



Egghead Design Ltd

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Komplett/Blush.no Integration Proposal

Project Scope

In brief, the scope of this project is to build integration between SAP and the Blush.no site, with provision in place for Blush.se and Blush.dk.

The purpose of the integration is to allow automated and seamless data transfer between the Komplett SAP installation, and the front end website, so that Komplett can leverage their AutoStore system for picking orders, and provide an enhanced customer experience for Blush shoppers by providing order status feedback and accurate inventory status.

There are many forms that this integration could take, and the proposal outlined here is just one possibility. This approach has been arrived at following discussion with Komplett SAP engineers, and takes account of opinions expressed by all parties during those meetings.

Considerations

In scoping an integration, two decisions have to be made. The first is a choice between a transactional system, and a batched system. It was decided that the most reliable, robust and simple integration is a batched system.

The second decision is what integration touch points are needed (i.e. what data will be transferred between the two integrated systems).

The data to be transferred has been identified as:

Data to be integrated	Direction
<i>Products</i>	SAP->Site
<i>Customers</i>	Bidirectional
<i>Orders</i>	Site->SAP
<i>Inventory status</i>	SAP->Site
<i>Shipping tracking numbers</i>	SAP->Site
<i>Pricing</i>	SAP->Site

Integration Tasks

There are four tasks that need to be considered:

1. Preparation of data to transfer from the site to SAP
2. Transfer of data from the site to the remote SAP system
3. Transfer of data from the remote SAP system to the site
4. Processing of data from remote SAP system



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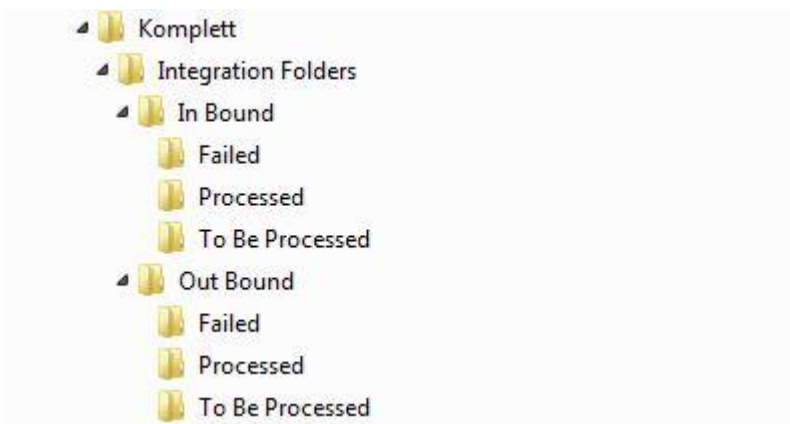
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Implementation

In order to maintain simplicity and robustness, we recommend the following implementation.

Data to be transferred will be prepared as XML documents. This can be either a single file containing multiple records, or individual files, one for each record.

FTP will be used as a data transfer mechanism. A folder structure will be set up similar to the one shown here for the FTP site:



In this context, In Bound refers to data that SAP needs to transfer to the site, and Out Bound refers to data that the site needs to transfer to SAP. We recommend that the FTP site be set up on the remote SAP system, as the integration process can then monitor communications and take steps in case of failure.

The To Be Processed folder contains files not yet processed. Once the integration has processed them, they are moved to Processed if all data can be imported without error, and to the Failed folder if an error does occur. This allows diagnostics to be carried out in the event of failure.

The data transfer part of the integration will periodically monitor the In Bound/To Be Processed Folder. It will process each inbound file as a single transaction and will move it to the appropriate destination folder.

In the event of a communications failure (i.e. the remote folder cannot be accessed) then it will retry periodically until communications are restored. At the point where communications are restored, the files in the Processed folder will then be processed. In this way, no data loss occurs.

Out Bound data is a little different in the case of communications failure. In order to mitigate this problem, data files to be transferred to the remote FTP system will be held in a local folder, and not deleted until successful transfer to the remote system has occurred. In the event of a failure, the process will periodically try and send files in the local outbound folder to the remote system until communications is restored.

The integration will be implemented as a windows service that will auto start when the operating system boots. In terms of infrastructure, it needs to be placed on a server with network access to both the database cluster, and the remote SAP system (FTP access only required).



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Data Types

Products

We recommend that SAP be used as a product master. In other words, products will be created within SAP, and the integration will create products records in the site's database as unpublished items. This allows a content editor to add HTML copy, images, etc. to the product, and then to publish it on the web.

This process allows a common link to be maintained between site products and SAP products

Customers

From our discussions, customer data is a bi-directional process. There are three use cases to consider.

The first is a new shopper visiting the site who buys will need a customer record establishing in SAP. This will be done by data transfer from the site to SAP.

The second is an existing customer that visits the site and changes their information (for example, they change their address). This needs communication to SAP.

The last use case is a customer whose data is changed in SAP. This data needs to be transferred to the site. This could include a necessity to block a customer because of fraud.

Orders

Orders have two elements. There is header information (who the customer is etc.) and line item information (what items they have purchased). XML is an ideal format for describing this data. Each order will have one and only one header, and will have at least one line item.

The transfer of orders needs to accommodate sufficient data for:

- Order headers
- Line items including price paid (ex-VAT)
- Coupon codes redeemed
- Loyalty points redeemed
- Gift cards redeemed
- Shipping details including pick up points and price paid

Other things to consider at specification stage are multiple address orders.

Inventory Status

Inventory status can have three possible values:

- In Stock – available inventory exists for sale
- On Way – inventory is not available for immediate dispatch, but has been ordered from a supplier
- Out of Stock – no inventory is available



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This data can be used in the front end of the site to display stock status to shoppers. Inventory items that are “On Way” can have an estimated delivery date that can be displayed by the front end website.

Shipping Tracking Numbers

For orders that are dispatched to the shopper by a carrier, the carrier tracking number can be presented to the shopper. This data element permits SAP to transfer this data to the site for display in the My Account pages.

Pricing

Pricing is the price to be paid for a given product by a given customer. Blush has some customer groupings (trade customers, employees etc.) that are entitled to a discounted price, so the Pricing integration needs to accommodate not just regular price, but also these discounted prices.

Additionally, each product may have a “normal” price (Manufacturers Suggested Retail Price – MSRP) and a sale price. This is useful for presenting promotions to shoppers that can encourage sales, and these will need to be accommodated in the integration.

Logging

As the integration will be a windows service, it does not have a user interface. In order to ensure seamless operation and diagnostics, the application will be built with extensive logging in place. This permits us to track and identify any errors. Additionally, in the event of conditions such as communications failure, the service will send emails to configurable email addresses to notify system attendants of problems.

Dashboard

This is an optional item. It is a User Interface for the service that can be constructed as a web application showing the health of the integration. It will allow Komplet personnel to have a constantly updated visual indication of the status of the communications channel, the number of orders to be processed, the number of orders processed etc.

Implementation Plan

In order to make this project as efficient as possible, we recommend that the following be considered:

1. Establish the schema for all XML data types – this is an essential first step so that Egghead and Komplet personnel can work independently of each other to complete their respective tasks
2. Establish a test environment. Ideally, this will be as full and complete as possible so that the entire data flow can be tested
3. Consider initial data imports – there may need to be an initial data upload/synchronising process that will need to occur as part of the Go Live process. Ideally, this should be scripted and tested prior to go live!
4. Shadow operation – it is often good practice to implement the integration, but without it driving live order picking. This allows operational factors to be tested without incorrect orders being shipped (i.e. orders received on the live site are transferred to a shadow SAP system)



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Quotation

Integration of Blush.no and SAP

Work Item	Price
<i>Integration</i>	£20,000
<i>Dashboard</i>	£5,000
Total	£25,000

Time Scales & Outline Project Plan

We have identified the following major tasks and milestones for the project:

No.	Task	Depends On	Week Completed	Responsibility
1	Transfer existing site code and database		1	Komplett
2	Create XML Schema	1	2	Egghead
3	Write technical specification document	2	3	Egghead
4	Create test environment	1	4	Egghead, Komplett
5	Build integration windows service	1,2,3,4	12	Egghead
6	Build SAP integration components	1,2,3,4	12	Komplett
7	Design and script initial data imports for testing	1,2	12	Egghead, Komplett
8	Test in the test environment	5,6,7	14	Egghead, Komplett
9	Carry out initial "live" data import	5,6,7	14	Egghead, Komplett
10	Test in shadow environment (live site, test SAP)	5,6,7,9	16	Egghead, Komplett
11	Go live with SAP	10	16	Egghead, Komplett



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Terms & Conditions

Our standard terms for Design and Build are as follows:

- Payment will be split as follows:

Payment Due	Percentage of Total Project Cost
Deposit	40%
Following specification Sign Off	20%
Following Test in the Test Environment	20%
Following Test in the Shadow Environment	20%

- Intellectual property for the work will belong to you when all fees are paid
- All prices are exclusive of but subject to VAT (if applicable)
- The prices are based upon our current understanding of your requirements and are potentially subject to renegotiation if your needs change
- No additional chargeable work will be carried out unless authorised by you