Sap and SugarCRM

Integrated, cross-system business

processes in modern customer relation

management through bi-directional

data interchange between SAP and
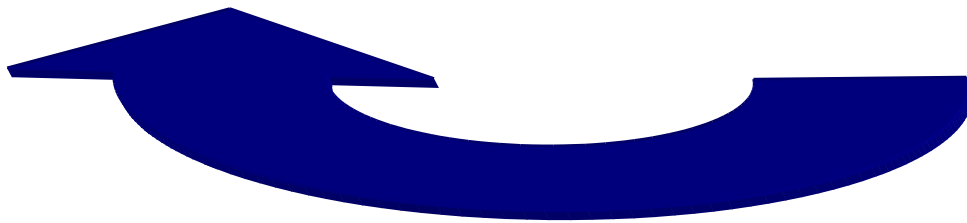
SugarCRM

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1. Introduction: ERP and CRM

Flexibility, cost, extensibility: There are many different reasons for wanting to integrate SAP's ERP functionality with a third party CRM solution. SugarCRM is an open source based customer relation management solution which is widely used and covers all essential CRM functionality in a professional way.

Business processes do not stop at system boundaries. In many cases, leads, quotes, marketing campaigns and sales opportunities are managed with the help of a CRM system, while master data, orders and the company's product database are kept in the ERP application. Continuous business processes call for seamless integration of the applications involved. This will benefit users, making it easy for them to accept and use the system. Based on these experiences, this white paper describes an integrative approach going beyond the technical aspects and allowing for the implementation of continuous business processes.

Integrating SAP with SugarCRM is on the priority list of a lot of middle-sized to large companies. However, this requirement calls for extensive experience and competency both on the SAP and the SugarCRM side. Only then it is possible to combine both solutions so as to map process requirements in an effective and flexible way. A flexible interface will allow what both systems on their own will hardly achieve: the seamless mapping of special customer scenarios, especially concerning SAP.

This white paper describes the basic structure of the SugarCRM-SAP interface from the perspective of continuous business processes. Based on this, we will show examples of how to use the interface to integrate operative processes such as master data management, quote creation or the handling of repairs between the two systems.

2. Managing Customer Master Data

"There is always a dominant system and in our case, it is SAP". This is the situation found in many companies and it is no use challenging that notion. It is often just the way it is. Customer numbers are ordinarily generated in SAP. But is it necessary to keep the corresponding address information in SAP as well? Normally, this won't be the case. ERP processes deal with customers, not with prospects. Prospects are generated within the customer relation management system. It is only after they have ordered something that they become customers. By then, a lot of data has already been accumulated. It is ready to be used, so there is no need to redefine it. It only needs to be supplemented with ERP related data. An example of collaborative data management is terms of payment, delivered by SAP.

This sounds like a trivial scenario. And, technically spoken, it is. However, problems often arise when implementing the operative processes. In order for a prospect to become a customer, they need to receive a quote. The quote is based on product and price information, which is kept in the ERP system.

The information from this "unintegrated world" has somehow to be combined. Many companies that deal with a manageable number of prospects have resolved to keeping them in the SAP system as well. These firms create their quotes from within SAP. Other companies "just start with a quote", basing it on product and price information outside of the ERP system. The result will come as no surprise: In these scenarios, there is a substantial amount of rework to be done, updating old information and transferring data manually between the systems involved. This can hardly be called an efficient workflow. Business processes should not stop at system boundaries.

In order to remedy this situation, we have developed a tool that acts as connector between SAP and SugarCRM: the ITN Connector CRM. In the figure below, SugarCRM activities are depicted in red, while SAP processes are depicted in blue. With the connector it is possible to combine the advantages of both "worlds", allowing for seamless process execution.

Product data from SAP is readily available for the creation of quotes. After a new customer has placed their order, the corresponding prospect master data is transferred to SAP, where the system will generate a customer number. The connector will match the prospect's data with the information already in the SAP system.

On the one hand, this will ensure that there are no duplicate entries in the system, while on the other hand allowing for the parallel maintenance of address data in "complicated" cases (see figure). This is needed for example in situations where a retail channel customer for product line 1 first orders spare parts for product 1, creating an entry in SAP, before – as a prospect in SugarCRM – they buy a product from line 2 and become an actual customer. Similar scenarios can be found in many companies whose roles alternate between manufacturers, finishers and distributors, depending on either geographical or cooperative market segmentation and presence.

3. Additional Functionality

Being able to display sales data per customer comes in very handy, when you are contacting them. The same goes for sales data on a per-product basis or per sales channel, for profit margins and undoubtedly for a lot of other data as well. Apart from the fact that "true" sales data also takes into account customer credits and refunds, it would make little sense to keep all this information in the CRM system. Such analysis is done using business intelligence software, which – in this context – is also called analytical CRM.[1]

Still, it is important to have specific numbers, such as total revenues or last year's turnover available in the CRM system when selecting companies based on these criteria. The ITN Connector CRM allows for the exchange of such information: either as revenue or as revenue minus credits, or alternatively in the form of a daily update or an ad hoc query. The interface will also carry over information such as the exceeding of outstanding receivables or credit limits (see figure). The connector will let users flag such information, using "RedFlags", so as to be able to enter into a dialog with customers, concerning these matters. The actual values and thresholds for these flags and other fields can be freely defined. The connector merely provides the basis for implementing this functionality. When it comes to proactive customer care and/or marketing and sales control, such information can deliver great additional value to a company's customer related procedures and activities.

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[1] For example, by using ITN Connector ERP for extracting SAP data in order to use it for analytical purposes in business intelligence platforms like Pentaho.

4. Quotes and Product Catalog

The ITN Connector CRM will also cover the transfer of necessary information from SugarCRM to SAP when creating quotes that are based on the product catalog. Logically, products are created in SAP, because it is only here that users are able to manage and display all production and finance related parameters associated with them. However, products are offered and sold through activities controlled by the CRM system. This means that all relevant information is carried over from SAP to SugarCRM (see figure). Here it is not only possible to chart negotiation processes with customers by keeping track of all quotes but also to define release mechanisms within a company's sales structure that are triggered by certain discounts, quote prices or other parameters.

The advantage: a single system is able to handle both the sales process as conducted by the internal and external sales teams and the "concept" (creative) and "creation" (structural) phase. It will also let people participate who are normally not active users of SAP, including project leaders, developers and others. At this point, most other efforts trying to implement continuous lightweight, target-oriented business processes fail.

SAP Internal Order Nr.:
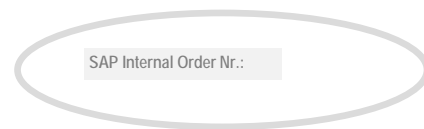
After a customer has placed an order – i.e. after the sales team has concluded their activities by classifying the customer as "won" in the system – the data relating to the accepted quote is transferred to SAP. Here, all previously defined and necessary processes are automatically started. These include order creation, order confirmation and the sending of invoices.

5. Customer Service – Service Calls and Complaint Handling

The product data contained in SAP also plays an important role in dealing with customer complaints and spare part delivery. This includes creation of delivery notes and shipping. Processes such as these are in most cases handled by the SAP system. In dealing with customers as well as when designing campaigns (for example, when a new product takes the place of an older one) it is important to keep track of complaints and how these are handled. When negotiating current offers this information should be quickly available. The connector will save and display complaints in SugarCRM, showing the current status (open, completed, etc.), the type (warranty, gesture of goodwill, etc.) and a parts list, if applicable. The aforementioned RedFlags can also be applied to the category "Customer Service". They may help avoid potential problems in the sales process and may also function to show customers a high level of respect and responsibility by signaling the need to get in immediate contact with customers having a problem.

In situations where such procedures are not handled by SAP or any other application designed for this purpose, complaint handling can be improved using SugarCRM functions. By utilizing the connector's capabilities relating to product data, order processing and shipping, a high degree of automation can be achieved. This, in turn, will increase speed and reliability. It is precisely those processes that, by being continuous and transparent to the user, lead to a positive customer experience. They should not fail because of technical difficulties.

6. Outgoing SAP Receipts

Invoices, delivery notes, credit notes: SAP processes generate outgoing receipts.[2] As with service calls, in many cases it is sufficient to have the main information, such as the invoice number or the total sum available. However, sometimes it is practical to be able to see the receipt as a whole. An example of this would be delivery notes. Since the system already provides the information about customers (customer number) and corresponding quotes (quote number), an interface that connects SAP with a document management system makes it easy to list customer or process related documents from the DMS or the archive in SugarCRM. The detailed view will show the information from the archived document (see figure).

This provides easy access to a customer's or project's history, giving employees all the information necessary for their calls and meetings.

Order Confirmation for Order 553412444.pdf	Meta Data
	Name: Order Confirmation for Order 553412444.pdf

Order Confirmation

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[2] On the SAP side, these are transferred to a document management system or to an archive. This, for example, can be done using the ITN Connector DMS, an interface that connects SAP to the Alfresco DMS.

7. Interface Architecture

On the SAP side, the ITN Connector CRM uses Remote Service Calls (RFCs) and BAPIs. On the SugarCRM side, functions are accessed using logic hooks.

With the use of parameters and code extensions it is possible to adapt the connector to specific customer needs and system configurations.

8. Conclusion

As a systems integrator with a strong focus on business processes, we specialize in the implementation of efficient, continuous, cross-system business processes. A customer relation management system that is hard to use and whose functionality is sub-optimal will both discourage users from working with it and fail to bring the company any sales-related benefits. Our goal is always to provide seamless integration of processes and information between the systems involved. Within this context, the ITN Connector CRM provides customers with the following benefits:

- Continuous, cross-system (SAP, SugarCRM) business processes, allowing for a more efficient use of resources.

- Two-directional creation, comparison and updates of customer master data in both SAP and SugarCRM, including duplicate-search.

- Easy creation of quotes with release mechanisms based on SAP product data, transfer of processes from SugarCRM to SAP.

- Exchange and comparison of service call and customer complaints information, transferring data and process triggers between both systems. This will also apply to warranty cases, gestures of goodwill and replacements.

- Display of information extracted from outgoing receipts, accessing the original document contained in the DMS or the archive.

About it-novum

IT-NOVUM is an innovative IT consulting company. We are experts in technology and business process optimization, providing customers with value in the following three areas: As an **SAP Business Partner** we implement and optimize SAP based solutions with a focus on the industry sector. Other core competencies are **Open Infrastructure Solutions**, innovative solutions relating to data center management (ITCOCKPIT, Nagios, OTRS, i-do-it, amongst others). With our **Open Business Applications** (CRM, DMS/ECM, Business Intelligence), we optimize business processes, specializing in the integration of open source software with SAP. IT-NOVUM is a Gold Partner of Alfresco, SugarCRM, Pentaho and Jedox/Palo.

As an independent subsidiary of the listed KAP AG, we have many year's experience and are financially stable.

Professional project management and proficient use of management tools are as important to us as a good working relationship with our clients.

Further information / links

Additional white papers (most of them currently in German only) relating to open source software in general as well as theme and product-specific analyses are available from it-novum either as downloads or upon request. Our projects give rise to new theme and product-specific white papers on a regular basis. Please check our website for further updates. Also, do not hesitate to ask us about subjects that are of interest to you, using the contact details below.

Whitepapers (English):

An SAP Interface to Alfresco. An integrative approach to data integration and process mapping, using SAP with the open source document management system Alfresco.
http://www.it-novum.com/download/downloads/whitepaper-sap-schnittstelle-zu-alfresco.html

Open Source Business Intelligence: A Comparison of JasperSoft, Palo and Pentaho (English version)
http://www.it-novum.com/download/downloads/whitepaper-open-source-business-intelligence.html

Whitepapers (German):

Die Top-10 Mythen und Irrtümer über Open Source: Einführung vonOpen Source aus der Sicht eines Anwenders (An Introduction to Open Source from a User's Point of View: The Top 10 Myths and Pitfalls):
 http://www.it-novum.com/download/downloads/whitepaper-die-top-10-mythen-und-irrtuemer-ueber-open-source.html

Der Open Source-Diamant: Beurteilung von Open Source Lösungen nach fünf praxis-relevanten Kriterien
(The Open Source Diamond: Evaluating Open Source Solutions Using Five Practical Criteria)
http://www.it-novum.com/download.html

100% Open Source – ist das möglich?
(100% Open Source – is it possible?)
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Business Intelligence:

Open Source BI: Vergleich der führenden Open Source BI-Werkzeuge Pentaho, Jaspersoft und Palo
http://www.it-novum.com/download/downloads/whitepaper-open-source-business-intelligence.html

Vertriebscontrolling mit Open Source: Aufbau einer Vertriebssteuerung mit Palo und Pentaho
(Sales Management With Open Source: Building a sales management system with Palo and Pentaho)
http://www.it-novum.com/download/downloads/whitepaper-vertriebscontrolling-mit-palo-und-pentaho.html

Open Source Datenbanken: MySQL und PostgreSQL im Leistungs- und Funktionsvergleich
(Open Source Databases: MySQL and PostgreSQL: A Feature and Performance Comparison)
http://www.it-novum.com/download/downloads/whitepaper-open-source-datenbanken.html

System Management and Monitoring:

SAP-Monitoring mit Open Source: Umfassendes SAP-Monitoring mit einer Open-Source-Plattform, die über CCMS hinaus geht
(SAP Monitoring With Open Source: Comprehensive SAP monitoring with an open source platform that goes beyond CCMS)
http://www.it-novum.com/download/downloads/whitepaper-sap-monitoring-mit-open-source.html

openITCOCKPIT: Nagios-basiertes System- und Servicemanagement mit Enterprise-Fokus
(Nagios based system and service management with a focus on enterprise use):
http://www.it-novum.com/download/downloads/whitepaper-itcockpit.html

SAP and ERP Solutions:

IC-Abstimmung im Konzern. Intercompany-Abstimmungen tool-unterstützt im SAP-Standard nutzen
(Inter-Company Coordination Within The Group: Inter-company coordination using SAP tools)
http://www.it-novum.com/download/downloads/whitepaper-intercompany-abstimmung-im-sap-standard.html

Konsolidierung im Konzern. Verbesserung des Konsolidierungsprozesses im Konzern durch den Einsatz des Konsolidierungstools SAP SEM-BCS
(Consolidation Within The Group. Enhancing consolidation processes within the Group using SAP's consolidation tool SEM-BCS)
http://www.it-novum.com/download/downloads/whitepaper-konzernkonsolidierung-mit-sap-sem-bcs.html

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