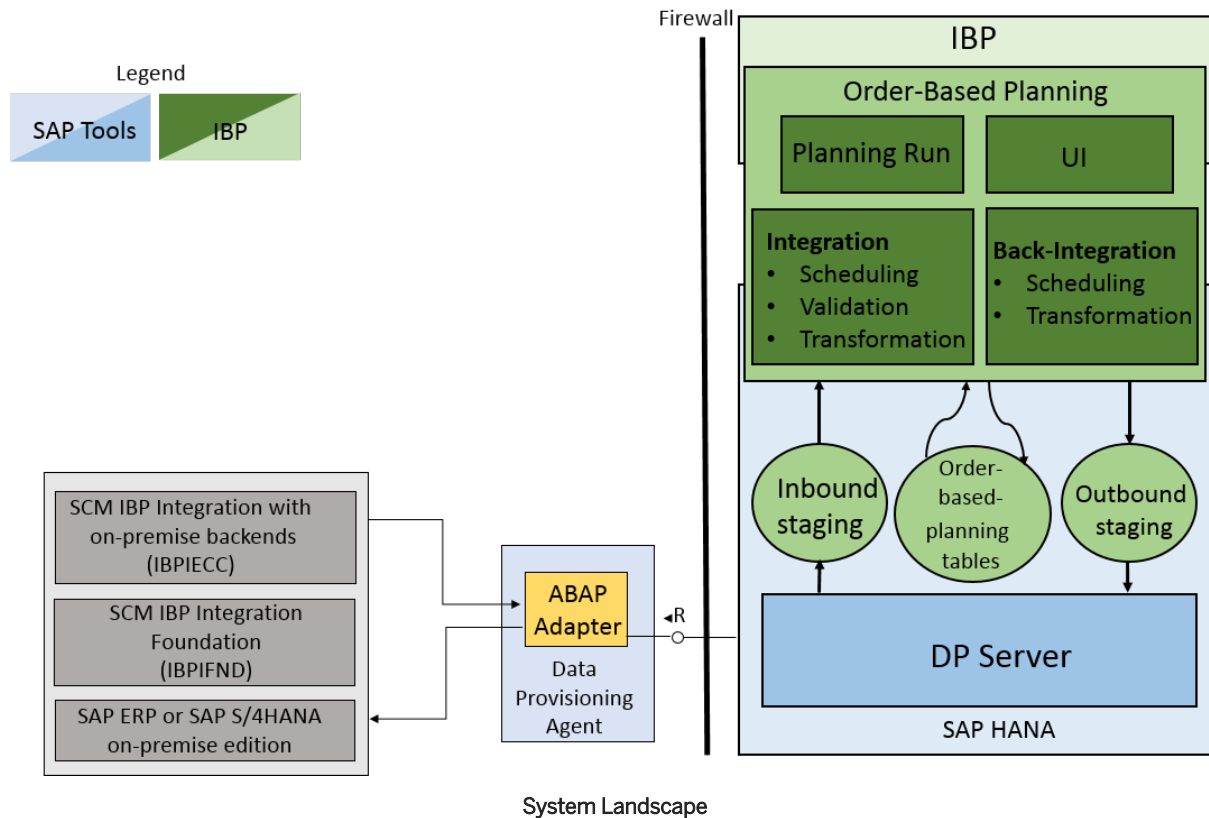
You must read the following SAP Notes before you start the installation of the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning. These SAP Notes contain the most recent information on the installation, as well as corrections to the installation documentation. Make sure that you have the up-to-date version of each SAP Note, which you can find on SAP Service Marketplace at <https://support.sap.com/notes>.

SAP Note Number	Title	Description
2217860	IBP extension of the ERP Interface (Production Planning)	Prerequisite notes for using the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.
2266642	IBP extension of the ERP Interface (Sales and Distribution)	
2267259	IBP extension of the ERP Interface (production data structure)	
2267260	IBP extension of the ERP Interface (forecast consumption)	
2428027	IBP extension of the ERP Interface (Production Planning)	
2517976	IBP Extension of ERP Interface (Production Planning - MRP)	
2631486	IBP Extension of the ERP Interface (Planned Order - APO Integration)	
2724095	IBP: Dependent demand planned in IBP is not generated in S/4HANA or ERP	
2881654	IBP: Production version is not deleted from integration model	

3056309 	IBP: Production Order Integration Sequence Issue (Core Component Changes)	
2268538 	Release strategy for the IBP ERP integration add-on	Information about planning the installation and upgrades of SAP ERP, supply chain integration add-on for SAP Integrated Business Planning
2542968 	Supply Chain Integration Add-on for SAP Integrated Business Planning Extension	Information about using the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.
2755682 	Slow performance when loading transportation lanes with ABAP Adapter	Fix for slow performance when loading transportation lanes with ABAP adapter
2935756 	Planned orders with negative quantity components	Fix to prevent creation of the components with negative quantity in the planned orders
2910234 	FM /IBP/ECC_ABAP_OUT_0005 sends the same stock entries multiple times in different packages	Fix to prevent the same stock entries being sent multiple times in different packages

2 Technical System Landscape

The following diagram provides an overview of the system landscape for the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.



Software Components

The following software components are either mandatory or optional, as indicated below, for the technical implementation of the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning:

Component	Mandatory	Optional
IBPIECC	X	
IBPIFND	X	

Required Hardware

SAP ERP hardware requirement for IBPIECC/IBPIFND depends on the transferred data volume as follows:

- For the storage of persistent data for small data volume, 1 GB is required
- For the storage of persistent data for large data volume, up to 5 GB (i.e. 10 million sales order line items) is required

3 Security Information

i Note

Please make sure you are using a correct version of documentation. You can change a documentation version at the top left corner of the screen, right above the [Search](#) field.

Security Aspects of Data, Data Flow, and Processes

The figure [System Landscape](#) in the chapter [Technical System Landscape](#) shows how the data is transferred from the SAP ERP to SAP Integrated Business Planning. The following security aspects are relevant during this process:

Step	Description	Security Measure
Connecting, setting up the integration	Install SAP ERP, supply chain integration add-on for SAP Integrated Business Planning, install SDI agent, and connect to IBP system	Secure the technical setup by implementing a strict authorization policy (see chapter Authorization Concept). Ensure data storage security on both systems (at-rest) and while in transfer (encryption of the data communication channel). See chapters Data Storage Security and Network and Communication Security .
Manage integration models	Setup of integration models	Secure the technical setup by implementing a strict authorization policy (see chapter Authorization Concept).

Authorization Concept

You need certain roles and authority objects to do the following:

- Initiate an initial load of data from SAP ERP to SAP Integrated Business Planning (IBP)
- Start delta loads of changed data using business transaction events (BTEs)
- Maintain certain aspects of master data in order-based planning (for example, transportation lanes)

Roles

Role	Description
------	-------------

SAP_IBPECC_ADMIN_1.0	Configuration, settings, and integration model definition (system administrator)
SAP_IBPECC_MASTER_DATA_2.0	Master data maintenance
SAP_IBPECC_DDMRP_1.0	Demand-driven replenishment configuration, maintenance, DDMRP planning runs and result monitoring, data upload

The following role for the technical user is required if you need to initiate an initial load through the SDI ABAP adapter: SAP_IBPINT_SDI_6.0. To use this role, you have to implement steps in the the Manual Post-Implementation section in SAP Note [2901545](#).

The SAP_IBPINT_SDI_6.0 role is a composite role that includes the following roles:

Role	Description
SAP_IBPINT_SDI_OUT_5.0	Data tranfer from SAP ERP
SAP_IBPINT_SDI_IN_4.0	Data transfer to SAP ERP
SAP_IBPINT_SDI_TECH_2.0	Technical authorizations required to transfer data in both communication directions
SAP_IBPINT_SDI_CONF_1.0	Authorizations required to integrate calendar, unit of measure, and currency data using SAP HANA SDI (see also SAP Note 2607096)

If you are using patch 2 of SP06 for SAP HANA DP Agent version 2.0 or higher, then you must use the role SAP_IBPINT_SDI_7.0. The SAP_IBPINT_SDI_7.0 role is a composite role that includes the following roles:

Role	Description
SAP_IBPINT_SDI_OUT_5.0	Data tranfer from SAP ERP
SAP_IBPINT_SDI_IN_4.0	Data transfer to SAP ERP
SAP_IBPINT_SDI_TECH_3.0	Technical authorizations required to transfer data in both communication directions
SAP_IBPINT_SDI_CONF_1.0	Authorizations required to integrate calendar, unit of measure, and currency data using SAP HANA SDI (see also SAP Note 2607096)

In addition, the following role must be assigned to the technical user to integrate data using the SDI ABAP adapter:

Role	Description
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SAP_IBPINT_SDI_ORDER_IN_1.1

Automatic processing of IBP-relevant orders in SAP ERP for SDI integration with ABAP adapter

i Note

Please use this role as a template and specify the organizational level values in your copy of the role.

You have to implement SAP Note [2807532](#) to use this role.

Authority Objects

The authority objects in the following table control access to location material and transportation lane maintenance:

Authority Object	Description
IBPE_LOCMA	IBP-ECC Location Materials
IBPE_TLANE	IBP-ECC Transportation Lane

The authority object in the following table controls authorization required to run the initial load reports to integrate the data to and from IBP, execute the time-series-based factory calendar integration report, and integrate consensus demand quantities (planned independent requirements) from IBP to SAP ERP:

Authority Object	Description
IBPE_INT	IBP ECC Integration

If you use SDI ABAP adapter for integration, you have to assign the following authority objects to a technical user:

Authority Object	Description
S_RFC	Authorization Check for RFC Access
S_TABU_NAM	Table Access via Generic Standard Tools
S_BTCH_JOB	Background Processing: Operations

Giving Remote Access to Objects

If you use SDI ABAP adapter for integration, please limit the number of SAP ERP objects to which SDI agent gives remote access. To decrease the security risks, we recommend that you add to allowlist only the following function modules, and no other objects:

- RFCPING
- RFC_PING
- /IBP/ECC_IBP_VERSION
- All function modules whose names start with /IBP/ECC_ABAP

- All function modules whose names start with /IBP/ECC_INTEGRATION_AREA_
- SBFC_FACTORY_CALENDAR_TRANSFER
- SBIC_MESSURE_TRANSFER
- SBIC_CURRENCIES_TRANSFER
- SBIC_EXRATE_TRANSFER
- /IBP/ECC_SUBMIT_ORDER_INBOUND
- /IBP/ECC_ORDER_INBOUND_STATUS
- PARTNER_LOGICAL_SYSTEM_GET

You can do this in the SDI agent configuration tool by navigating **Configure > Preferences > ABAPAdapter** and entering the following string in the *Context Allowlist* field:

- For systems used as a source for integration of all types of IBP-relevant data:
BAPI.RFCPING,BAPI.RFC_PING,BAPI.SBFC_FACTORY_CALENDAR_TRANSFER,BAPI.SBIC_MESSURE_TRANSFER,BAPI.SBIC_CURRENCIES_TRANSFER,BAPI.SBIC_EXRATE_TRANSFER,BAPI./IBP/ECC_IBP_VERSION,BAPI./IBP/ECC_ABAP*,BAPI./IBP/ECC_INTEGRATION_AREA_*,BAPI./IBP/ECC_SUBMIT_ORDER_INBOUND,BAPI./IBP/ECC_ORDER_INBOUND_STATUS,BAPI.PARTNER_LOGICAL_SYSTEM_GET
- For systems used as a source for integration of configuration (calendar, unit of measure, currency) data only, but not master and transactional data:
BAPI.RFCPING,BAPI.RFC_PING,BAPI.SBFC_FACTORY_CALENDAR_TRANSFER,BAPI.SBIC_MESSURE_TRANSFER,BAPI.SBIC_CURRENCIES_TRANSFER,BAPI.SBIC_EXRATE_TRANSFER
- For systems used as a source for integration of master and transactional data only, but not configuration (calendar, unit of measure, currency) data:
BAPI.RFCPING,BAPI.RFC_PING,BAPI./IBP/ECC_IBP_VERSION,BAPI./IBP/ECC_ABAP*,BAPI./IBP/ECC_INTEGRATION_AREA_*,BAPI./IBP/ECC_SUBMIT_ORDER_INBOUND,BAPI./IBP/ECC_ORDER_INBOUND_STATUS,BAPI.PARTNER_LOGICAL_SYSTEM_GET

Network and Communication Security

Your network infrastructure is extremely important for protecting your system. Your network needs to support the communication necessary for your business needs without allowing unauthorized access. A well-defined network topology can eliminate many security threats based on software flaws (at both the operating system level and application level) or network attacks such as eavesdropping. If users cannot log on to your application or database servers at the operating system or database layer, then there is no way for intruders to compromise the machines and gain access to the backend system's database or files. Additionally, if users are not able to connect to the server LAN (local area network), they cannot exploit well-known bugs and security holes in network services on the server machines.

The network topology for SAP ERP, supply chain integration add-on for SAP Integrated Business Planning is based on the topology used by the SAP NetWeaver platform. Therefore, the security guidelines and recommendations described in the SAP NetWeaver Security Guide also apply to SAP ERP, supply chain integration add-on for SAP Integrated Business Planning. Details that specifically apply to this add-on are described in the following topics:

- See the [Communication Channels](#) section in this guide for more information about the communication paths and protocols used by SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.
- See the [Network Security](#) section in this guide for more information about the recommended network topology for SAP ERP, supply chain integration add-on for SAP Integrated Business Planning. It shows the appropriate network segments for the various client and server components and where to use firewalls for access protection. It also includes a list of the ports needed to operate SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.

For more information, see the following sections in the SAP NetWeaver Security Guide:

- Network and Communication Security: For more information, see documentation at http://help.sap.com/nw_platform under ► [SAP NetWeaver 7.4](#) ► [Security Information](#) ► [SAP NetWeaver Security Guide](#) ► [Network and Communication Security](#) ►.
- Security Guides for Connectivity and Interoperability Technologies: For more information, see documentation at http://help.sap.com/nw_platform under ► [SAP NetWeaver 7.4](#) ► [Security Information](#) ► [SAP NetWeaver Security Guide](#) ► [Security Guides for Connectivity and Interoperability Technologies](#) ►.

Communication Channel Security

The table below shows the communication channels used by SAP ERP, supply chain integration add-on for SAP Integrated Business Planning, the protocol used for the connection, and the type of data transferred:

Communication Path	Protocol Used	Type of Data Transferred	Data Requiring Special Protection
Frontend client using SAP GUI for Windows to application server	DIAG	Customizing data, integration models, etc.	Authentication data, system configuration, integration models
Data transfer to IBP using SDI	HTTPS	Master data, transactional data, Customizing, code lists	All

Network Security

We recommend the use of firewalls to control the network traffic in your system landscape. A firewall comprises hardware and software components that specify which connections are permitted between communication partners. The firewall only allows the specified connections to be used. All other connections are blocked by the firewall.

For more information, see documentation at http://help.sap.com/nw_platform under ► http://help.sap.com/nw_platform ► [SAP NetWeaver 7.4](#) ► [Security Information](#) ► [SAP NetWeaver Security Guide](#) ► [Network and Communication Security](#) ► [Using Multiple Network Zones](#) ►.

For more information, see documentation at http://help.sap.com/nw_platform under ► [SAP NetWeaver 7.4](#) ► [Security Information](#) ► [SAP NetWeaver Security Guide](#) ► [Network and Communication Security](#) ► [Using Firewall Systems for Access Control](#) ►.

Ports

SAP ERP, supply chain integration add-on for SAP Integrated Business Planning runs on SAP NetWeaver and uses the ports from the AS ABAP. For more information, see the topics for AS ABAP Ports and AS Java Ports

in the corresponding SAP NetWeaver Security Guides. For other components, for example, SAPinst, SAProuter, or the SAP Web Dispatcher, see also the document *TCP/IP Ports Used by SAP Applications*, which is located on SAP Developer Network at <http://scn.sap.com/community/security> under **Infrastructure Security** **Network and Communications Security**.

Communication Channels

The table below shows an overview of the communication destinations used in the integration scenario for SAP ERP, supply chain integration add-on for SAP Integrated Business Planning:

Destination	Delivered	Type	User, Authorizations	Description
IBP system	No, needs to be setup; see Configuration	HTTPS	Administrator	Handled by the SDI agent through HTTPS

Security-Relevant Logging and Tracing

SAP ERP, supply chain integration add-on for SAP Integrated Business Planning uses the logging and tracing mechanisms of SAP NetWeaver. For more information about logging and tracing, see documentation at http://help.sap.com/nw_platform under **SAP NetWeaver 7.4** **Security Information** **Security Guide** **SAP NetWeaver Security Guide** **Aspects of Lifecycle Management** **Auditing and Logging**.

Virus Scanning for DDMRP File Upload

Any kind of external data such as office documents, images, binaries are considered insecure unless they are scanned for malicious or suspicious code. In SAP ERP, supply chain integration add-on for SAP Integrated Business Planning, virus scanning is performed every time you upload `CSV` file using transaction `/IBP/EDD_UPLOAD`.

If the file contains a virus, the system does not allow it to be uploaded. We also highly recommend common client protection tools, such as virus scanners on the clients.

User Consent

SAP Integrated Business Planning does not use collected data for any additional business purposes other than the ones you have previously consented to in SAP ERP license agreement, and therefore no additional consent is required.

4 Configuration for Order-Based Planning Integration

You need to do the following:

- Connect SAP ERP to SAP Integrated Business Planning.
- Set up the system infrastructure.
- Specify the system settings.
- In the integration model, define the plants and material requirements planning (MRP) types you want to transfer from SAP ERP to IBP.
The integration model determines which SAP ERP master and transactional data is transferred to IBP. It provides standard integration logic delivered by SAP. However, you can limit or specify the data you want to transfer using a Business Add-in Implementation (BADI).

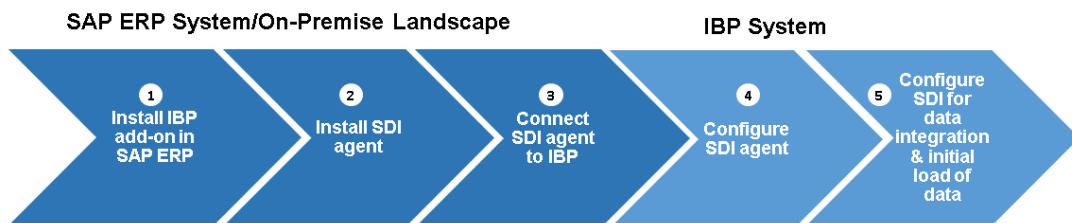
4.1 Connecting SAP ERP to SAP Integrated Business Planning

The SAP ERP, supply chain integration add-on for SAP Integrated Business Planning uses SAP HANA Smart Data Integration (SDI) to transfer data from SAP ERP to SAP Integrated Business Planning (IBP). SDI transfers the relevant tables from the database of your SAP ERP to IBP.

i Note

The patches 40 and 41 of SPO3 for SAP HANA DP Agent version 2.0 SPO3 are not supported.

To connect SAP ERP and IBP, you must first install and configure the SDI agent (DP Agent). For SDI ABAP adapter, please use the patch 4 of SPO2 for SAP HANA DP Agent version 2.0 or higher.



Connecting SAP ERP to IBP via SDI

For more information, see *Integrating with External Systems* in the application help for SAP Integrated Business Planning on SAP Help Portal at <http://help.sap.com/ibp>, under ► *Business Applications* ► *Order-Based Planning* ► *Using Order-Based Planning with External Master Data* ► *Basic Settings* ► *Integrating Master Data and Transactional Data* ► *Integrating with External Systems Using SAP HANA Smart Data Integration* ►.

4.2 Administering the Data Transfer

In SAP IBP, you administer the data transfer from SAP ERP using the *Data Integration using SAP HANA SDI (Inbound)* application job.

You administer the data transfer to SAP ERP using the *Data Integration using SAP HANA SDI (Outbound)* application job. Note that in case you use ABAP adapter, you can disable automatic order processing by selecting the *Disable Auto Order Processing* checkbox in this application job. If you disable automatic order processing, you have to run a transaction for *Order Inbound* (/IBP/ECC_INB_ORD) in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning, or SAP S/4HANA, supply chain integration add-on for SAP Integrated Business Planning to integrate orders in your external system.

For more information, see the application help for SAP Integrated Business Planning on SAP Help Portal at <http://help.sap.com/ibp>, under ► *Application Help for SAP Integrated Business Planning for Supply Chain* ► *Business Applications* ► *Order-Based Planning* ► *Using Order-Based Planning with External Master Data* ► *Basic Settings* ► *Integrating Master Data and Transactional Data* ► *Integrating with External Systems Using SAP HANA Smart Data Integration* ► *Integrating with External Systems* ►.

4.3 Setting Up the System Infrastructure

You must set up the system infrastructure so that you can transfer data to SAP Integrated Business Planning for Supply Chain (SAP IBP) from SAP ERP (that is, SAP R/3, SAP R/3 Enterprise, or SAP ERP Central Component (SAP ECC)). You need to do the following:

- Define the logical system to which you're connecting.
As data is distributed between partner systems, you have to identify each system within your system infrastructure. This is called the logical system and is the SAP ERP system from which you're going to transfer data to SAP IBP.
Use transaction `BD54` to define the logical system.
- Assign the logical system to a client.
Use transaction `SCC4` to assign the logical system to your client system.

i Note

If you do a client copy, you can use transaction `BDLS` to convert SAP IBP staging tables to correct logical system. In the *Tables to be Converted* field, you have to specify `/IBP/*` and select the *Determine Relevant Tables Again* checkbox.

- Activate business transaction events (BTEs)
BTEs enable the immediate, automatic transfer of all the changes to the staging tables which will be transferred to SAP IBP, including changes to SAP ERP transactional data and to the following master data:
 - Vendor
 - Customer
 - MaterialUse transaction `BF11` to activate the BTEs.
- Maintain the logical system using transaction `NDV2`.
- Create Business Add-In Implementations (BADIs) for use with SAP ERP master data (optional).
Use transaction `SE19` to create the BADIs you want to use in your system.

Defining the Logical System

Use transaction `BD54` to define the logical SAP ERP from which you're going to replicate data to SAP IBP.

Assigning the Logical System

Use transaction `SCC4` to assign the logical system to your client system.

Activating Business Transaction Events

If SAP ERP transactional data (such as sales orders or purchase orders) changes, the changes are immediately available on the interface of the add-on. Changes to certain master data types (customer, vendor, material) can also be prepared in this way. To do this, you first need to activate BTEs in the SAP ERP system.

Procedure

1. In the SAP ERP system in *SAP Easy Access* menu, enter transaction code `BF11` to open the *Application Indicator*.
The overview screen opens in edit mode.
2. In the application indicator, activate the following by selecting them: *IBP*, *ND-APO*, and *NDI*.
3. Select *Execute*.

Maintaining the Logical System

Use transaction `NDV2` to maintain the SAP ERP logical system that you're using to replicate data to SAP IBP. Make the following entries:

- *Logical System ID*: Logical system ID of your client

i Note

You cannot use the same logical system ID twice with a different system type. We recommend that you choose any other logical system ID in the following cases:

- If the logical system ID is already in use for integration with SAP APO
- If you need to use logical system ID of your client later, for example, for ePPDS integration

The value defined in `NDV2` has no impact on the logical system ID in EXT tables and data integrated into SAP IBP, which is maintained using transaction `SCC4`.

- *System Type*: IBP
- *Release*: 70

Integrating List of Planning Calendars from SAP IBP

You can list planning calendars that you have defined in SAP IBP when you assign them as shipping and receiving calendars in the `/IBP/ECC_LOCCAL` transaction.

Before you can do it, you have to set up the communication arrangement for the `SAP_COM_0550` communication scenario in SAP IBP. For more information, see <http://help.sap.com/ibp> under **Data Integration Scenarios** > **Data Integration Using Services** > **Extracting Planning Calendar Data**.

1. Start the `SM59` transaction and create an RFC destination with the connection type *HTTP Connection to External Server*.
For the *Logon User*, use the communication user that you configured for your communication arrangement.

For *Target Host*, enter the host (the service base URL without https://) from the communication arrangement that you created based on the SAP_COM_0550 communication scenario.

2. Start the /IBP/ECC_PARAMS transaction and create a new entry for the *RFC Destination for IBP Calendar* parameter.

In *Parameter Value*, enter the RFC destination that you created in the previous step and save your entry.

Result: When you run the /IBP/ECC_LOCCAL transaction, you can now see the list of existing planning calendars on the *Planning Calendars from IBP* when choosing help for the *Receiving Calendar* and *Shipping Calendar* columns.

Activating Change Transfer of Info Records

Use the following transactions to activate change transfer of info records:

- BD61 to activate change pointers by selecting the *Change pointers activated – generally* checkbox
- BD50 to set the message type /IBP/ECC_SRC to active
- BD52 to activate change pointers per change document. Select the /IBP/ECC_SRC message type. On a new screen, you can display and maintain fields relevant to trigger change pointers for info records. The following fields are filled in this transaction by default:

Object	Table Name	Field Name
COND_A	KONDAT	DATAB
		DATBI
		KEY
INFOSATZ	EINA	ERDAT
		LIFAB
		LIFBI
		LOEKZ
		APLFZ

i Note

In case any of these values are missing, we recommend that you add them manually.

Using Business Add-In Implementations

SAP provides a standard integration model to prepare data to be transferred from SAP ERP to SAP IBP. You can use BADIs to overrule this model, enabling you to limit or specify the data you want to transfer. This doesn't change the data in the SAP ERP as the data is only changed in interface tables.

i Note

You mustn't modify or enhance any object in the add-on (especially the tables in `IBPINFND`) as this may endanger integration into the SAP IBP cloud.

You can't adjust the tables' key fields, or the material or location number using a BAdI.

Use of BAdIs is optional.

The following table lists the available BAdIs:

i Note

If you implement BAdIs to change field content in the integration add-ons, you have to ensure that all the mandatory fields contain values in the corresponding OpenAPI tables. If you use the SDI ABAP adapter for integration, the lists of mandatory fields are identical to the ones provided in the corresponding OpenAPI tables for the SDI file adapter (see <http://help.sap.com/ibp> under **Use** > *Application Help for SAP IBP for Supply Chain* > *Business Applications* > *Order-Based Planning* > *Using Order-Based Planning with External Master Data* > *Basic Settings* > *Integrating Master Data and Transactional Data* > *Integrating with External Systems Using SAP HANA Smart Data Integration* > *Inbound Integration* > *Inbound Integration: SDI File Adapter* >).

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ ECC_MODEL_CHECK	CHECK_MODEL	Not relevant	<p>Overrules the standard integration model for preparing material-dependent objects for transfer to SAP IBP.</p> <p>This BAdI is triggered when master or transactional data is created, changed or edited with transactions and every time you run an initial load of master or transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p>	<p>i Note</p> <p>This BAdI is used in most of the add-on transactions to filter location materials. The mandatory parameters of the interface are IV_MATNR, IV_WERKS, IV_OBJECT, they are provided for all add-on transactions. The parameters IV_LIFNR, IS_MARA, and IS_MARC are optional, and are provided only for the initial load of the materials (/IBP/ECC_INT_MAT) and the Business Transaction Event handler for material master change. In any other cases, these parameters remain empty for the BAdI implementation.</p> <p>Note that using this BAdI can slow down your system performance.</p>

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/ IBP / ECC_SAVE_MATERIAL	SAVE_MATNR	Not relevant	<p>Adjusts the SAP IBP material number before it's saved to the database of the add-on. The adjusted material number will be used in SAP IBP.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p> <p>❖ Example</p> <p>For example, transaction list can include but is not limited to the following:</p> <ul style="list-style-type: none"> • MM01 • MM02 • MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_MARA_MASS	IBP_MATERIAL	<p>Changes the material header data (location-independent data).</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	

❖ Example

For example, transaction list can include but is not limited to the following:

- MM01
- MM02
- MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_MARC_MASS	IBP_LOCATION_MATERIAL	<p>Adjusts location-dependent data.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	

❖ Example

For example, transaction list can include but is not limited to the following:

- MM01
- MM02
- MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_MAKT_MASS	IBP_MATERIAL_TEXT	<p>Adjusts material description.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	

❖ Example

For example, transaction list can include but is not limited to the following:

- MM01
- MM02
- MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ECC_SAVE_ORDER_STOCK	SAVE_ORDER	IBP_ORDER	<p>Adjusts an order before it's saved to the database of the add-on.</p> <p>This BAdI is triggered during data reconciliation and every time you run an initial load of transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered when the following orders are created, changed, or edited with transactions or function modules and the location material is a part of IBP integration model:</p> <ul style="list-style-type: none"> • Planned orders • Production orders • Purchase requisitions • Purchase orders • Inbound deliveries • Acknowledgments • Sales orders • Outbound deliveries • Stock transfer requisitions • Stock transport orders 	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>
			<p>Example</p> <p>For example, for production orders the transaction list can include but is</p>	

BAdI	Method	OpenAPI Table	Description	Notes and Comments
			not limited to the following: <ul style="list-style-type: none"> • CO01 • CO02 • MB31 • MB1A 	

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_STOCK	IBP_STOCK	<p>Adjusts stock before it's saved to the database of the add-on.</p> <p>This BAdI is triggered during data reconciliation and every time you run an initial load of transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered when any movements of the following stock documents are performed (mainly related to SAP material management) with a transaction or function modules and the location material is part of IBP integration model:</p> <ul style="list-style-type: none"> • Unrestricted-use stock • Unrestricted-use vendor consignment stock • Quality inspection stock • Vendor consignment stock in quality inspection • Blocked stock • Blocked vendor consignment stock 	

❖ Example

The examples could be posting goods receipts for production

BAdI	Method	OpenAPI Table	Description	Notes and Comments
			<p>orders and purchase order or posting goods issue against a sales order or production order using the following transactions but is not limited to this list:</p> <ul style="list-style-type: none"> • MB31 • MB1A • MIGO • VL02 	
/IBP/ ECC_SAVE_TLANE	SAVE_TLANE_MASS	IBP_TRANSPORTATION_LANE	<p>Adjusts the transportation lane before it's saved to the database of the add-on.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p>	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>
/IBP/ ECC_SAVE_WORK_CENTER	SAVE_WORK_CENTER	IBP_RESOURCE_AVAILABLE_CAPACITY	<p>Adjusts the work center header and available capacity before it's saved to the database of the add-on.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p>	N/A

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ECC_SAVE_PDS	SAVE_PDS	IBP_PRODUCTION_HE AD IBP_PRODUCTION_CO MPONENT IBP_PRODUCTION_RE S_CAPA_DEMAND IBP_PRODUCTION_AC TIVITY	Adjusts the production data structure (PDS) before it's saved to the database of the add-on	N/A
	DELETE_PDS	Not relevant	Allows you to review the production data structures (PDS) that are to be deleted and prevent the deletion of PDS if necessary	

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ ECC_SAVE_FIELD_CATALOG	SAVE_FIELD_CATALOG	IBP_SALES_DOC_FIELD_CATALOG	<p>Adjusts the ATP field catalog before it's saved to the database of the add-on.</p> <p>This BAdI is triggered during data reconciliation and every time you run an initial load of transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered when certain sales document (sales orders, quotations, free of charge sales orders, inquiries, deliveries) are created, changed or edited with transactions or function modules and the location material is a part of IBP integration model.</p>	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>
			<p>Example</p> <p>For example, transaction list can include but is not limited to the following:</p> <ul style="list-style-type: none"> • VA01 • VA02 	
/IBP/ECC_SAVE_LOCATION	SAVE_LOC_MASS	IBP_LOCATION	Adjusts the location (plant, customer and vendor) before it's saved to the database of the add-on.	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_LOCNO	IBP_LOCATION	Adjusts the location number for plant, customer and vendor before it's saved to the database of the add-on. The adjusted location number will be used in SAP IBP.	<p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever vendor or customer is created or changed with transactions. For example, transaction list can include but is not limited to the following:</p> <ul style="list-style-type: none"> • XK01 • XK02 • XD01 • XD02
/IBP/ ECC_MODIFY_PREQ	MODIFY_PREQ_BEFORE_IN	Not relevant	Updates purchase requisition data sent back from SAP IBP to SAP ERP	N/A
	MODIFY_PREQ_BEFORE_SAVE	Not relevant	Updates purchase requisition data before it's saved to the database of the SAP ERP system	
	MODIFY_PREQ	Not relevant	Updates purchase requisition data during SAP ERP inbound integration	
	DETERMINE_PREQ_DOCUMENT_TYPE	Not relevant	Updates purchase requisition document type during SAP ERP inbound integration	
/IBP/ ECC_MODIFY_PLANNED_ORDER	MODIFY_PLANNED_ORDER_BEFORE_IN	Not relevant	Updates planned order data sent back from SAP IBP to SAP ERP	N/A

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ECC_SAVE_CONSUMPTION	SAVE_CONSUMPTION	IBP_GOODS_ISSUE_QUANTITY	<p>Updates goods issue quantities relevant for forecast consumption sent from SAP ERP to SAP IBP.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever forecast consumption is involved in processing of sales orders with a transaction or function modules and the location material is part of the SAP IBP integration model.</p> <p>For example, posting goods issue for outbound delivery with VA02.</p>	N/A

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_CONSUMPTION_PREP	Not relevant	<p>Prepares goods issue quantities relevant for forecast consumption sent from SAP ERP to SAP IBP.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever forecast consumption is involved in processing of sales orders with a transaction or function modules and the location material is part of IBP integration model.</p> <p>For example, posting goods issue for outbound delivery with VA02.</p>	
/IBP/ECC_ABAP_OUT	MODIFY_DATA	All OpenAPI table can be changed with this BAdI	Updates the data that will be sent back to SAP IBP from SAP ERP via the SDI ABAP adapter immediately before the data is sent out	<p>i Note</p> <p>This BAdI is not relevant for time-series-based integration.</p>
/IBP/ECC_ABAP_IN	MODIFY_DATA	All OpenAPI table can be changed with this BAdI	Updates the order data that will be sent back from SAP IBP to SAP ERP via the SDI ABAP adapter immediately after it has been received.	<p>i Note</p> <p>This BAdI is not relevant for time-series-based integration.</p>

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ ECC_TRANS_DELTA	ORDER_DELTA	Not relevant	Defines and saves delta of orders to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	i Note This BAdI is not relevant for order-based integration.
	CONSUMPTION_DELTA	Not relevant	Defines and saves delta of forecast consumption to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	
	FIELD_CATALOG_DELTA	Not relevant	Defines and saves delta of sales order field catalogs to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	
	STOCK_DELTA	Not relevant	Defines and saves delta of stock to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	
/IBP/ETS_PIR_IN	MODIFY_DATA	Not relevant	Modifies planned independent requirement data before inserting it into the staging table in SAP ERP	i Note This BAdI is not relevant for order-based planning integration.
	CONVERT_PRDID	Not relevant	Converts material numbers sent from IBP to match the format in which material numbers are stored in	

4.4 Customizing in SAP ERP

You use Customizing in SAP ERP under [▶ SAP Customizing Implementation Guide ▶ Integration with Other SAP Components ▶ Integrated Business Planning ▶](#) to set up the system infrastructure and to configure the transfer of data from SAP ERP to SAP Integrated Business Planning (IBP). You also use SAP ERP Customizing to configure settings for the system landscape and for enhancements such as Business Add-In Implementations (BADIs).

Prerequisites

- You are using SAP ECC 6.0 EHP 4 or higher.
- You have installed the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.

Features

- Basic settings for creating the system landscape
Customizing activities necessary for partner systems to be able to communicate with one another using the SAP ERP – IBP interface. This comprises naming a logical system and assigning it to your client system.
- Basic settings to prepare the transfer of data from SAP ERP to IBP
Customizing activities required to prepare the data transfer, that is, the initial preparation.
- Application-specific settings and enhancements
Customer exits, BADIs, and settings for individual applications.

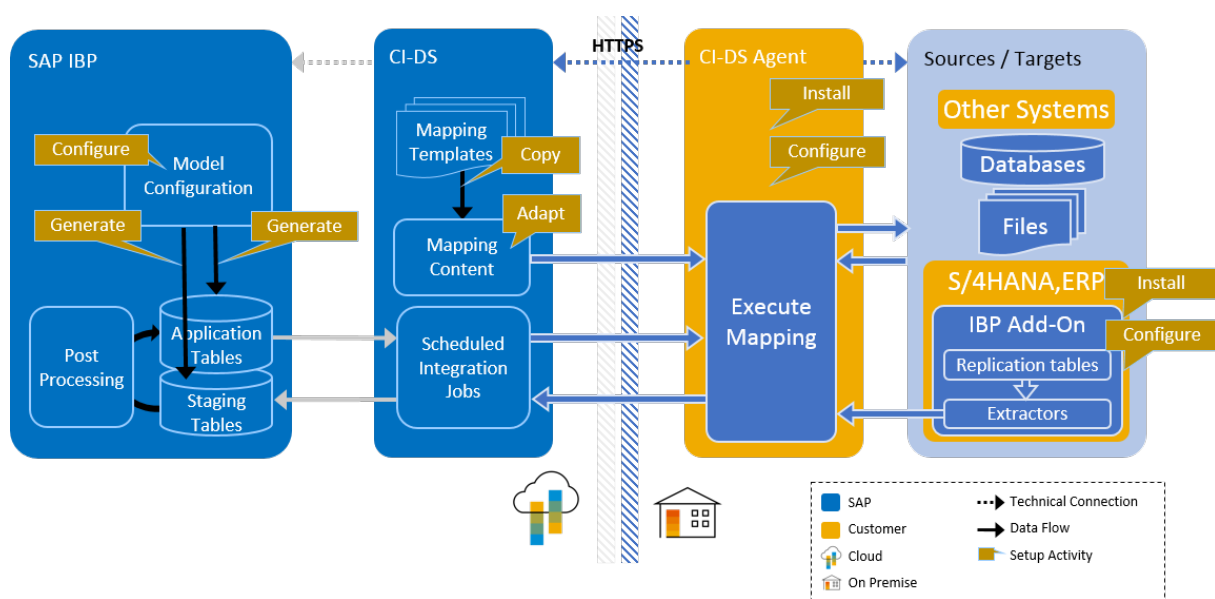
More Information

[Setting Up the System Infrastructure \[page 26\]](#)

5 Configuration for Time-Series-Based Integration

The following graphics provides an overview of the integration scenario from SAP ERP using SAP ERP, supply chain integration add-on for SAP Integrated Business Planning and SAP Cloud Integration for data services to the time-series-based planning areas in the SAP Integrated Business Planning for Supply Chain system:

Prerequisites:



- You have set up your time-series-based integration project (see the SAP Cloud Integration Guide on SAP Help Portal at <http://help.sap.com/ibp> under **Integration** **SAP Cloud Integration Guide** **Getting Started with Your Integration Project**).
- By default, an RFC user is used to connect from the Data Services Agent to the SAP ERP system. The needed authorizations of this user depend on the use cases and the technical setup. For a list of potential authorization objects, see the SAP Data Services Agent Guide at https://help.sap.com/cpi_ds under **Installation and Upgrade** **SAP Data Services Agent Guide** **Configuring SAP Business Suite Connectivity** **Descriptions for SAP User Authorizations**).

You need to do the following in SAP ERP to enable and configure SAP ERP, supply chain integration add-on for SAP Integrated Business Planning:

- Define the logical system to which you're connecting.
As data is distributed between partner systems, you have to identify each system within your system infrastructure. This is called the logical system and is the SAP ERP system from which you're going to transfer data to SAP IBP.
Use transaction BD54 to define the logical system.
- Assign the logical system to a client.
Use transaction SCC4 to assign the logical system to your client system.

i Note

If you do a client copy, you can use transaction `BDLS` to convert SAP IBP staging tables to correct logical system. In the *Tables to be Converted* field, you have to specify `/IBP/*` and select the *Determine Relevant Tables Again* checkbox.

- Activate business transaction events (BTEs)
BTEs enable the immediate, automatic transfer of all the changes to the staging tables which will be transferred to SAP IBP, including changes to SAP ERP transactional data and to the following master data:
 - Vendor
 - Customer
 - MaterialUse transaction `BF11` to activate the BTEs.
- Maintain the logical system using transaction `NDV2`.
- Create Business Add-In Implementations (BADIs) for use with SAP ERP master data (optional).
Use transaction `SE19` to create the BADIs you want to use in your system.

Defining the Logical System

Use transaction `BD54` to define the logical SAP ERP from which you're going to replicate data to SAP IBP.

Assigning the Logical System

Use transaction `SCC4` to assign the logical system to your client system.

Activating Business Transaction Events

If SAP ERP transactional data (such as sales orders or purchase orders) changes, the changes are immediately available on the interface of the add-on. Changes to certain master data types (customer, vendor, material) can also be prepared in this way. To do this, you first need to activate BTEs in the SAP ERP system.

Procedure

1. In the SAP ERP system in *SAP Easy Access* menu, enter transaction code `BF11` to open the *Application Indicator*.
The overview screen opens in edit mode.
2. In the application indicator, activate the following by selecting them: *IBP*, *ND-APO*, and *NDI*.
3. Select *Execute*.

Maintaining the Logical System

Use transaction `NDV2` to maintain the SAP ERP logical system that you're using to replicate data to SAP IBP. Make the following entries:

- *Logical System ID*: Logical system ID of your client

i Note

You cannot use the same logical system ID twice with a different system type. We recommend that you choose any other logical system ID in the following cases:

- If the logical system ID is already in use for integration with SAP APO
- If you need to use logical system ID of your client later, for example, for ePPDS integration

The value defined in `NDV2` has no impact on the logical system ID in EXT tables and data integrated into SAP IBP, which is maintained using transaction `SCC4`.

- *System Type*: IBP
- *Release*: 70

Activating Change Transfer of Info Records

Use the following transactions to activate change transfer of info records:

- `BD61` to activate change pointers by selecting the *Change pointers activated – generally* checkbox
- `BD50` to set the message type `/IBP/ECC_SRC` to active
- `BD52` to activate change pointers per change document. Select the `/IBP/ECC_SRC` message type. On a new screen, you can display and maintain fields relevant to trigger change pointers for info records. The following fields are filled in this transaction by default:

Object	Table Name	Field Name
COND_A	KONDAT	DATAB
		DATBI
		KEY
INFOSATZ	EINA	ERDAT
		LIFAB
		LIFBI
		LOEKZ
		APLFZ

i Note

In case any of these values are missing, we recommend that you add them manually.

Using Business Add-In Implementations

SAP provides a standard integration model to prepare data to be transferred from SAP ERP to SAP IBP. You can use BADIs to overrule this model, enabling you to limit or specify the data you want to transfer. This doesn't change the data in the SAP ERP as the data is only changed in interface tables.

i Note

You mustn't modify or enhance any object in the add-on (especially the tables in `IBPINFND`) as this may endanger integration into the SAP IBP cloud.

You can't adjust the tables' key fields, or the material or location number using a BAdI.

Use of BADIs is optional.

The following table lists the available BAdIs:

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ ECC_MODEL_CHECK	CHECK_MODEL	Not relevant	<p>Overrules the standard integration model for preparing material-dependent objects for transfer to SAP IBP.</p> <p>This BAdI is triggered when master or transactional data is created, changed or edited with transactions and every time you run an initial load of master or transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p>	<p>i Note</p> <p>This BAdI is used in most of the add-on transactions to filter location materials. The mandatory parameters of the interface are <code>IV_MATNR</code>, <code>IV_WERKS</code>, <code>IV_OBJECT</code>, they are provided for all add-on transactions. The parameters <code>IV_LIFNR</code>, <code>IS_MARA</code>, and <code>IS_MARC</code> are optional, and are provided only for the initial load of the materials (<code>/IBP/ECC_INT_MAT</code>) and the Business Transaction Event handler for material master change. In any other cases, these parameters remain empty for the BAdI implementation.</p> <p>Note that using this BAdI can slow down your system performance.</p>

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/ IBP / ECC_SAVE_MATERIAL	SAVE_MATNR	Not relevant	<p>Adjusts the SAP IBP material number before it's saved to the database of the add-on. The adjusted material number will be used in SAP IBP.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p> <p>❖ Example</p> <p>For example, transaction list can include but is not limited to the following:</p> <ul style="list-style-type: none"> • MM01 • MM02 • MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_MARA_MASS	IBP_MATERIAL	<p>Changes the material header data (location-independent data).</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	

❖ Example

For example, transaction list can include but is not limited to the following:

- MM01
- MM02
- MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_MARC_MASS	IBP_LOCATION_MATERIAL	<p>Adjusts location-dependent data.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	

❖ Example

For example, transaction list can include but is not limited to the following:

- MM01
- MM02
- MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_MAKT_MASS	IBP_MATERIAL_TEXT	<p>Adjusts material description.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever material is created or changed with transactions and this material is a part of IBP integration model.</p>	

❖ Example

For example, transaction list can include but is not limited to the following:

- MM01
- MM02
- MASSD

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ECC_SAVE_ORDER_STOCK	SAVE_ORDER	IBP_ORDER	<p>Adjusts an order before it's saved to the database of the add-on.</p> <p>This BAdI is triggered during data reconciliation and every time you run an initial load of transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered when the following orders are created, changed, or edited with transactions or function modules and the location material is a part of IBP integration model:</p> <ul style="list-style-type: none"> • Planned orders • Production orders • Purchase requisitions • Purchase orders • Inbound deliveries • Acknowledgments • Sales orders • Outbound deliveries • Stock transfer requisitions • Stock transport orders 	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>
			<p>Example</p> <p>For example, for production orders the transaction list can include but is</p>	

BAdI	Method	OpenAPI Table	Description	Notes and Comments
			not limited to the following: <ul style="list-style-type: none"> • CO01 • CO02 • MB31 • MB1A 	

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_STOCK	IBP_STOCK	<p>Adjusts stock before it's saved to the database of the add-on.</p> <p>This BAdI is triggered during data reconciliation and every time you run an initial load of transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered when any movements of the following stock documents are performed (mainly related to SAP material management) with a transaction or function modules and the location material is part of IBP integration model:</p> <ul style="list-style-type: none"> • Unrestricted-use stock • Unrestricted-use vendor consignment stock • Quality inspection stock • Vendor consignment stock in quality inspection • Blocked stock • Blocked vendor consignment stock 	

Example

The examples could be posting goods receipts for production

BAdI	Method	OpenAPI Table	Description	Notes and Comments
			<p>orders and purchase order or posting goods issue against a sales order or production order using the following transactions but is not limited to this list:</p> <ul style="list-style-type: none"> • MB31 • MB1A • MIGO • VL02 	
/IBP/ ECC_SAVE_TLANE	SAVE_TLANE_MASS	IBP_TRANSPORTATION_LANE	<p>Adjusts the transportation lane before it's saved to the database of the add-on.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p>	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>
/IBP/ ECC_SAVE_WORK_CENTER	SAVE_WORK_CENTER	IBP_RESOURCE_AVAILABLE_CAPACITY	<p>Adjusts the work center header and available capacity before it's saved to the database of the add-on.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p>	N/A

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ECC_SAVE_PDS	SAVE_PDS	IBP_PRODUCTION_HE AD IBP_PRODUCTION_CO MPONENT IBP_PRODUCTION_RE S_CAPA_DEMAND IBP_PRODUCTION_AC TIVITY	Adjusts the production data structure (PDS) before it's saved to the database of the add-on	N/A
	DELETE_PDS	Not relevant	Allows you to review the production data structures (PDS) that are to be deleted and prevent the deletion of PDS if necessary	

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ ECC_SAVE_FIELD_CATALOG	SAVE_FIELD_CATALOG	IBP_SALES_DOC_FIELD_CATALOG	<p>Adjusts the ATP field catalog before it's saved to the database of the add-on.</p> <p>This BAdI is triggered during data reconciliation and every time you run an initial load of transactional data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered when certain sales document (sales orders, quotations, free of charge sales orders, inquiries, deliveries) are created, changed or edited with transactions or function modules and the location material is a part of IBP integration model.</p>	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>
			<p>Example</p> <p>For example, transaction list can include but is not limited to the following:</p> <ul style="list-style-type: none"> • VA01 • VA02 	
/IBP/ECC_SAVE_LOCATION	SAVE_LOC_MASS	IBP_LOCATION	Adjusts the location (plant, customer and vendor) before it's saved to the database of the add-on.	<p>i Note</p> <p>Note that using this BAdI can slow down your system performance.</p>

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_LOCNO	IBP_LOCATION	Adjusts the location number for plant, customer and vendor before it's saved to the database of the add-on. The adjusted location number will be used in SAP IBP.	<p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever vendor or customer is created or changed with transactions. For example, transaction list can include but is not limited to the following:</p> <ul style="list-style-type: none"> • XK01 • XK02 • XD01 • XD02
/IBP/ ECC_MODIFY_PREQ	MODIFY_PREQ_BEFORE_IN	Not relevant	Updates purchase requisition data sent back from SAP IBP to SAP ERP	N/A
	MODIFY_PREQ_BEFORE_SAVE	Not relevant	Updates purchase requisition data before it's saved to the database of the SAP ERP system	
	MODIFY_PREQ	Not relevant	Updates purchase requisition data during SAP ERP inbound integration	
	DETERMINE_PREQ_DOCUMENT_TYPE	Not relevant	Updates purchase requisition document type during SAP ERP inbound integration	
/IBP/ ECC_MODIFY_PLANNED_ORDER	MODIFY_PLANNED_ORDER_BEFORE_IN	Not relevant	Updates planned order data sent back from SAP IBP to SAP ERP	N/A

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ECC_SAVE_CONSUMPTION	SAVE_CONSUMPTION	IBP_GOODS_ISSUE_QUANTITY	<p>Updates goods issue quantities relevant for forecast consumption sent from SAP ERP to SAP IBP.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever forecast consumption is involved in processing of sales orders with a transaction or function modules and the location material is part of the SAP IBP integration model.</p> <p>For example, posting goods issue for outbound delivery with VA02.</p>	N/A

BAdI	Method	OpenAPI Table	Description	Notes and Comments
	SAVE_CONSUMPTION_PREP	Not relevant	<p>Prepares goods issue quantities relevant for forecast consumption sent from SAP ERP to SAP IBP.</p> <p>This BAdI is triggered every time you run an initial load of master data in SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.</p> <p>This BAdI is also triggered whenever forecast consumption is involved in processing of sales orders with a transaction or function modules and the location material is part of IBP integration model.</p> <p>For example, posting goods issue for outbound delivery with VA02.</p>	
/IBP/ECC_ABAP_OUT	MODIFY_DATA	All OpenAPI table can be changed with this BAdI	Updates the data that will be sent back to SAP IBP from SAP ERP via the SDI ABAP adapter immediately before the data is sent out	<p>i Note</p> <p>This BAdI is not relevant for time-series-based integration.</p>
/IBP/ECC_ABAP_IN	MODIFY_DATA	All OpenAPI table can be changed with this BAdI	Updates the order data that will be sent back from SAP IBP to SAP ERP via the SDI ABAP adapter immediately after it has been received.	<p>i Note</p> <p>This BAdI is not relevant for time-series-based integration.</p>

BAdI	Method	OpenAPI Table	Description	Notes and Comments
/IBP/ ECC_TRANS_DELTA	ORDER_DELTA	Not relevant	Defines and saves delta of orders to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	i Note This BAdI is not relevant for order-based integration.
	CONSUMPTION_DELTA	Not relevant	Defines and saves delta of forecast consumption to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	
	FIELD_CATALOG_DELTA	Not relevant	Defines and saves delta of sales order field catalogs to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	
	STOCK_DELTA	Not relevant	Defines and saves delta of stock to be integrated into time-series-based planning areas in SAP IBP using SAP Cloud Integration for data services.	
/IBP/ETS_PIR_IN	MODIFY_DATA	Not relevant	Modifies planned independent requirement data before inserting it into the staging table in SAP ERP	i Note This BAdI is not relevant for order-based planning integration.
	CONVERT_PRDID	Not relevant	Converts material numbers sent from IBP to match the format in which material numbers are stored in	

5.1 Extensions for Time-Series-Based Integration

You can send additional fields to SAP Integrated Business Planning for Supply Chain (SAP IBP) time-series-based planning using the following extractors:

- /IBP/LOCATION_ATTR
- /IBP/PRODUCT_ATTR
- /IBP/PRODUCT_TEXT
- /IBP/PRODUCT_UOM_ATTR
- /IBP/RESOURCE_ATTR
- /IBP/RESOURCE_TEXT
- /IBP/LOCATIONPRODUCT_ATTR
- /IBP/RESOURCELOCATION_ATTR
- /IBP/SOURCEPRODUCTION_ATTR
- /IBP/PRODUCTIONSOURCEITEM_ATTR
- /IBP/UNIT_OF_MEASURE_ATTR
- /IBP/UNIT_OF_MEASURE_TEXT
- /IBP/SOURCELOCATION_ATTR
- /IBP/CAPASUPPLY_KF
- /IBP/ORDER_KF
- /IBP/OPEN_ORDERS_REV_KF
- /IBP/STOCK_KF
- /IBP/CURRENCY_ATTR
- /IBP/CURRENCY_TEXT
- /IBP/EXCHANGE_RATE_ATTR
- /IBP/EXCHANGE_RATES_KF
- /IBP/PRODUCTIONRESOURCE_ATTR

To do it, proceed as follows:

1. Call the RSA6 transaction.
2. Navigate to **SAP > SCM-IBP-INT > SCM-IBP-INT-ECC-TS-IO** for master data or to **SAP > SCM-IBP-INT > SCM-IBP-INT-ECC-TS** for key figures.
3. Mark the data source you want to enhance.
4. Choose *Enhance Extraction Structure*.
5. If the append name is not filled, choose a name, for example, ZAS_ETS_PRODUCT_ATTR_PUB.
6. Choose *Continue* ()
7. Fill the *Short Description* field.
8. Add one or more fields and their types.

i Note

The field must be in the customer name space ZZ*.

9. Activate the append.

10. Navigate back to the display of the hierarchy.
11. Mark the data source if not done yet.
12. Choose the *Change Data Source* button (**Ctrl** + **Shift** + **F1**)
13. By default, the added fields are hidden. You have to deselect *Hide field* and *Field only Known in Customer Exit* to make them visible in the extractor.
14. If you want to make your fields selectable, choose **Enter** and set the *Selection* field.
15. Save your changes.

Result: Now the extractor has additional customer fields, which are visible and could be selectable for the calling application. Reload the extractor in the corresponding datastore to make these fields visible also in SAP Cloud Integration for data services.

i Note

Each time you install a new support package, you need to activate extractors using the RSA5 transaction.

Additionally, you can define private fields in the selection structure, which are only visible during selection and can be used to influence visible fields in BAdI implementations. Please proceed as follows:

1. Start the SE11 transaction.
2. Enter `/IBP/S_*_ALL` into the *Data Type* field and start the search help by choosing **F4** or the corresponding icon.
3. On the *Selection of Input Help* pop-up, choose the *Search for Structures* button. The following list of available SAP IBP data source structures will be displayed:
 - `/IBP/S_ETS_CAPASUPPLY_KF_ALL`
 - `/IBP/S_ETS_CURR_ATTR_ALL`
 - `/IBP/S_ETS_CURR_TEXT_ALL`
 - `/IBP/S_ETS_ER_ATTR_ALL`
 - `/IBP/S_ETS_EXCHANGERATE_KF_ALL`
 - `/IBP/S_ETS_LOCATION_ATTR_ALL`
 - `/IBP/S_ETS_LOCPROD_ATTR_ALL`
 - `/IBP/S_ETS_ORDER_KF_ALL`
 - `/IBP/S_ETS_OPEN_ORDERS_KF_ALL`
 - `/IBP/S_ETS_PRODRES_ATTR_ALL`
 - `/IBP/S_ETS_PRODSRCITM_ATTR_ALL`
 - `/IBP/S_ETS_PRODUCT_ATTR_ALL`
 - `/IBP/S_ETS_PRODUCT_TEXT_ALL`
 - `/IBP/S_ETS_PRODUCTUOM_ATTR_ALL`
 - `/IBP/S_ETS_RESLOC_ATTR_ALL`
 - `/IBP/S_ETS_RESOURCE_ATTR_ALL`
 - `/IBP/S_ETS_RESOURCE_TEXT_ALL`
 - `/IBP/S_ETS_SOURCELOC_ATTR_ALL`
 - `/IBP/S_ETS_SRCPROD_ATTR_ALL`
 - `/IBP/S_ETS_STOCK_KF_ALL`
 - `/IBP/S_ETS_TIMEPRF_ATTR_ALL`
 - `/IBP/S_ETS_TOTDEMAND_KF_CI_ALL`

- /IBP/S_ETS_UOM_ATTR_ALL
 - /IBP/S_ETS_UOM_TEXT_ALL
4. Double-click the structure you want to enhance and choose the *Display* button. On the *Dictionary: Display Structure* screen, you can see the list of components of the structure. There is one component with the following content:
Component .INCLU-__PR and component type CI_IBP_ETS_..._PRI: you can use it to define private fields, which are only visible in the source system and can be used to select additional fields from the replication tables in order to calculate public fields via BAdI /IBP/BADI_ES_ETS_SELECTION. Double-click CI_IBP_ETS_..._PRI to add additional private fields.

Note

In most extractor structures there is also the following component:

Component .INCLU-__PU and component type CI_IBP_ETS_..._PUB: Please do not use them any longer. Please use appends as described above.

5. If the structure does not yet exist, confirm that you want to create the structure when asked.
6. Fill the *Short Description* field and add one or several field names and the corresponding component types. You do not need to follow the naming convention for customer fields (starting with ZZ) here, because all fields that are created in this customizing include will get an additional suffix __PR in the overall structure. This ensures that no clashes occur with standard fields added in future support packages.
7. Choose the development package you want to assign the customizing include to and navigate to **Extras** **Enhancement Category...** to make the append extensible if needed. Usually extensibility is not required and you can select *Cannot Be Enhanced*.
8. Choose the *Copy* button or press .
9. Check the customizing include and fix errors and warnings. Activate your customizing include. Warnings of type *Field <field name> does not lie within customer namespace* can be ignored due to the reason described above.

5.1.1 Filling the Additional Fields of Extractors

You can fill the additional fields of the extractors either using move-corresponding or by implementing the BAdI /IBP/BADI_ES_ETS_SELECTION.

Option 1: Use Move-Corresponding from Source Replication Tables

Note

The move-corresponding from staging table fields to the corresponding append fields of the data sources is only fully working after applying SAP Note [2787980](#).

Fields defined in customizing includes of the extractor structures are filled from corresponding fields of the source replication tables. First the framework searches for fields in the source tables with the same name as defined in the customizing include (ignoring the suffixes). If this fails, the framework tries to find corresponding

standard fields by taking out ZZ, YY or the namespace /.../ from the field name and searching with the remaining part of the field name. If either of the searches is successful, the mapping from the replication table to the extractor structure is done automatically.

It is also possible to add customer fields to the replication tables using the corresponding customizing includes. These fields are not considered for order-based integration via SDI, but only when integrating to time-series-based planning using extractors and SAP Cloud Integration for data services. You can create the customizing includes for the replication tables as follows:

1. Call transaction SE11 and select the *Database table* checkbox.
2. Enter the replication table name (see table below) into the *Database table* field and choose the *Display* button.
3. On the *Dictionary: Display Table* screen, you can see the list of fields of the table. There is a component with the following content: Field . INCLU-_TC and Data Element CI_IBP_ETS_ . . . _EXT. It can be used to define additional customer fields that can be filled by the corresponding BAdI and read by the time-series-based extractors. Double-click the CI_IBP_ETS_ . . . _EXT entry .
4. Follow steps 4 to 8 for defining private fields as described in [Extensions for Time-Series-Based Integration \[page 65\]](#). Again, you do not need to use the customer namespace ZZ.... as the fields automatically get an append _TC in the table definition.

The fields added to the replication tables via customizing includes need to be filled by BAdI implementation, see below table to find the BAdIs corresponding to the replication tables.

❁ Example

Standard replication table field

There is a standard field called SHIP_CALENDAR in the replication table /IBP/MARC_EXT. If you create an append to the /IBP/S_ETS_LOCPROD_ATTR_PUB structure containing a field ZZSHIP_CALENDAR, the standard field SHIP_CALENDAR is copied from the table /IBP/MARC_EXT to the extractor structure. To make the field visible to the outside world, you also need to change the field settings in transaction RSA6, see details above. If you add a field SHIP_CALENDAR to customizing include CI_IBP_ETS_LOCPROD_ATTR_PRI, the /IBP/MARC_EXT-SHIP_CALENDAR field is copied to the internal field /IBP/S_ETSLOCPROD_ATTR_PRI-SHIP_CALENDAR_PR, which can be used in the /IBP/BADI_ES_ETS_SELECTION BAdI for calculations of other fields.

❁ Example

Predefined replication table customer field

There are ten predefined customer fields called CUST_ATTR1 to CUST_ATTR10 in the replication tables /IBP/MARA_EXT, /IBP/MARC_EXT, and /IBP/LOC_EXT.

If you create an append to structure /IBP/S_ETS_LOCATION_ATTR_PUB containing a field ZZCUST_ATTR1, or if you add a field CUST_ATTR5 to customizing include CI_IBP_ETS_LOCPROD_ATTR_PRI, the predefined customer fields are taken preferably from the table /IBP/MARC_EXT and not from the table /IBP/MARA_EXT in case of name clashes.

❁ Example

Own replication table field

You create the field MYFIELD of the CHAR10 type in the following customizing includes:

- CI_IBP_ETS_MARA_EXT
- CI_IBP_ETS_MARC_EXT
- CI_IBP_ETS_LOCPROD_ATTR_PRI

Also, you create an append to the structure /IBP/S_ETS_LOCATION_ATTR_PUB with a field **ZZMYFIELD**, for example, using the RSA6 transaction.

This leads to the creation of fields MYFIELD_TC in tables /IBP/MARA_EXT and /IBP/MARC_EXT and of fields ZZMYFIELD and MYFIELD_PR in the /IBP/S_ETS_LOCPROD_ATTR_ALL extraction structure.

The framework automatically copies the content of field /IBP/MARC_EXT-MYFIELD_TC to fields /IBP/S_ETS_LOCPROD_ATTR_ALL-ZZMYFIELD and /IBP/S_ETS_LOCPROD_ATTR_ALL-MYFIELD_PR. The field /IBP/MARA_EXT-MYFIELD_TC is not copied because /IBP/MARC_EXT is the main selection table.

The following are the source tables of the different extractors and the corresponding BADIs called when writing the table entries:

Extractor	Replication Tables	Replication Table BADIs
/IBP/LOCATION_ATTR	/IBP/LOC_EXT	/IBP/ECC_SAVE_LOCATION
/IBP/PRODUCT_ATTR	/IBP/MARA_EXT	/IBP/ECC_SAVE_MATERIAL
/IBP/PRODUCT_TEXT	/IBP/MAKT_EXT /IBP/MARA_EXT	/IBP/ECC_SAVE_MATERIAL
/IBP/RESOURCE_ATTR	/IBP/RESHEAD_EXT	/IBP/ECC_SAVE_WORK_CENTER
/IBP/RESOURCE_TEXT	/IBP/RESDESC_EXT /IBP/RESHEAD_EXT	/IBP/ECC_SAVE_WORK_CENTER
/IBP/LOCATIONPRODUCT_ATTR	/IBP/MARC_EXT /IBP/MARA_EXT	/IBP/ECC_SAVE_MATERIAL
/IBP/RESOURCELOCATION_ATTR	/IBP/RESHEAD_EXT /IBP/RESCAPA_EXT (current date only) /IBP/LOC_EXT	/IBP/ECC_SAVE_WORK_CENTER /IBP/ECC_SAVE_LOCATION
/IBP/SOURCEPRODUCTION_ATTR	/IBP/SOSHEAD_EXT /IBP/MARC_EXT	/IBP/ECC_SAVE_PDS /IBP/ECC_SAVE_MATERIAL
/IBP/ PRODUCTIONSOURCEITEM_ATTR	/IBP/SOSBOM_EXT /IBP/SOSHEAD_EXT /IBP/MARC_EXT	/IBP/ECC_SAVE_PDS /IBP/ECC_SAVE_MATERIAL

Extractor	Replication Tables	Replication Table BADIs
/IBP/PRODUCTIONRESOURCE_ATTR	/IBP/SOSRES_EXT /IBP/SOSHEAD_EXT /IBP/RESHEAD_EXT	/IBP/ECC_SAVE_WORK_CENTER
/IBP/PRODUCT_UOM_ATTR	/IBP/MARM_EXT /IBP/MARA_EXT	/IBP/ECC_SAVE_MATERIAL
/IBP/UNIT_OF_MEASURE_ATTR	RST006 (structure)	N/A
/IBP/UNIT_OF_MEASURE_TEXT	RSLANGUSEL (structure) RST006A (structure) RST006 (structure)	N/A
/IBP/CAPASUPPLY_KF	/IBP/RESCAPA_EXT /IBP/RESHEAD_EXT /IBP/LOC_EXT /IBP/ETS_TIMEPRF	/IBP/ECC_SAVE_WORK_CENTER
/IBP/ORDER_KF	/IBP/ORDER_EXT /IBP/MARC_EXT /IBP/ETS_TIMEPRF /IBP/SOSHEAD_EXT (optional)	/IBP/ECC_SAVE_ORDER_STOCK
/IBP/OPEN_ORDERS_REV_KF	/IBP/MARA_EXT	/IBP/ECC_SAVE_MATERIAL
/IBP/STOCK_KF	/IBP/STOCK_EXT /IBP/MARC_EXT /IBP/MARA_EXT	/IBP/ECC_SAVE_ORDER_STOCK
/IBP/SOURCELOCATION_ATTR	/IBP/TLANE_EXT /IBP/MARC_EXT	/IBP/ECC_SAVE_TLANE
/IBP/CURRENCY_ATTR	RSTCURC (structure)	N/A
/IBP/CURRENCY_TEXT	RSLANGUSEL (structure) RSTCURC (structure) RSTCURT (structure)	N/A
/IBP/EXCHANGE_RATES_ATTR	RSTCURR (structure)	N/A
/IBP/EXCHANGE_RATES_KF	RSTCURR (structure)	N/A

To fill the fields of the customizing includes or hard-coded customer fields of the replication tables or change the content of the standard table fields, implement the corresponding BAdI using the transaction SE19. See the table above to find the relevant BAdI name.

Option 2: Implement the BAdI /IBP/BADI_ES_ETS_SELECTION

If the move-corresponding logic does not work or is not sufficient, you also can implement the /IBP/BADI_ES_ETS_SELECTION BAdI of the enhancement spot /IBP/ES_ETS_SELECTION using the SE19 transaction. This BAdI has two methods:

1. MODIFY_SELECTION

This method is called once when initializing the extraction. `IV_SELECTION_OBJECT_ID` is the extractor name. `IT_RESULT_TABLE` is the table for the data extraction. It is not writable. The only purpose of it is to be able to do an analysis of the table structure. `IT_REQUESTED_FIELDS` is the list of fields requested by the caller of the extractor.

- `CT_SELECTIONS`: You can modify the selection conditions by this parameter. You also can store the selection conditions in a member variable of the implementing class in order to use it in the method `MODIFY_DATA_PACKAGE`.
- `CT_FIELDS`: You can modify the list of fields to be selected using this parameter. This is necessary if you need to select private or additional public fields in order to fill a public field in the `MODIFY_DATA_PACKAGE` method described below. You also can store the fields to be selected in a member variable of the implementing class in order to use it in the `MODIFY_DATA_PACKAGE` method.
- `CV_SKIP_STANDARD_SELECTION`: If you select this flag, the standard selection logic of the extractor is skipped and the method `MODIFY_DATA_PACKAGE` is called with an empty table `CT_ITAB`. You have to fill that table in `MODIFY_DATA_PACKAGE` on your own and to make sure that after the last data package has been sent, the flag `CV_FINISHED` is set.

2. MODIFY_DATA_PACKAGE

This method is called one or several times till the `CV_FINISHED` flag is set. `IV_SELECTION_OBJECT_ID` is the extractor name.

`IV_PACKAGESIZE` is the expected package size in number of entries. This is a recommendation. If you do not follow it, the superclass will take care about buffering entries and about calling several times to fulfill the requested package size.

`CT_ITAB` is the table of selected data that can be extended and modified in this BAdI method. You are also able to delete and add whole table entries here.

Please note that `CT_ITAB` does not have the extractor structure itself as a table structure, but an extended structure, for example:

```
/IBP/S_ETS_LOCATION_ATTR_ALL
.INCLUDE /IBP/S_ETS_LOCATION_ATTR_PUB (extractor structure)
.INCLUDE /IBP/S_ETS_LOCATION_ATTR_PRI (internal fields)
```

The include `/IBP/S_ETS_LOCATION_ATTR_PRI` can be used to define internal fields that are not visible in the external extractor structure. You can create a customer append to this include using transaction SE11 (see the [List of Extractors, Including Involved Structures](#) table for a complete list of available structures). Don't forget to set a filter `<data source name> = SELECTION_OBJECT_ID` in the BAdI implementation, as otherwise the BAdI implementation would be called for all data sources of the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.

The `CV_FINISHED` flag indicates that the data selection is finished. By default, `CV_FINISHED` stays initial as long as data are still selected in packages by the framework and is set to **x** with or after the last data

package. If you set CV_FINISHED to X, the method will not be called any more and after the currently processed data the selection will stop. If the incoming CV_FINISHED flag is X, the database selection by the framework is finished. If you deselect the flag, the BAdI method is called again and you can send data in several packages. Please make sure that you always reach a state where the CV_FINISHED flag is set to X to prevent endless loops.

Note

If you set the CV_FINISHED flag and CT_ITAB still contains data, they still will be sent to the SAP Integrated Business Planning for Supply Chain system, but the method will not be called again.

If you do not define a filter for the BAdI implementation, it is called for all extractors of SAP ERP, supply chain integration add-on for SAP Integrated Business Planning. This also means that the MODIFY_DATA_PACKAGE method is called with different table structures. We recommend that you define a filter specifying the extractor name. Then the method is only called for this extractor and thus you can see from the table below what is the corresponding table structure:

List of Extractors, Including Involved Structures and Implementing Classes

Extractor	Structure of BAdI Table		
	Extractor Structure	Parameter CT_ITAB	Implementing Class
/IBP/LOCATION_ATTR	/IBP/ S_ETS_LOCATION_ATTR_PUB	/IBP/ S_ETS_LOCATION_ATTR_ALL	/IBP/ CL_ETS_GET_LOCATION_ATTR
/IBP/PRODUCT_ATTR	/IBP/ S_ETS_PRODUCT_ATTR_PUB	/IBP/S_ETS_ PRODUCT_ATTR_ALL	/IBP/ CL_ETS_GET_PRODUCT_ATTR
/IBP/PRODUCT_TEXT	/IBP/ S_ETS_PRODUCT_TEXT_PUB	/IBP/S_ETS_ PRODUCT_TEXT_ALL	/IBP/ CL_ETS_GET_PRODUCT_TEXT
/IBP/RESOURCE_ATTR	/IBP/ S_ETS_RESOURCE_ATTR_PUB	/IBP/ S_ETS_RESOURCE_ATTR_ALL	/IBP/ CL_ETS_GET_RESOURCE_ATTR
/IBP/RESOURCE_TEXT	/IBP/ S_ETS_RESOURCE_TEXT_PUB	/IBP/ S_ETS_RESOURCE_TEXT_ALL	/IBP/ CL_ETS_GET_RESOURCE_TEXT
/IBP/ LOCATIONPRODUCT_ATTR	/IBP/ S_ETS_LOCPROD_ATTR_PUB	/IBP/ S_ETS_LOCPROD_ATTR_ALL	/IBP/ CL_ETS_GET_LOCPROD_ATTR
/IBP/ RESOURCELOCATION_ATTR	/IBP/ S_ETS_RESLOC_ATTR_PUB	/IBP/ S_ETS_RESLOC_ATTR_ALL	/IBP/ CL_ETS_GET_RESLOC_ATTR
/IBP/PRODUCT_UOM_ATTR	/IBP/ S_ETS_PRODUCTUOM_ATTR_PUB	/IBP/ S_ETS_PRODUCTUOM_ATTR_ALL	/IBP/ CL_ETS_GET_PROD_UOM_ATTR
/IBP/ UNIT_OF_MEASURE_ATTR	/IBP/ S_ETS_UOM_ATTR_PUB	/IBP/ S_ETS_UOM_ATTR_ALL	/IBP/ CL_ETS_GET_UOM_ATTR

Structure of BAdI Table

Extractor	Extractor Structure	Parameter CT_ITAB	Implementing Class
/IBP/ UNIT_OF_MEASURE_TEXT	/IBP/ S_ETS_UOM_TEXT_PUB	/IBP/ S_ETS_UOM_TEXT_ALL	/IBP/ CL_ETS_GET_UOM_TEXT
/IBP/ SOURCEPRODUCTION_ATTR	/IBP/ S_ETS_SRCPROD_ATTR_PUB	/IBP/ S_ETS_SRCPROD_ATTR_ALL	/IBP/ CL_ETS_GET_SRCPROD_ATTR
/IBP/ PRODUCTIONSOURCEITEM_ATTR	/IBP/ S_ETS_PRODSRCITM_ATTR_PUB	/IBP/ S_ETS_PRODSRCITM_ATTR_ALL	/IBP/ CL_ETS_GET_PRDSRCITM_ATTR
/IBP/CAPASUPPLY_KF	/IBP/ S_ETS_CAPASUPPLY_KF_PUB	/IBP/ S_ETS_CAPASUPPLY_KF_ALL	/IBP/ CL_ETS_GET_CAPASUPPLY_KF
/IBP/ORDER_KF	/IBP/ S_ETS_ORDER_KF_PUB	/IBP/ S_ETS_ORDER_KF_ALL	/IBP/ CL_ETS_GET_ORDER_KF
/IBP/ OPEN_ORDERS_REV_KF	/IBP/ S_ETS_OPEN_ORDERS_KF_PUB	/IBP/ S_ETS_OPEN_ORDERS_KF_ALL	/IBP/ CL_ETS_GET_OPEN_ORDER_KF
/IBP/STOCK_KF	/IBP/ S_ETS_STOCK_KF_PUB	/IBP/ S_ETS_STOCK_KF_ALL	/IBP/ CL_ETS_GET_STOCK_KF
/IBP/ SOURCELOCATION_ATTR	/IBP/ S_ETS_SOURCELOC_ATTR_PUB	/IBP/ S_ETS_SOURCELOC_ATTR_ALL	/IBP/ CL_ETS_GET_SOURCELOC_ATTR
/IBP/CURRENCY_ATTR	/IBP/ S_ETS_CURR_ATTR_PUB	/IBP/ S_ETS_CURR_ATTR_ALL	/IBP/ CL_ETS_GET_CURR_ATTR
/IBP/CURRENCY_TEXT	/IBP/ S_ETS_CURR_TEXT_PUB	/IBP/ S_ETS_CURR_TEXT_ALL	/IBP/ CL_ETS_GET_TEXT_ATTR
/IBP/ EXCHANGE_RATES_ATTR	/IBP/S_ETS_ER_ATTR_PUB	/IBP/S_ETS_ER_ATTR_ALL	/IBP/ CL_ETS_GET_EXCH_RATE_ATTR
/IBP/EXCHANGE_RATES_KF	/IBP/ S_ETS_EXCHANGERATE_KF_PUB	/IBP/ S_ETS_EXCHANGERATE_KF_ALL	/IBP/ CL_ETS_GET_EXCH_RATE_KF
/IBP/ PRODUCTIONRESOURCE_ATTR	/IBP/ S_ETS_PRODRES_ATTR_PUB	/IBP/ S_ETS_PRODRES_ATTR_ALL	/IBP/ CL_ETS_GET_PRODRES_ATTR

You can also combine the two options described above. You can fill or overwrite fields of the replication tables using BAdIs, then you define customizing include for public and private fields. This way, the added fields are copied automatically from the replication table to the table parameter CT_ITAB of the method MODIFY_DATA_PACKAGE of the BAdI /IBP/BADI_ES_ETS_SELECTION. This BAdI can then be used to map the content of the private field to the public one, including needed conversions.

5.1.2 Defining Extractors

The framework also supports defining new extractors, either creating them using example implementations or from scratch.

Defining Customer Extractors

Some extractors are already delivered with example implementations. If you want to use these extractors with the example implementation, compared to the use of standard extractors, you also need to activate the example BAdI implementation as follows:

1. Call the SPRO transaction.
2. Choose *Display SAP Reference IMG*.
3. Navigate to [SAP Customizing Implementation Guide](#) > [Integration with Other SAP Components](#) > [Integrated Business Planning](#) > [Business Add-Ins \(BAdIs\)](#).
4. Choose the *IMG-Activity* icon in the row of *BAdI: Adjust Outbound Data During Integration Via Extractors*.
5. In the *Active(IMG)* column, select all BAdI implementations you want to activate.
6. Select or create a transport request.
7. Save the changes.
8. Transport, if necessary.

Delivered Customer Extractors and Example Implementations of BAdI /IBP/BADI_ES_ETS_SELECTION, Including Involved Structures and Implementing Classes

Extractor	Extractor and BAdI Structure	Enhancement Implementation	Implementing Class
/IBP/ SOURCECUSTOMER_CI_ATTR	/IBP/ S_ETS_SRCCUST_ATTR_CI	/IBP/ ETS_SEL_SRCCUST_CI	/IBP/ CL_ETS_SEL_SRCCUST_CI
/IBP/ FORECAST_QTY_CI_KF	/IBP/ S_ETS_FORECAST_QTY_KF_ CI	/IBP/ ETS_SEL_FORECAST_QTY_C I	/IBP/ CL_ETS_SEL_FORECASTQTY _CI
/IBP/ACTUALS_QTY_CI_KF	/IBP/ S_ETS_ACTUALS_QTY_KF_C I	/IBP/ ETS_SEL_ACTUALS_QTY_CI	/IBP/ CL_ETS_SEL_ACTUALS_QTY _CI

Extractor	Extractor and BAdI Structure	Enhancement Implementation	Implementing Class
/IBP/ TOTDEMAND_QTY_CI_KF	/IBP/ S_ETS_TOTDEMAND_KF_CI	/IBP/ ETS_SEL_TOTDEMAND_QTY_ CI	/IBP/ CL_ETS_SEL_TOTDEMNDQTY _CI

The structures of the extractors above do not have custom includes for field extensions because the extension concept is different. If you need more fields or a different mapping, you can create your own extractor, including its structure and BAdI implementation. In addition, you can create a subclass of one of the delivered classes, but you can create your own stand-alone class to implement the BAdI /IBP/BADI_ES_ETS_SELECTION as well.

For more information on the example BAdI implementations, see [Example BAdI Implementations \[page 78\]](#).

Defining Your Own Extractor

Follow the steps below to define your own extractors from scratch.

1. Create extractor structure using the SE11 transaction as follows:
 1. Call the SE11 transaction, and select *Data Type*.
 2. Enter the name of the extractor structure in the corresponding field. The recommended naming convention is /<customer namespace>/S_<extractor name> or ZS<extractor name>, for example, ZSMYTYPE_ATTR, and choose *Create*.
 3. Select *Structure* and choose *Continue (Enter)*.
 4. Fill the field *Short Description*.
 5. Add one or several fields and their component types to the field list.
 - Use meaningful names as the fields are visible to others. In the case of standard extractors, names are often similar to the ones in the SAP Integrated Business Planning for Supply Chain (SAP IBP) target tables.
 - Try to create field names which are less than 17 characters long, as there might be technical issues with longer names.
 - Do not use fields with references to currencies or units of measure, as they cannot be interpreted in a remote system.
 6. Navigate to ► *Extras* ► *Enhancement Category...* in the menu, and choose *Continue (Enter)*.
 7. Set the enhancement category according to your needs, but do not set it to *Can be enhanced (Deep)*. For example, *Can be enhanced (character-type or numeric)*.
 8. Choose *Copy (Enter)* then *Activate (Ctrl+F3)*.
 9. Select a development package.
 10. Choose *Continue (Enter)* to activate the structure.
 11. If the structure is not activated, fix the error and activate the structure again.
 12. Leave the transaction.
2. Create an extractor using the RSO2 transaction as follows:
 1. Call the RSO2 transaction.
 2. Decide if you want to create an extractor for master data attributes, texts, or transactional data, and select the corresponding option, for example, *Master Data Attributes*.

3. Enter the name of the extractor in the corresponding field. The naming convention is to use your own customer namespace with slashes or a name starting with a letter. In addition, master data extractors have the suffix `_ATTR`, texts have the suffix `_TEXT`, and in the SAP IBP add-on, the suffix `_XF` is used for key figure extractors, for example, **MYTYPE_ATTR**.
 4. Choose *Create*.
 5. Select an application component. You can use `SCM-IBP-INT-ECC-TS` for transactional data and `SCM-IBP-INT-ECC-TS-IO` for master data attributes and texts. This way, your own extractors occur at the same place in the hierarchy as the standard ones.
 6. Fill the *Short Description*, *Medium Description* and *Long Description* fields. Long descriptions are visible in SAP Cloud Integration for data services.
 7. Choose *Extraction by FM*.
 8. In the *Function Module* field, enter the value `/IBP/ETS_RSAX_BIW_GET_DATA_SMP`.
 9. In the *Extract.Struct.* field, enter the name of the structure defined above, for example, **ZSMYTYPE_ATTR**.
 10. Choose *Save* (`Ctrl+S`).
 11. Select a development package, which is often the same as for the structure defined before.
 12. A screen is displayed showing the fields of the extractor structure. Select which fields to be hidden and which fields can be used for selection filters.
 13. Choose *Save* (`Ctrl+S`) again.
 14. After the *Data Source* has been saved successfully, you can leave the transaction.
3. Expose extractor using the `RODPS_OS_EXPOSE` report as follows:
 1. Start the `SA38` transaction.
 2. Enter `RODPS_OS_EXPOSE` in the *Program* field, and choose *Execute* (`F8`).
 3. In the *DataSource* field (Pattern with *), enter the name of your newly created extractor, for example, **MYTYPE_ATTR**.
 4. Choose *Release DataSource(s)* then *Copy (Enter)*.
 5. Answer the question *Release selected 1 Datasources?* with *Yes*.
 6. Create or select a transport request.
 7. Choose *Display Releases* to check whether the release took place.
 8. Leave the transaction.
 4. Implement the `BAdI /IBP/BADI_ES_ETS_SELECTION` as described in [Filling the Additional Fields of Extractors \[page 67\]](#) with the following differences:
 - There is no standard selection
 - In the `MODIFY_DATA_PACKAGE` method, `CI_ITAB` is always empty and `CV_FINISHED` is set to 'X' (true) by default.

You can use the `MODIFY_SELECTION` method to open a cursor for selecting data, or just to remember the importing parameters in member variables, such as `IT_REQUESTED_FIELDS` or `CT_SELECTIONS`. Then, you can use the `MODIFY_DATA_PACKAGE` method to either fetch a data package from the open cursor or to directly select data and write it into the `CT_ITAB` table.

You can use the `IV_PACKAGESIZE` parameter as a suggestion for the package size for the selected data, but you can also select all data at once. Note, however, that data exceeding the package size is buffered in memory, which can cause memory issues.

If you set `CV_FINISHED` to `''` (false), the method is called again.

Don't forget to set a filter `<data source name> = SELECTION_OBJECT_ID` in the `BAdI` implementation, as otherwise the `BAdI` implementation would be called for all data sources of the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning.

You can use the example BAdI implementations with the `_CI` suffix as templates for your own implementations, as they are implemented with the same approach. For more information, see [Example BAdI Implementations \[page 78\]](#).

5. Test the extractor locally using the `/IBP/ETS_REPL_TEST` report as follows:
 1. Enter `/N/IBP/ETS_REPL_TEST` in the OK-code field and choose .
 2. In the *Data Source / Extractor Name* field, enter the name of the newly created extractor.
 3. Under *Selections*, you can define one or more selection conditions for the fields of the extractor. This corresponds to the filter conditions pushed down from SAP Cloud Integration for data services to the extractor.
Note that not all filter conditions are pushed down, as some might only be evaluated in SAP Cloud Integration for data services afterwards.
 4. Use *Projections* to define which fields are to be requested from the extractor. In SAP Cloud Integration for data services, this corresponds to fields that are mapped to target fields or used to define filters that are not pushed down to the extractor.
 5. Choose between *Serial Extraction Using ODQ* and *Direct Extraction Without ODQ*. While the former is similar to the call from SAP Cloud Integration for data services and calls the extraction in the background, the latter directly calls the extractors and is better for debugging.
 6. You can switch from *ALV Grid Display* to a list output by selecting the checkbox *No ALV Grid Display*.
 7. You can influence the maximum number of displayed rows and the package size in kilobytes by changing the corresponding fields. The default package size of 51.200 KB corresponds to the package size used by SAP Cloud Integration for data services.

When testing your own extractor using the `/IBP/ETS_REPL_TEST` report, you can reset delta subscription. By doing so, you can test data loading of delta-enabled extractors. If you reset delta subscription, all data is sent by the system first, then, with the next call, only changed data is sent. Changed data is selected relative to a given timestamp or date field representing the date and time of the last change. Note that extractors provided in the add-on by SAP are not delta-enabled.

You can also use the `RODPS_REPL_TEST` report for testing extractors, but in this case, note the following:

- In the earliest NetWeaver releases supported by the add-on, the `RODPS_REPL_TEST` report has a simpler interface with slightly different fields, and you are only able to define one selection condition for each field.
- As the report can be used to test other extractors as well, it is more complicated to use.

You can also use the `RSA3` transaction for testing extractors with the following remarks:

- You cannot test whether the extractor is exposed because it is not required for `RSA3`.
- Since you cannot define any projections, you cannot test how the extractor behaves if not all fields are requested.

This heavily impacts the test of key figure extractors, as the aggregation depends on the requested fields.

6. Use the `ODQMON` transaction for error analysis:
 - If the local test was successful, you can load the extractor definition to the SAP Cloud Integration for data services datastore and use it in a data flow definition.
 - If you want to know whether and how the dataflow has called the extractor, use the `ODQMON` transaction as follows:
 1. Enter `/NODQMON` into the OK-code field and choose .
 2. Change the *Request Select.* field to *All*.
 3. Optionally, you can specify a queue name, for example, `/IBP/*` or `ZZIBP*`.
 4. You can navigate to the details of an extractor by double-clicking the corresponding row.

5. As of ODP 2.0, the list contains the column [Selection](#), which contains the filters pushed down from SAP Cloud Integration for data services.
6. You can take a look at the data sent to SAP Cloud Integration for data services by the extractor given that the corresponding details have not been deleted yet.

5.1.3 Example BAdI Implementations

BAdIs to Modify the Selection of Extractors

The `/IBP/BADI_ES_ETS_SELECTION` BAdI can be used to influence the selection of the extractors in the SAP ERP, supply chain integration add-on for SAP Integrated Business Planning. One of the use cases for this is to influence the selection already provided by an extractor of the add-on as described in [Extensions for Time-Series-Based Integration \[page 65\]](#) under *Option 2: Implement the BAdI /IBP/BADI_ES_ETS_SELECTION of the enhancement spot /IBP/ES_ETS_SELECTION using the SE19 transaction*. The following sections provide an example of this kind of implementation.

/IBP/ETS_SEL_LOCATION_REGION

This BAdI implementation uses the `/IBP/CL_ETS_EI_LOCATION_REGION` class and has a filter for `<SELECTION_OBJECT_ID>` (extractor name) = `/IBP/LOCATION_ATTR`, therefore, it is only called for that extractor. It overwrites the `LOCREGION` field, which normally contains the region of a country. If the example BAdI implementation is activated, `LOCREGION` is filled with one of the values `AMERICAS`, `APJ`, or `EMEA`.

In order to do so, in the `MODIFY_SELECTION` method, we make sure that the `LOCCOUNTRY` field is selected, even if the caller does not need it and we create two internal tables, one of them containing all American countries and the other containing the Asian ones, for example. Then in `MODIFY_DATA_PACKAGE`, we loop on the location table selected by the framework, and if the `LOCCOUNTRY` field has a value included in the American countries table, we set `LOCREGION` to `AMERICAS`. The same is done for `APJ`, and if nothing is found, `LOCREGION` is set to `EMEA`.

/IBP/ETS_SEL_SRCCUST_CI

This BAdI implementation uses the `/IBP/CL_ETS_SEL_SRCCUST_CI` class and has a filter for `<SELECTION_OBJECT_ID>` (extractor name) = `/IBP/SOURCECUSTOMER_CI_ATTR`, so it is only called for that extractor. It selects all product-location-customer combinations from the sales field catalogue staging table `/IBP/SLDFCAT_EXT` fitting to the selection conditions provided by the caller.

To do so, in the `MODIFY_SELECTION` method, the selection conditions are stored in internal range tables. Then, in the `MODIFY_DATA_PACKAGE` method, the actual selection of the data is executed using those stored ranges. Afterwards, we select the corresponding entries in tables `/IBP/MARC_EXT` and `/IBP/LOC_EXT` to find out if the product location (plant-dependent material data) and customer are valid. In addition, we calculate an equal share distribution of the valid locations for every customer product. Please note that the implementation selects all data at once without taking the package size into account. If the number of entries exceeds the requested package size, the framework calling the BAdI takes care of buffering the data and sends them with the fitting package size.

/IBP/ETS_SEL_ACTUALS_QTY_CI

This BAdI implementation uses the `/IBP/CL_ETS_SEL_ACTUALS_QTY_CI` class and has a filter for `<SELECTION_OBJECT_ID>` (extractor name) = `/IBP/ACTUALS_QTY_CI_KF`, so it is only called for that extractor. It selects sales documents from tables `VBAK` (header), `VBAP` (item), `VBEP` (schedule line), and `VBUK` (header status, ERP only). It also selects purchasing documents from tables `EKKO` (header), `EKPO` (item), and `EKET` (schedule line). To avoid selecting data not needed in SAP IBP, both selections are joined with the `/IBP/MARA_EXT`, `/IBP/MARC_EXT`, and `/IBP/LOC_EXT` tables.

By defining filter conditions, you can influence which types of sales and purchasing documents are selected. In the `MODIFY_SELECTION` method, the two database selections are prepared by opening SQL selection cursors.

In the `MODIFY_DATA_PACKAGE` method, the selection of sales documents and purchasing documents is executed and the results are summed up. If necessary, the quantities are converted into base units of measure. The processing is done in packages to avoid huge memory consumption while selecting and summing up values.

/IBP/ETS_SEL_FORECAST_QTY_CI

This BAdI implementation uses the `/IBP/CL_ETS_SEL_FORECAST_QTY_CI` class and has a filter for `<SELECTION_OBJECT_ID>` (extractor name) = `/IBP/FORECAST_QTY_CI_KF`, so it is only called for that extractor. It selects independent requirement quantities from tables `PBIM` (Independent Requirements for Material) and `PBED` (Independent Requirements Data). To avoid selecting data not needed in SAP IBP, the selection is joined with the `/IBP/MARA_EXT`, `/IBP/MARC_EXT`, and `/IBP/LOC_EXT` tables.

You can influence the selection by setting filters. The caller is also able to set filters for the `TIMEPROFILEID` and `TIMEPROFILELEVEL` fields. If this is the case, the `/IBP/ETS_TIMEPRF` table is joined in the select statement. In addition, the call of method `/IBP/CL_ETS_AGGREGATION_HELPER->ADD_TIMEPRF_ADD_KFDATE_SELCOND` makes sure that filters for the `KEYFIGUREDATE` field are adapted in a way that they cover full time buckets. The purpose of this is to aggregate to a certain SAP IBP time profile level during the selection on the database. If `TIMEPROFILEID` and `TIMEPROFILELEVEL` are not set by filters, the aggregation is done based on the requested fields. If the caller is requesting the `KEYFIGUREDATE` field, data are aggregated by date, else they are aggregated for all times.

Thus, you can use this example BAdI implementation as a template for selecting SAP IBP key figure data from standard or customer tables in the SAP ERP system with a restriction to data relevant for SAP IBP and with a built-in aggregation to the needed planning level in SAP IBP.

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If you cannot do the aggregation to a certain set of key fields or SAP IBP time profile level directly during database selection, you can also use the `/IBP/CL_ETS_AGGREGATION_HELPER->AGGREGATE_N_SUM_DATA_PACKAGE` method for that purpose.

/IBP/ETS_SEL_TOTDEMAND_QTY_CI

This BAdI implementation uses the `/IBP/CL_ETS_SEL_TOTDEMNDQTY_CI` class and has a filter for `<SELECTION_OBJECT_ID>` (extractor name) = `/IBP/TOTAL_DEMAND_QTY_CI_KF`, so it is only called for that extractor. It calls the implementing classes of the `/IBP/FORECAST_QTY_CI_KF` and `/IBP/ORDER_KF` extractors using the `/IBP/CL_ETS_RSAX_BIW_GET_DATA=>RUN_GET_DATA` method. The results of these calls are buffered, summed up, and sent to the caller. This way, it is possible to collect the data from both extractors and sum them up. With a similar implementation, it would also be possible to collect data for several key figures on the same planning level and provide them to the SAP IBP system with just one dataflow. It could increase the performance of the data replication if many key figures need to be updated on the

same planning level. By using the `/IBP/CL_ETS_RSAX_BIW_GET_DATA=>RUN_GET_DATA` method directly, the extractor framework is not called, therefore, you won't find any entries in the `ODQMON` transaction for the used extractors `/IBP/FORECAST_QTY_CI_KF` and `/IBP/ORDER_KF`.

Other BAdIs

`/IBP/ETS_PIR_IN_SAMPLE`

This BAdI implementation modifies data during the integration of planned independent requirements from SAP IBP to SAP ERP. It uses the `/IBP/CL_ETS_PIR_IN` class and the `CONVERSION_EXIT_MATN1_INPUT` function module. If it is activated, in the `CONVERT_PRDID` method, material numbers sent from SAP Cloud Integration for data services are converted according to the function module.

5.2 Uploading IBP Time Profiles for Aggregation

You can either reuse the file used for uploading the time profile to the IBP, or you can download the IBP time profile as follows:

1. In SAP Integrated Business Planning in the *Data Integration Jobs* app, choose *Download Template* and select the following:
 - *Time Periods* in the *Data Type* field
 - Your time profile ID in the *Time Profile* field
 - *With Existing Time Periods* in the *Prefill Template* field
2. Choose *Download*.

To upload the IBP time profile file to the SAP ERP, do the following:

1. Enter `/n/IBP/ETSTP` into the *Command* field and press enter. Alternatively, you can also open the main menu entry under **SAP Menu** > *Logistics* > *Central Functions* > *Supply Chain Planning Interface* > *Integrated Business Planning* > *Integration Model* > *Data Transfer* > *Configuration* > *Maintain Time Profiles for Aggregation (Time-Series-Based Integration)*. This opens a selection screen.
2. Optionally, you can define selection criteria.
3. Choose *Execute* (`F8`).
4. Choose *Upload from CSV File*.
5. In the *Name of the CSV File* field, enter the path and name of the source CSV file. You can use the search help of the field for that. Only files with the suffix `csv` can be selected. You can leave the *IBP System ID* field empty.
6. In the *IBP Time Profile ID* field, enter the time profile ID. If the file contains a filled `TPID` column, then the time profile ID is taken over from that column.
7. Optionally, you can fill the *IBP Time Profile Level* field to restrict the levels of the time profile uploaded to the system.

By default, a time profile consists of the levels 1 to 6. In the Best Practices content, level 1 is daily, 2 is technical weeks, 3 is calendar weeks, 4 is months, 5 is quarters and 6 is years. Since only level 2 is needed to run the upload of key figures to the unified planning area `SAPIBP1`, you can restrict the upload to level

2. You may also restrict it to levels 2 through 6, as an aggregation per date is possible without using a time profile and thus level 1 is not needed. It also contains the most entries and thus the table stays much smaller when excluding level 1 from the upload.
8. Choose *Execute* (F8).
9. Check the uploaded data. Entries with errors are displayed on top and contain a column with an error message. If there are invalid time stamp formats in the `PERIODSTART` and `PERIODEND` fields, use the *Correct Entries* button to correct the selected entries.
10. If the data is OK, choose *Save to Database Table*. Only then data are persisted in the system.

Please note the following about the data format and behavior of the transaction:

- The standard separator is comma. It can be overwritten by placing a first row in the file with the syntax `sep=<separator>`, for example, `sep=;` would set the separator to semicolon.
- The next (or the first) row is expected to contain the names of the columns separated by the specified separator.
- The other rows are expected to contain the values of the column fields separated by the specified separator.
- The long time stamp fields `PERIODSTART` and `PERIODEND` are expected to contain either a date in format `yyyymmdd` or a date and time in format `yyyymmddhhmmss.mmmnnn`. In both cases, intermediate slashes, backslashes, minus signs, colons, and spaces can be used and are ignored. Both fields only support full days, thus the times are always set to `00:00:00.0000000` for `PERIODSTART` and `23:59:59.9999999` for `PERIODEND`, independently of the input time information.
- The corresponding short time stamp fields `PERIODSTARTSHORT` and `PERIODENDSHORT` and date fields `PERIODSTARTDATE` and `PERIODENDDATE` are taken over from `PERIODSTART` and `PERIODEND` accordingly.
- The only other mandatory fields are the following:
 - `TPID` (IBP Time Profile ID)
 - `TPLEVEL` (IBP Time Profile Level)
 - `PERIODID` (Period ID in IBP Time Profile)
- Uploaded data only lead to inserts and updates. If you need to delete entries, you can mark them for deletion manually by selecting them and choosing *Mark for Deletion*. The deletions are only persisted when choosing *Save to Database Table* afterwards.

5.3 Integrating Factory Calendars

You can integrate factory calendars to the SAP Integrated Business Planning for Supply Chain (SAP IBP) solution, where planning calendars are generated based on them. Then, you can use these planning calendars in time-series-based supply planning as forecast consumption calendars and inbound calendars.

For time-series-based supply planning, you can transfer calendar data to SAP IBP using the `SAP_COM_0550` communication arrangement.

i Note

In case you use order-based planning as well, integrate factory calendars to SAP IBP via SAP HANA Smart Data Integration or the Core Interface (CIF) and use the related planning calendars for both order-based and time-series-based supply planning.

⚠ Caution

Do not integrate factory calendars to SAP IBP from multiple systems.

Prerequisites

- In SAP IBP, you have set the value of the `NW_CAL_ODATA_INT` global configuration parameter to **x**. For more information, see <http://help.sap.com/ibp> under ► *Model Configuration Guide* ► *Global Configuration* ► *Global Configuration Parameters* ►.
- In SAP IBP, you have set up the communication arrangement for the `SAP_COM_0550` communication scenario. For more information, see <http://help.sap.com/ibp> under ► *Data Integration Scenarios* ► *Data Integration Using Services* ► *Integrating Planning Calendar Data* ►.

Setting Up the Integration

i Note

In case you have already set up an RFC destination to list planning calendars when assigning them as shipping and receiving calendars for order-based planning, you can skip step 1 and leave the *RFC Destination for IBP* field empty in the `/IBP/ETS_SEND_CAL` transaction.

1. Start the `SM59` transaction and create an RFC destination with the connection type *HTTP Connection to External Server*.
For the *Logon User*, use the communication user that you configured for your communication arrangement.
For *Target Host*, enter the host (the service-base URL without `https://`) from the communication arrangement that you created based on the `SAP_COM_0550` communication scenario.
2. Depending on the authentication type chosen for the communication user, maintain the *Security Options* as follows:
 - For **basic authentication**, select the SSL identity *ANONYMUS*.
 - For **certificate-based authentication** (recommended), select the SSL identity that contains the client certificate of which the public key has been uploaded to the communication user in SAP IBP.In both cases, you must set up trust to the SAP IBP tenant in the selected SSL identity using the `STRUST` transaction.
3. Start the `/IBP/ETS_SEND_CAL` transaction and select the RFC destination that you created.
4. Choose *Execute*.
You can also choose to display the log or save it in *Business Application Log* (transaction `SLG1`). The object is `/IBP/ECC_INT`, and the subobject is `CALENDAR`.
5. Optionally, using the `SM37` transaction, you can schedule a job to run the `/IBP/ETS_SEND_CALENDAR_TO_IBP` report to perform a regular data transfer.

i Note

If you face an error that is not closely related to the `/IBP/ETS_SEND_CAL` transaction, check the settings of the RFC destination. To contact SAP regarding such connection issues, use the component `BC-CST-IC`.

Related Information

For more information about setting up an RFC destination, see <https://help.sap.com/viewer/753088fc00704d0a80e7fbd6803c8adb/latest/en-US> under ► *Components of SAP Communication Technology* ► *Classic SAP Technologies (ABAP)* ► *RFC* ► *RFC Administration* ► *Maintaining Remote Destinations* ► *Connection Types* ►.



You can also find information about configuring a proxy and establishing a connection using a destination under ► *Components of SAP Communication Technology* ► *Communication Between ABAP and Non-ABAP Technologies* ► *Internet Communication Framework* ► *Administration* ► *Client Function Administration* ►.

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