



SAP ECC R/3 HANA & e-commerce as a future-proof digital solution

The off-the-shelf native SAP ECC R/3 HANA connector for your ERP, is fully integrated with our iPaaS solution and delivers you a futureproof solution to manage your EDI and software integrations



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Why

Since digitalization is changing the world exponentially, many organizations struggle with the challenges of integrating 'the increasing number of' applications.

Digitalization

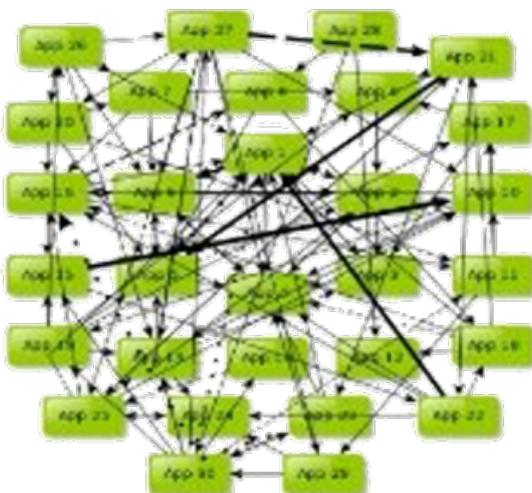
The overload of data from 'ERP's, warehouse-, POS-, chatbot, ticket-, marketing & e-commerce applications' which need to be connected, makes it hard to organize and seamlessly integrate all software solutions. Purchases are made through multiple digital channels and influence inventory, production, balance- and operations. We store finance, accounts, human resources, manufacturing and customer data from every 'touch point' in to many software solutions; so data silo's are created.

Exporting and transferring data manually is time-consuming. Creating connections by several partners, with custom code, creates a 'spaghetti' connected IT-Landscape, which is hard to maintain and where your interchangeability of software products is 'poor'. To have all your data available for analysis of the ultimate customer journey experience & to make sure you are ready for future AI and Machine Learning solutions, you really need an integration strategy.

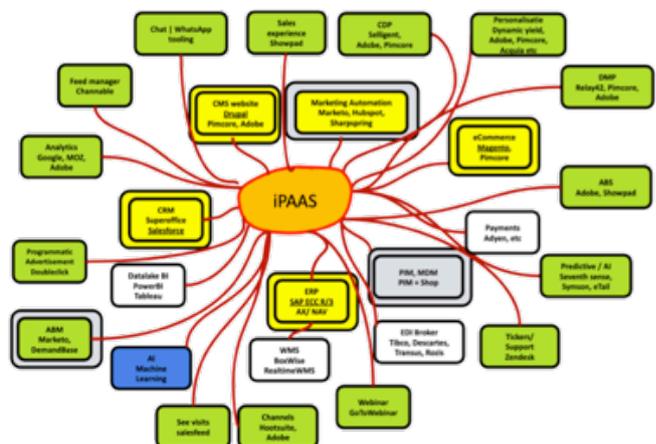
Native SAP ECC R/3 HANA connector

Integrating your ERP with e-commerce solutions and synchronizing all data streams is a solution that addresses all the mentioned issues. The e-commerce applications will then be able to run on correct data, the customer will receive the correct information and the ERP will still be your central place of logic, where updates from inventory, logistics & financials are organised. The SAP Connector is a solution that will provide a real-time connection between your webshop and your ERP system (SAP/AX). So, the data that is collected and stored in your ERP will also be shown on your website in real time with the help of the connector.

This whitepaper is designed to give you an actionable and practical overview of how such an SAP Connector can be an added value for your organization.



SPAGHETTI & MESSY
WITHOUT iPAAS



FUTUREPROOF
iPAAS

About the connector

SAP

The ERP (SAP/AX) Connector is a universal communication interface that synchronizes and updates any information between both systems in real time. No matter which sales- or communication channel an update is coming from, the connector will immediately adopt the information throughout all touchpoints.

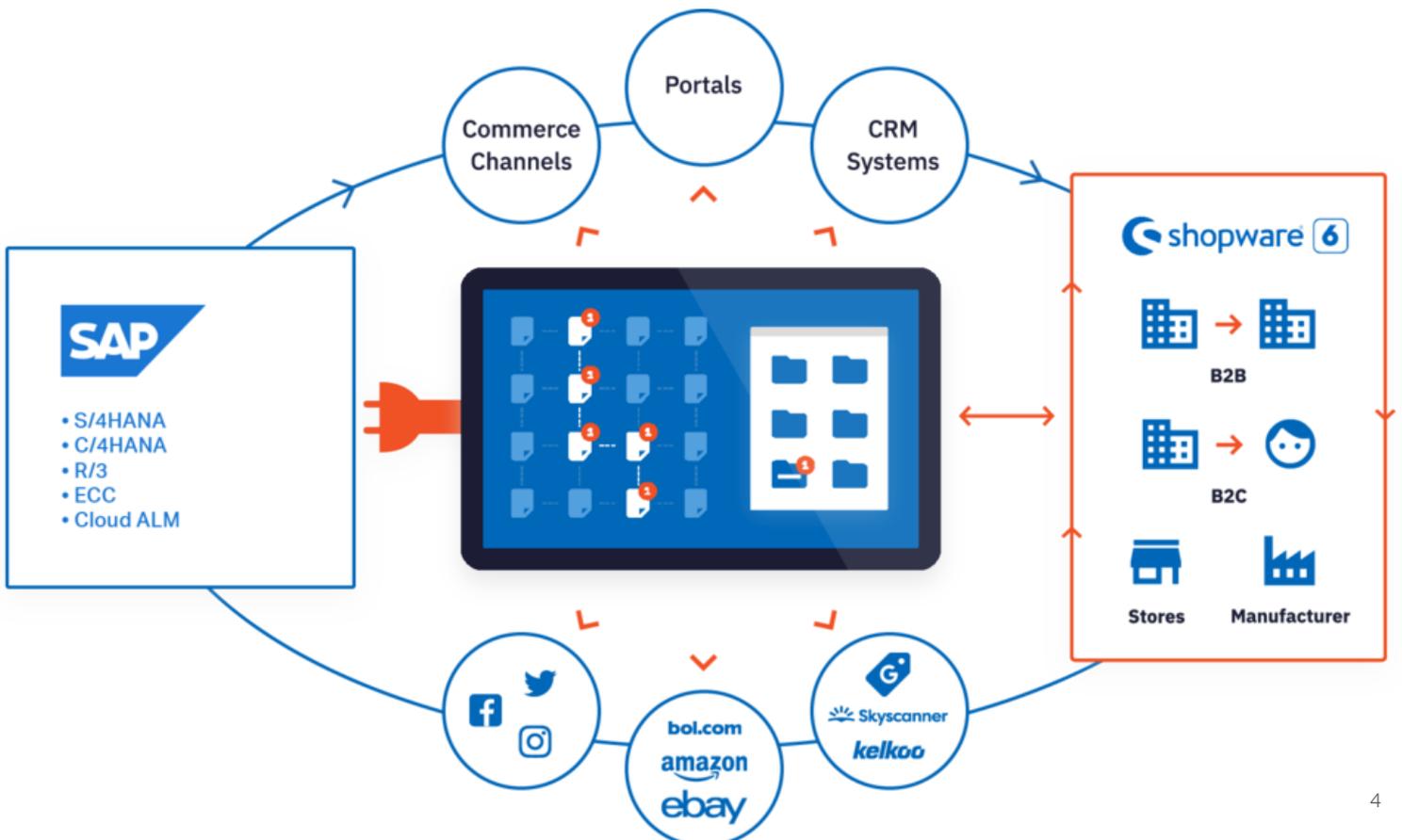
Through integrating the ERP with the webshop, companies can use the strength and functionalities of both systems while enhancing efficiency.

As a webshop owner, you have to deal with a lot of data. Not only your customer data is extremely valuable, but also your stock data, price data and simply every piece of data you collect. This data is most likely stored in your SAP ECC6.X/ SAP or S4/HANA.

But how do you make the best out of this data in order to optimize your webshop to the fullest? Or: how do you connect your data in your ERP system with your webshop?

With the help of the SAP Connector, you can show for example your real-time amount of stock of a certain product in your webshop. But also, when you update the prices in your ERP system for a specific customer this will also be updated in your webshop interface automatically.

Because of the SAP Connector, you will work faster, more accurate and your data will be always up-to-date. This is because the connector prevents that you need to update your data twice. Normally you have to change your data in your ERP and in your webshop, but the connector does this for you.



IT Landscape

The SAP ECC R/3 Connector

The Shopware SAP HANA (R/3 or ECC) Connector will be installed on the SAP back-end through a transport of an ABAP stack. It can be installed on SAP directly or be placed on the HCI (HANA Cloud Integration).

The software can be installed by us, your IT department or your SAP partner into your application. The software will connect most of the data automatically and will deliver some specific screens to be able to select which customers are allowed to have a eCommerce account and to configure the general settings and do some specific data mappings.

B2B eCommerce Modules (for B2B reasons)

For Shopware, & other e-commerces applications we offer some specific B2B modules, which can be installed in Shopware and which make sure that real-time data from the webservices are being handled in Shopware, needed to have all the B2B processes & data in place.

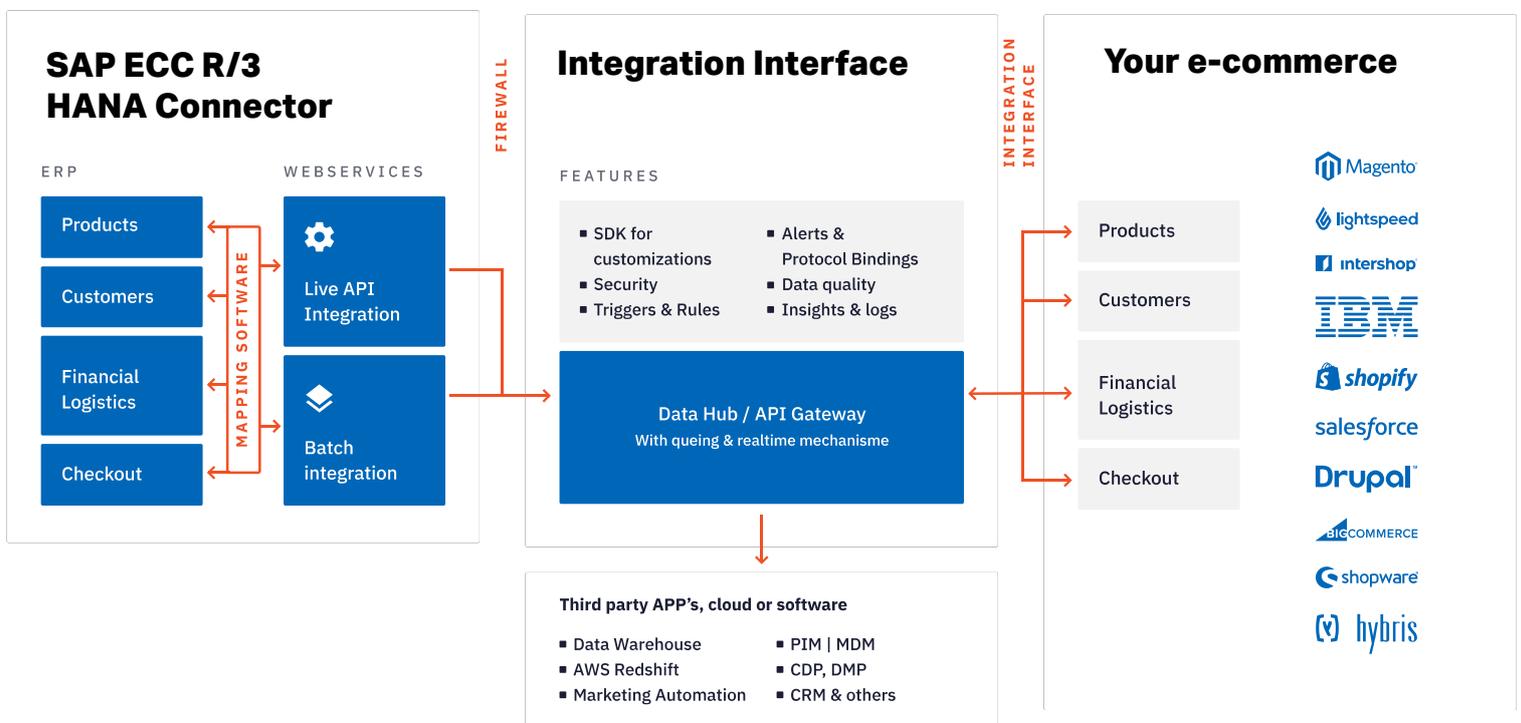
Integration Interface

The integration interface allows you to adjust the data for better data quality, to combine the data to other data sources or to send the data to third party software applications such as your PIM, CRM, data warehouse or Marketing Automation platform. Our integration interface has a template to connect all the data in a correct manner to Shopware.

Available for

The SAP Connector supports 'out of the box' the following versions (other SAP versions can be supported with a minimum amount of work).

- SAP S/3 ECC 6.X running on Netweaver 7.3 or higher
- SAP R/3
- SAP S/4HANA



Architectural run-down

Integrated e-commerce suite

Our fully two-way integration connects the following data entities (see below). These are configured through the delivery interface which allows you to configure and map these objects to the correct ERP. The connector contains more the 22 well documented interfaces required for a successful B2B and B2C e-commerce platform. But above all, the connector also delivers an e-commerce cockpit within the SAP environment. The connector also delivers an e-commerce cockpit where the incoming and outgoing messages can be monitored.

Realtime calls are

- being made for customer specific prices, stock, handling & transport costs, but also for data such as order discounts, tier prices, VAT, delivery times and routes and customer specific payment methods.

We also setup real-time calls for

- deliveries, quotes, orders and invoices. This make sure your ERP is leading as a data source and it's always shows the correct information without having any data issues

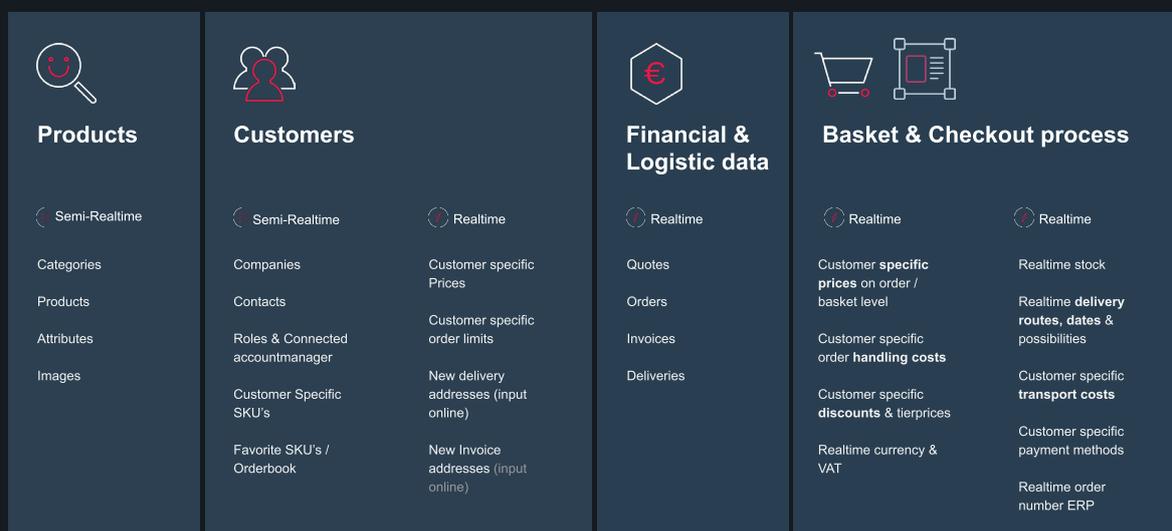
2-way synchronization

In the balancing act of giving ecommerce the data it needs, while also reducing the impact this may have on your ERP performance, is where we define what data comes over from a live lookup, versus from a batch lookup.

In batch mode

- we set schedules task, which can look for changes, since the last scheduled lookup, this would be for data that doesn't change that frequently, like product and customer information.

Integration "Overview mapping logic"



2-Way integration



Function overview

Product at a glance

- A powerful real-time connection between your SAP ECC | R/3 | S/4 HANA system and an e-commerce platform (e.g Shopware)
- Off the shelf Shopware webshop support available
- Always up-to-date and 100% accurate data
- Business processes in your ERP will be communicated to your webshop, such as discounts and prices are automatically updated in your webshop interface.
- Implementation requires 3 to 10 days
- Enterprise level performance and data control

Works in every scenario

By installing a small module in your webshop and a transport in SAP, your webshop and ERP system will be able to communicate and operate as a whole in real time. The SAP ECC | R/3 | S/4 HANA is designed to take advantage of the strengths from both systems. While a frontend webshop, such as Shopware, takes responsibility for the user interface experience, marketing, campaigns, and CRO. The SAP ERP systems takes care of the product information this includes: product information, prices, stock levels, customer data, orders, quotes and more. Thanks to the SAP connector your webshop will manage your data from one central place.

Features

Supports B2B, D2C and B2C

All features are developed to support Business to Business, Direct to Consumer and Business to Consumer e-commerce

Customer management

Import customers and manage them from within your front end

Contact management

Create new contact from within your front end

Delivery dates

Retrieve available dates for delivery of the products

Price and Stock information

Retrieve customer specific price and stock information taking into account all ERP registered agreements

Order simulation

Simulate the placement of an order during checkout to validate, price, stock and delivery data

Order handling

Manage and create new orders including overviews

Payment Service Provider handling

Handle payments of the products

Quote handling

Manage quotes from within your front end

Invoice handling

Manage invoices from within your front end

Product Management

Import all product data including attributes, categories and personal favorite lists

Feature webservice

Feature service	ECC R/3	HANA	Communication protocol
Push			
PushAttributes	✓	✓	File based
PushCategories	✓	✓	File based
PushCustomers	✓	✓	File based
PushMyProducts	✓	✓	File based
PushProducts	✓	✓	File based

Feature service	ECC R/3	HANA	Communication protocol
Real time			
SetContact	✓	✓	SOAP 1.2*
SetCustomers	✓	✓	SOAP 1.2*
GetCustomersAddresses	✓	✓	SOAP 1.2*
SetCustomersAddresses	✓	✓	SOAP 1.2*
GetDelivery	✓	✓	SOAP 1.2*
GetDeliveryOverview	✓	✓	SOAP 1.2*
GetDeliveryDays	✓	✓	SOAP 1.2*
GetInvoice	✓	✓	SOAP 1.2*
GetInvoiceOverview	✓	✓	SOAP 1.2*
GetOrder	✓	✓	SOAP 1.2*
SetOrder	✓	✓	SOAP 1.2*
GetOrderOverview	✓	✓	SOAP 1.2*
SetOrderPayment	✓	✓	SOAP 1.2*
GetOrderSimulation	✓	✓	SOAP 1.2
GetPriceAndStock	✓	✓	SOAP 1.2
GetQuote	✓	✓	SOAP 1.2
GetQuoteOverview	✓	✓	SOAP 1.2

* REST is available on request

Implemented MVP in 3 days

Introduction

Implementation of the Connector software is easy and is done in a couple of hours, but also other things should be done; like configuration of the web services, configuring the VPN / firewall & installing Shopware. We have 2 routes for the implementation process, setting up the connector in combination with Shopware.

Needed teams

We help our digital (Shopware) partners setting up the ERP connection. The team of your agency will be increased by a couple of experts to ensure that the connector is properly configured. Our 3 persons expert team exists of a e-commerce developer, a business analyst/consultant and a SAP technical consultant will join the Agency experts and meet your team on your headquarters (or remote), so we are able to install the software to your test environment.

Your team exists of the e-commerce manager, your SAP specialist and a specialist of your IT-firewall/ VPN.

Route A "Workshop + final quote"

We start each project with a workshop where we will discuss all the business process in relation to the Shopware features. In each process our consultant will look into your SAP application to see if there are customisations being made and if this will impact the plug & Play solution. If custom work is needed, this will be placed as a task in the backlog. After the workshop we have all the information to:

- A. Configure the options of the connector
- B. To make a good estimation of the backlog, where tasks are placed to do the changes which are needed (with custom wishes or custom work on the Dynamic side of the connector)

Route B "Setting up a POC or MVP and work in agile modus"

In a 3 days 'hackathon on your location';

Day 1 :

We will install the connector to SAP 'test version', install Shopware and configure the VPN/Firewall so Shopware can connect to the data of the connector. On a normal day, Shopware is running with 80%/90% of the data of the connector at the end of day

Day 2:

When we had some problems in day 1, we will solve these problems. We will go through all the business processes and try to configure as many setting of the configuration as possible.

Day 3:

In the morning we have time to finish the configurations. In the afternoon we will ask the following question: "Why can we not go live with the current version?". We will note down all the issues in a backlog and prioritize these. These issues can be caused by special wishes or by data which is not available in the connector due custom work in SAP HANA (R/3 or ECC).

At the end of the 3 days of your hackathon you will have a Proof of concept, a MVP where Shopware is running as your e-commerce on top of SAP. It will be up and running for 90% till 99% of the data and processes. We will also present a estimation for the backlog, which is created in the 3 days of hackathon.

GO LIVE in sprints

In sprints we will take care of the tasks from the backlog; this can be 'adding the design of Shopware or when custom wishes for SAP are needed, we or your SAP partner can take care of these!

3 Companies who tackled their business challenges using an ERP Connector



Of course, every business is different and the needs and challenges vary from company to company. Hereunder we present three companies that integrated their ERP and e-commerce system by using an ERP connector and how this helped them to increase efficiency and smoothen business processes.

Connector

- ✓ Powerful real-time 2-way synchronization
- ✓ Customization of SAP code is possible
- ✓ Always up-to-date and 100% accurate data
- ✓ A page loading time of fewer than 1.2 seconds
- ✓ Online in 3 to 10 days
- ✓ 3rd party connections, PIM, Martech and other software solutions

PostNL - A connection between four warehouses and different transactional platforms

A connection between four warehouses and different transactional platforms PostNL is a leading international player in the field of B2C and B2B deliveries and fulfillment. They are operating a multichannel business model. The online shop features free and paid products and is connected to multiple warehouses which are backed by a headless, fully responsive platform fit to tackle high traffic and more than 2,5k orders every day. The fulfillment is done via the SAP FF system. The transactional platform is not only available on the new integrated PostNL website, but it's also available to integrate on external platforms to make part of the Shopware experience available on e.g. media channels or marketplaces.

FAQ

Technical specification

For delivering a template product, Magement follows certain rules to enable fast enablement of a template:

With the introduction of the template to a new AX environment, a set of default or customized values need to be maintained to enable the webservices.

Transport & Development

The development and customizing is tracked / monitored very strictly as the whole transport bulk is copied over into a separate AX systems. All transport and adapter objects begin with a specific prefix.

Each development will start with this prefix so it becomes clear that the development of the templates are related to another.

Each development is accompanied with a description so it is easy to understand for new AX system why this development is created. Since multiple AX systems will re-use the development, source fields are to be derived from Z- mapping- tables.

Authentication

Authentication must be done by a username and password for each instance.

Stateless

The connection is stateless, meaning the output will have the same fields from the input.

Request ID & Version

We use a version and request ID in all calls to indentify each seperate call in case of debugging purposes.

Technical testing the interfaces

SOAPUI (www.soapui.org) can be used to test the interface from within the local network. The WSDL's can be read into SOAPUI, and test cases can be made. The endpoint should be defined manually.

SOAPUI can be used to test development and test on acceptance systems.

Specific test tool documentation will be handed over by Magement.

FTP Location

For delivering a template product, Magement follows certain rules to enable fast enablement of a template:

With the introduction of the template to a new AX environment, a set of default or customized values need to be maintained to enable the webservices.

Error messages

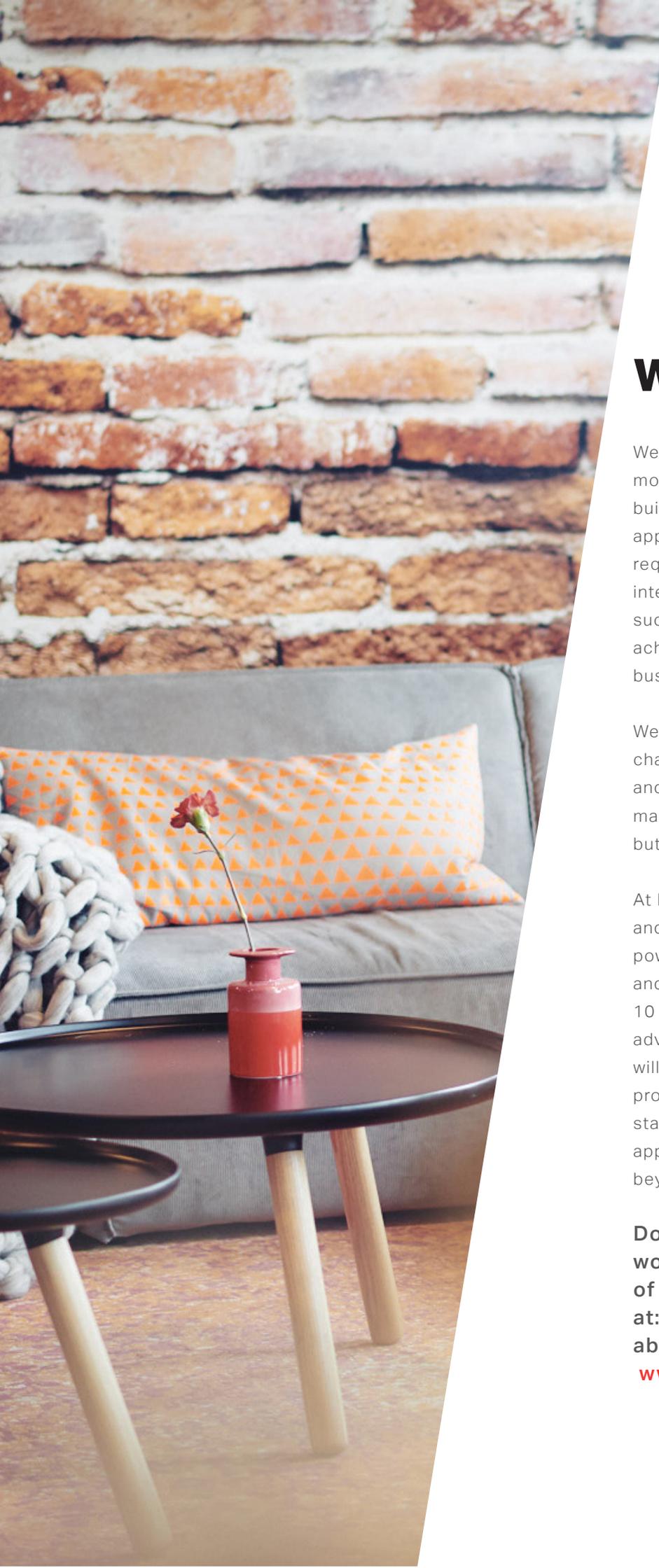
Each call has a message and result code field. Both fields are used to indicate whether the call was processed successfully and when an error occurs, the message field is used to specify the problem.

The error messages are only available for debugging purposes. These messages will not be shown to the customers.



Unipart - Making all inventory data accessible for a large network of partners

Based on the versatile possibilities of the Shopware platform, Unipart has created an online platform with a range of bespoke functionalities: Car owners can book appointments simply by entering their license plate number and postal code and can then select a garage nearby their desired location. They serve both the B2B & B2C market and combine three different kinds of webshops, each of them with their own purposes. Integrating the ERP system with the e-commerce platforms enabled Unipart to make their inventory, customer data, pricing and PIM data accessible in real time for their entire network of partnering garages. Thereby, there are fewer phone calls, less waste of time and a lower error margin. This solution has improved the shopping and search experience for both business and private customers.



Why Magement

We are Magement, a fast, multi-point, and modern integration platform as a service, built to elastically address both real-time application and batch-oriented data integration requirements. With our data-driven and interactive approach, we help our clients to succeed in their digital transformation and achieve growth with a smart and future-proof business model.

We work within the worlds of intelligent multi-channel commerce platforms, knowledge and dealer portals to product information management systems, digital marketing and last but not least staffing.

At Magement we already have all the experience and knowledge to guarantee a complete and powerful connection between your ERP system and Shopware webshop within a maximum 10 days. This can provide a real competitive advantage for your company. Your time to market will abbreviate substantially. With our rapid and professional service, we offer reliability and stability to our customers. This end-to-end approach makes our clients stay ahead and go beyond in the world of e-commerce.

Do you have further questions or would you like to get in touch with one of our experts? You can give us a call at: +31 (0)50 211 53 71 or learn more about the AX/365 F&O Connector at: www.Magement.com



“Multichannel, fully automatized and a loading time of less than one second. We have completely shifted to an online organization thanks to the SAP Connector.”

- PostNL



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