



R/3 on the Internet

Electronic commerce

The Internet, with its various technologies, has not only established itself as a new communications medium but also as a novel marketing channel. Marketing on the Internet is playing an increasingly important role in *electronic commerce*, and a steep rise in sales is anticipated. In 1994 sales totaled \$60 million, in 1995 \$200 million, and forecasts for the year 2000 estimate sales between \$70 and \$200 billion worldwide.

What makes this marketing channel so attractive to consumers ?

- round-the-clock availability
- mouse-operated graphical user interface and access to forms, e.g. through the World Wide Web (WWW)
- numerous search options and depth of information
- internationalization of marketing and a continually expanding range of products offered
- the fact that all you need is a WWW browser

What makes this marketing channel so attractive to businesses ?

- relatively low operating costs
- round-the-clock sales
- very up-to-date customer information in electronic catalogs and product brochures
- almost fully automatic entry of orders
- marketing of products on a national and international scale

All these features underscore the attractiveness of marketing on the Internet. The Internet, which also offers excellent conditions for providing customer information, consulting and support, complements other marketing procedures and improves the business-to-consumer and intracompany flow of information.

The business infrastructure of SAP R/3, with its three-tier client/server architecture, is excellently suited for Internet integration. The integrated workflow, ALE, business object technologies and the openness of the R/3 System form the basis of this infrastructure.

Marketing on the Internet

Information, consulting and support

Business infrastructure



The WWW can serve as an alternative user interface for R/3 business applications, and open up new access paths and new business processes to customers.

iXOS partnership

SAP AG has therefore begun developing Internet application scenarios together with iXOS Software GmbH. These and other scenarios will be fully developed in 1996.

Selling products and services in the WWW

Marketers with a WWW server can use the application scenarios to advertise and sell their products and services in the Internet directly from R/3.

Model scenarios

The WWW browser is used for the order entry dialog, and order entry and handling is automated in R/3. A number of model scenarios have already been implemented. These include ›Offering products in a catalog‹ with entry of customer order data in R/3 and an R/3 purchasing support scenario where orders are placed through the WWW and data is recorded in the MM purchasing module. Information scenarios which allow customers to query the status of orders placed over the Web have also been developed. Other scenarios are currently being designed.

Purchasing module (MM)

»Marketing products on the WWW« - a business to consumer scenario

This is a typical sales scenario in which the consumer accesses the marketer's home page in the *electronic information and sales room* over the WWW.

Electronic catalog

An *electronic catalog* in the Web presents the range of products available to customers. Product descriptions in this catalog are not only limited to written texts but can be enhanced with photographs, graphics, audio clips and contain further advice where required. Sections of this catalog can be called up from an optical archive via an ArchiveLink interface.

This *electronic catalog* can be designed and stored in the R/3 material master using tools provided in the Web. If you have the required R/3 links, you can call up dynamic components such as prices, quantities or other information from the R/3 database and add them to the catalog.

The catalog can also feature the prices for each item, however without specific purchase and discount conditions. An R/3 function, which you can use to call up the prices again when you complete the final order form, also allows you to take into account the different customer groups, purchasing conditions and quantity discounts. Customers can click their way through the catalog or use the search functions provided there. Special processes in R/3 and in a linkage module control the page sequence and the follow-up navigation actions.

Electronic shopping bag

Before orders can be placed, customers must identify themselves by means of a logon scheme which requires them to enter their name, address and perhaps also the desired method of payment. Customers who are already registered must enter their customer number and password. To guarantee security, this data is transferred to the network in encrypted form.

Customers are then assigned an order number and given an *electronic shopping bag* in which they can place their purchases.

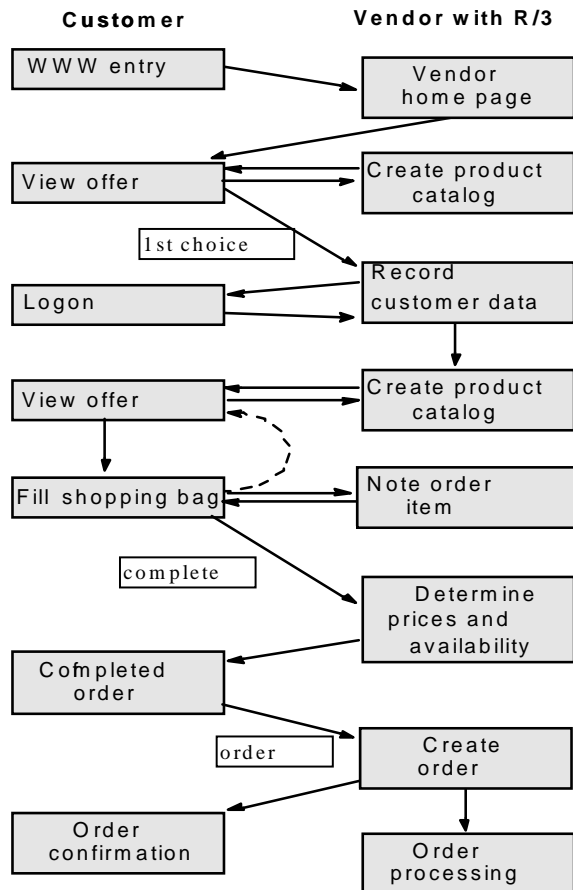


Fig. 1: Marketing in the WWW - a business to consumer scenario

Customers can specify how many products they want to »transfer« to the *electronic shopping bag*, move articles/order items to and from it or change the order quantity as often as they desire before explicitly completing and confirming the order. These actions generate both the WWW and R/3 order form containing the individual order items.

Transferring a product

The actual ordering transaction is not activated until you explicitly place the »order«. Prices are assigned to the individual order items, the total which includes VAT and shipping costs is calculated, and the completed order form presented. R/3 can immediately determine if the products will be available on the specified delivery date and display this information.

Ordering transaction

The R/3 Sales and Distribution (SD) module checks the customer's credit limit when calculating the total price and, if this limit is exceeded, presents an alternative payment method.

Sales and distribution module

When »confirmed«, the purchase order becomes valid. An order confirmation, which can be printed or stored electronically for future queries, is generated. Simultaneously, the R/3 SD module automatically

Order confirmation



creates an order, thus dispensing with manual entries. This procedure largely corresponds to ordering with EDIFACT.

The shopping cart vanishes after a preset time if the customer exits the WWW server without completing the order and explicitly confirming it.

»Both vendor and customer have R/3« - a business to business scenario

This scenario can be used if both the customer and vendor have the R/3 System. It reflects a situation in which the customer has not found a suitable vendor in the R/3 Purchasing module (MM) and therefore looks for one in the WWW, initiating the ordering transaction from the home page.



Fig. 2: Both vendor and customer have R/3 - a business to business scenario

In this scenario, the customer's R/3 MM module records the complete order and the vendor's SD module generates the corresponding sales order. Unique identifiers, which enable easy query follow-up, are then exchanged between the two systems. This exchange can also take place in non-SAP systems.

Electronic payment

SAP will implement the option of *electronic payment in the Internet* when secure procedures have been firmly established. The scenarios assume that a contractual or confidential relationship exists between the customer and the vendor, that the selected payment method (e.g. C.O.D.) ensures payment or that the risk of non-payment is sufficiently small to justify invoicing of the delivery.

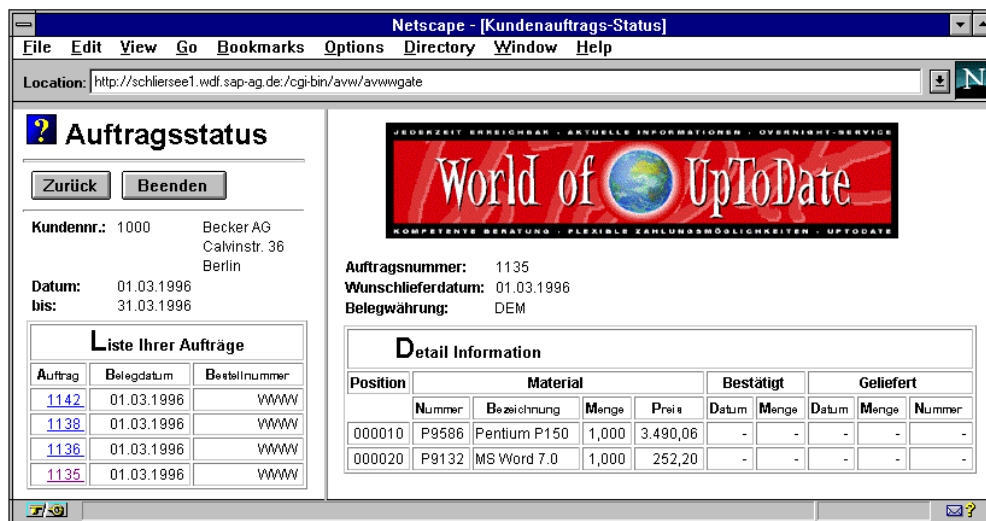
»Query order status«

Customers who would like to query the status of an order can do so directly over the WWW. Here, replies are sent immediately and requests can be made 24 hours a day. Customer requests in the Web generate no additional work for vendors as is the case with requests sent by telephone or in writing.

Querying the status of an order

SAP has therefore implemented a request function in its R/3 SD module. The customer can log on to the vendor's R/3 server and obtain a list of the open orders.

Open orders list



The screenshot shows a Netscape browser window titled 'Netscape - [Kundenauftrags-Status]'. The address bar shows the URL 'http://schliersee1.wdf.sap-ag.de:/cgi-bin/avw/avwwgate'. The page content includes a navigation menu with 'Zurück' and 'Beenden' buttons. Customer information is displayed: 'Kundenr.: 1000', 'Becker AG', 'Calvinstr. 36', 'Berlin'. Order dates are 'Datum: 01.03.1996' and 'bis: 31.03.1996'. Order details include 'Auftragsnummer: 1135', 'Wunschlieferdatum: 01.03.1996', and 'Belegwahrung: DEM'. A table titled 'Liste Ihrer Aufträge' shows four orders with columns for 'Auftrag', 'Belegdatum', and 'Bestellnummer'. A 'Detail Information' table shows two material positions with columns for 'Position', 'Material', 'Bestätigt', and 'Geliefert'. The 'Material' table has sub-columns for 'Nummer', 'Bezeichnung', 'Menge', and 'Preis'. The 'Bestätigt' and 'Geliefert' tables have sub-columns for 'Datum' and 'Menge'.

Liste Ihrer Aufträge	
Auftrag	Belegdatum
1142	01.03.1996
1138	01.03.1996
1136	01.03.1996
1135	01.03.1996

Detail Information									
Position	Material	Bestätigt	Geliefert						
	Nummer	Bezeichnung	Menge	Preis	Datum	Menge	Datum	Menge	Nummer
000010	P9586	Pentium P150	1,000	3.490,06	-	-	-	-	-
000020	P9132	MS Word 7.0	1,000	252,20	-	-	-	-	-

Fig. 3: Query order status

When the customer selects an order or enters an order number, the SD module determines the processing status and displays it on a Web page.



Technical requirements

WWW server The scenarios assume that the vendor has a WWW server or quick access to one.

Fig. 4: Linking R/3 to the WWW

Linkage process A special SAP linkage process must run on the WWW server. This process implements the protocol used by the Web server and the R/3 System. A secure transmission mode involving encryption ensures safe transfer of sensitive data, such as customer number and password over the Internet. Both the Web server and the client must support this mode.

Contact partner:

Dr. Harald Eckert, SAP AG Walldorf
WWW: [http:// www.sap-ag.de](http://www.sap-ag.de)