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Collaborative Business Scenarios – Creating Value in the Internet Economy

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Contents

1 The Internet Challenge – Collaboration in Communities

The Internet is in the process of redesigning traditional business processes at a fast pace. Enterprises see both risks and opportunities in these changes. Standards such as HTTP, HTML, and XML format permit business partners to exchange information, collaborate and carry out business transactions in an electronic marketplace. The Internet is also used as a personalized sales medium for directly communicating with defined customer segments using a specific range of products and services. At the same time, however, pressure from the competition is increasing, the barriers for new competitors are lower than ever before, and the location of the enterprise is of secondary importance. The competitor is only a "mouse click" away.

Customer loyalty can only be achieved by identification with an attractive brand name and sufficient spending on advertising. Success, however will only be long-lasting if the customer finds the range of products and services convincing and if suitable business partners are on the spot. In the long run, product quality and market leadership will only be feasible if the partners (suppliers, distributors and other partner enterprises) are able to cooperate. To remain competitive, enterprises therefore have to mesh their business processes with those of their customers, suppliers and business partners. Instead of integration within an enterprise, integration across company borders is now needed.

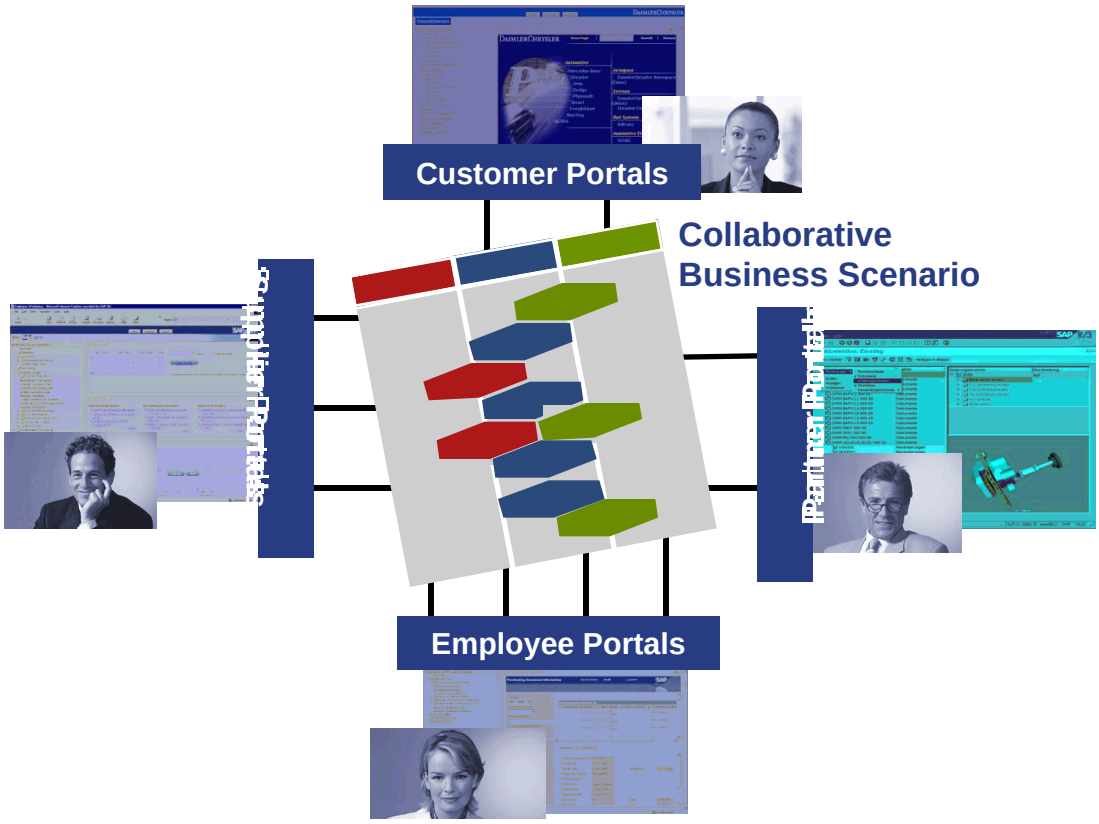
Increasing globalization in connection with international division of labor and specialization is causing increasing integration and meshing of business relationships. This is true both for the organization within a global multi-national enterprise as well as for its relationships to and business processes with its business partners. Enterprises also want to participate in the newly created electronic marketplaces as buyers or sellers to take advantage of the new opportunities provided, for example, in sales. The mySAP.com Marketplace for the chemical and pharmaceutical industry (http://chempharm.mysap.com) is a prime example, enabling the participants to trade non-production goods and services (MRO Procurement).

The landscape of the economy in the 21st century consists of a network of communities; i.e. virtual groups that share a common goal defined by electronic cooperation based on Internet technology. Communities are typically inter-enterprise networks that developed in a certain industry. One example is the high-tech industry with its tight network of component suppliers, hardware manufacturers, distributors and service companies. The aviation industry has also developed communities of strategic alliances, such as the Star Alliance (http://www.star-alliance.com), boasting 15 airlines worldwide. These examples show that communities also include competing enterprises. The business processes that are handled in these communities and that span the boundaries of individual legal business units are called Collaborative Business Sce-

narios (C-Business Scenarios).

2 Collaborative Business Scenarios – Different Tasks but One Goal

Collaborative Business Scenarios are thus inter-enterprise business processes that include different participants with their specific responsibilities. In C-Business Scenarios, employees in different companies perform different tasks and duties with a common business goal. For this purpose, the participating businesses exchange information and define responsibilities for individual activities. Some examples are Collaborative Engineering and Project Management, Collaborative Supply and Demand Planning, and Vendor Managed Inventory. The C-Business Scenarios use software applications that are usually distributed amongst different companies and that can be used to exchange business data using the Internet. Role-based portals give each user personalized access to the functions and information needed depending on his or her tasks and responsibilities. This gives the different participants of a C-Business Scenario an individual view on the common business processes.



Inter-Enterprise Collaboration using Application Portals in a Collaborative Business Scenario.

Such inter-enterprise business processes today are the source of considerable inefficiency. Different IT systems in the participating companies prevent the exchange of data and hamper the completion of business processes. The use of Internet technology enables the companies to work more closely with their customers and business partners based on common standards, thus permitting the entire value chain to be restructured. At the same time, it provides interesting opportunities for developing completely new and innovative processes and business models. Finally, the Internet provides a new kind of intermediation. On the one hand, it permits the exchange of goods and services using electronic marketplaces, and on the other hand it defines the "infomediary" business model, whose goal is to maximize the value of the company's data (see Hagel/Singer, 1999).

The method given below for describing Collaborative Business Scenarios documents the common handling of distributed business processes in different industries and different enterprise functions (Financials, Logistics, Human Resources) in detail. The contents describe both the business view and economic benefit as well as relevant information for concrete implementation of such a common business process and its incorporation into an existing application landscape.

3 Strategic Implications of Collaborative Business Scenarios

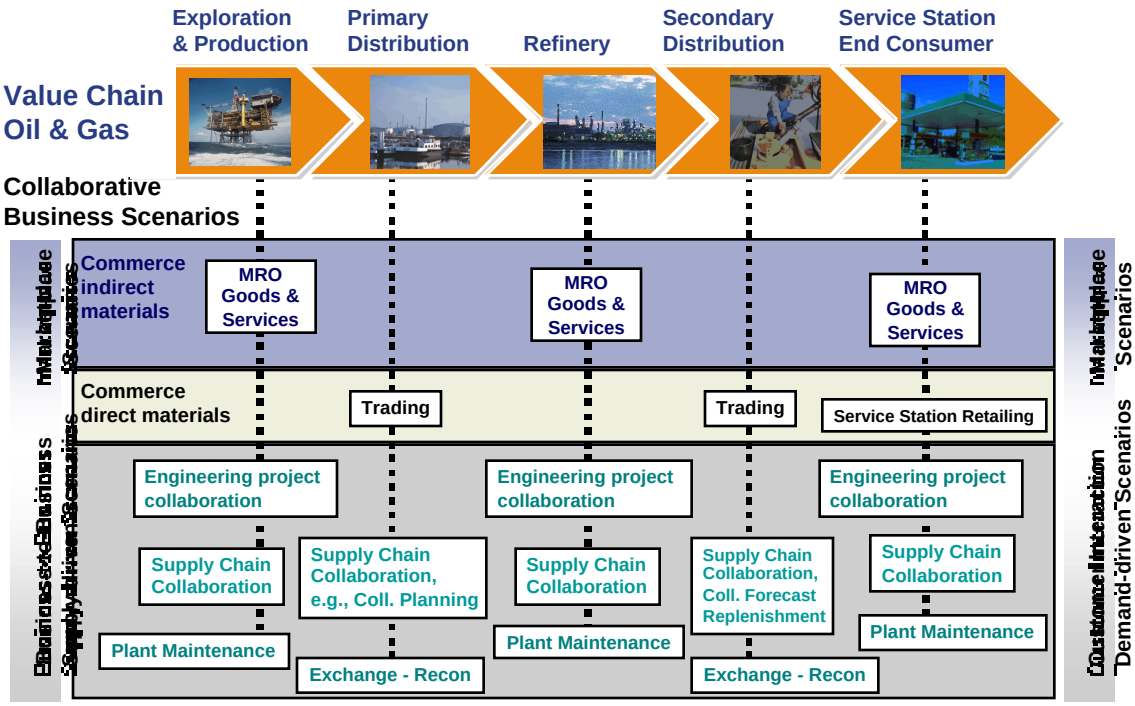
At the moment nearly all high-profile companies are pursuing substantial initiatives in the area of electronic business (E-Business). E-Business here means the inter-enterprise adaptation of all processes and business activities to the Internet. Dell, manufacturer of PCs, already earns 40% of its revenue over the Internet. International companies such as General Electric are gearing their entire enterprise strategy to the Internet and electronic business. Hardly a day passes in which the financial press does not report about e-business, for example the implementation of electronic marketplaces. These initiatives are of great strategic importance for these companies and bind huge resources. The strategic goal and focus may vary from one company to the next and from one industry to another, but all of them are convinced that the Internet is of highest strategic priority for the company. In addition to the use of the Internet as a sales platform, linking business partners into the value chain is one of the central considerations.

In the Internet age, the ability of an enterprise to identify meaningful common business processes, find suitable business partners, and detect common value potentials for itself and its business partners will result in a substantial competitive edge. In the past, business documents were sent by mail or fax, agreement was reached by telephone, and media breakdowns had to be taken into account. Thanks to modern business applications software and Internet technology, there is now a maximum of transparency and integration between the business partners. The processes of the different

enterprises can now be integrated, increasing the quality and benefits of the relationships between the business partners.

As a number of studies has shown, redirecting inter-enterprise business processes based on Internet technology permits the value chain of an enterprise and of entire industries to be restructured and optimized. A leading company in the electro/electronics industry designed the "Trading Process Network", a system with which it is connected with its suppliers, back in 1996. As a result, delivery times were cut in half and deliveries of raw materials now cost 10-15% less. By consequently meshing its independent business units with external suppliers, a computer manufacturer was able to reduce the time for handling an order from 61 to 5 days. Our final example comes from the automotive industry. Back in the 1980's, closer cooperation between automobile manufacturers and large suppliers was made possible with EDI (Electronic Data Interchange). Using the more cost-effective Internet technology, up to 80% of all documents can be exchanged electronically, also with smaller suppliers.

The procedure for the value chain of an industry shown in the diagram is the starting point for the strategic identification and analysis of business areas and possibilities for inter-enterprise cooperation. The diagram describes the value chain of the oil and gas industry from the production of oil to the service station.



Areas and Possibilities for Inter-Enterprise Process Design with Business Partners in the Oil&Gas Industry. Results from a strategic workshop.

In a strategic workshop, the SAP Oil & Gas Industry Business Unit together with a customer team identified concrete areas for closer ties and cooperation with the appropriate business partners. A number of common business processes were already

identified in the first step, oil production. For the benefit of all parties, those processes were earmarked for closer collaboration with the relevant business partners. Concrete examples of such processes are the indirect procurement of auxiliary and operational materials, inter-enterprise engineering project work and maintenance processes. The diagram shows the initial results of strategic redirection within the Internet initiative.

For a detailed and systematic analysis and redefinition of all the inter-enterprise processes, however, companies need a methodical framework permitting them to document business relationships and process modeling as well as system implementation. Of great importance is a suitable visualization of these contents that supports the exchange of opinions and the interests of the different addressees (management, technical departments, IT specialists) within a company. The different interest groups find it much easier to reach agreement and to make decisions using a method covering everything from a common business process concept up to system implementation in an existing IT application landscape. Tested and quantified business value potentials provide additional technical and economic arguments for implementing an identified application solution.

SAP AG therefore developed a method that satisfies these requirements and that can be used to describe and document the new possibilities provided by electronic and inter-enterprise cooperation using Collaborative Business Scenarios (C-Business Scenarios). The C-Business Scenarios give a thorough analysis of the electronic business processes from the point of view of the business and of process modeling as well as of the application.

4 Method behind the C-Business Scenarios

The aim of C-Business Scenarios is to show how the different enterprises and participants collaborate and to document the resulting value potential using an easily understandable “zippered” graphic. The SAP method enables enterprises to recognize qualitative and quantitative value potentials within the value chain and to get the maximum benefit for all of those involved in a C-Business Scenario.

The C-Business method also helps enterprises to identify the scenarios with the greatest strategic relevance for their business and those promising the greatest return on investment for them and their business partners from a portfolio of currently more than 130 C-Business Scenarios.

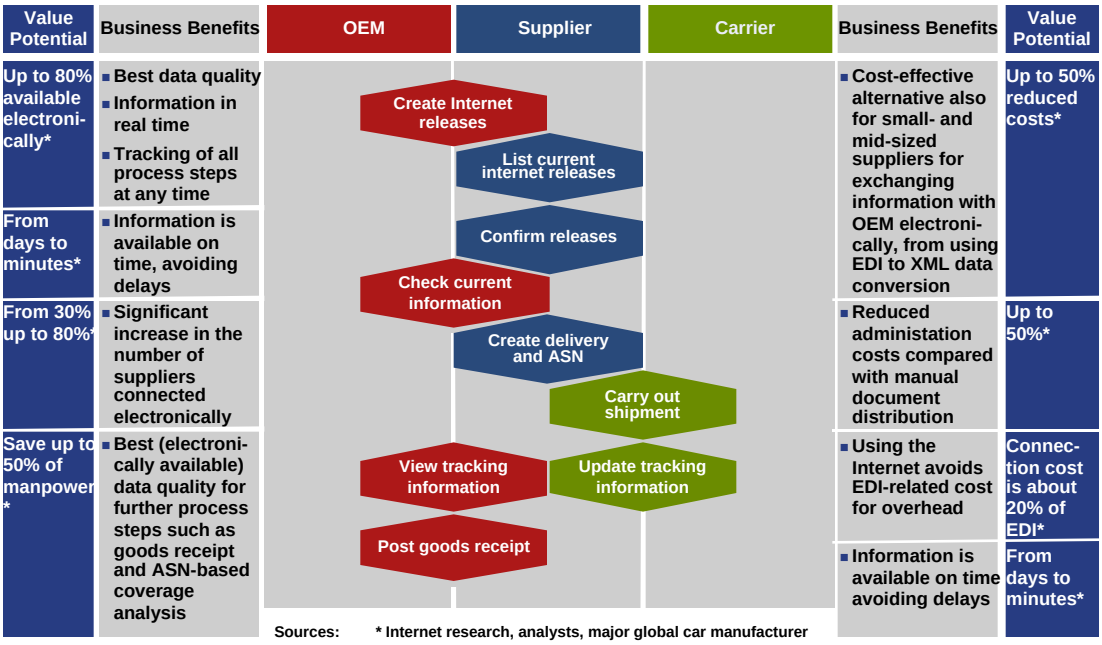
The described method has already been tested and improved by a number of SAP customers, partners and analysts. The Collaborative Business Scenarios documented in the SAP C-Business Scenario portfolios were also defined together with customers, partners and industry experts, tested for accuracy and relevance of the processes, and the expected value potentials were quantified in independent studies.

Collaborative Business Scenarios can be described completely with three different views for documenting the same business process: the Business View, Interaction View and Component View. These different views are adapted to the information requirements of the different addressees (management, technical department, IT specialists) and describe a consistent transition from the business relationships up to system implementation in an IT application landscape.

4.1 Business View – Quantifiable Business Benefits

The decision to implement a C-Business Scenario depends primarily on the expected benefit. There must be advantages for all the parties involved in the business process and a positive value potential must be expected for certain key figures.

The Business View describes the participants and scope of the described business process from the business point of view and documents the business advantages of implementing a Collaborative Business Scenario, confirmed by customers and independent industry experts. The value potentials can also be further quantified by customer statements, research results, and independent studies.



Business View for the Collaborative Business Scenario "Supplier Workplace".
The value potentials shown in this table refer to reports from selected SAP customers and independent third parties, but these value potentials cannot be guaranteed.

The grafic shows how the automotive industry handles procurement by supplier in a C-Business Scenario: Based on material requirements planning, the customer creates the corresponding scheduling agreement releases, which are passed on to the supplier. The supplier's MRP controller immediately receives an e-mail, informing him about

the releases. The e-mail also contains an URL link giving the supplier direct access to his supplier portal, called the "Supplier Workplace".

The releases are listed in the "Supplier Workplace". The supplier can accept and confirm the releases with the confirmation function. Confirmation makes the releases binding for all the business partners. The manufacturer stores the data of the confirmed release for range of coverage planning for the relevant parts. The manufacturer's MRP controller is informed by the Workflow about incoming confirmations.

Once the supplier has triggered the delivery, the shipping agent can create a shipping notification in the "Supplier Workplace". This enables suppliers who do not have an EDI link to the manufacturer to directly exchange a shipping notification with the manufacturer. The transportation company responsible for delivering the requested parts to the automobile manufacturer can also access the "Supplier Workplace" and can update the information about delivery. The manufacturer books the goods receipt referring to the shipping notification and can send the supplier a confirmation of delivery if this is required.

The entire integration of the business processes guarantees all the participants significant business advantages that can be quantified as value potentials. For example, up to 80% of the information can be exchanged electronically using the above business process. With the "Supplier Workplace" Collaborative Business Scenario, smaller suppliers who for cost reasons do not have an EDI link to the automobile manufacturer can also be linked electronically. Faster processes and data exchange, improved quality of information and savings due to lower transaction costs result in other business benefits and their corresponding value potentials.

Quantifiable Business Benefits

A number of independent studies are concerned with the quantifiable business benefits from using the Internet in the automotive industry. A study by Goldman Sachs Investment Research in January 2000 forecasted a saving potential of up to 14% of the logistics chain for the automotive industry. A similar study by the Morgan Stanley Dean Witter investment bank in May 2000 estimated savings of about 20 billion Euro due to lower warehouse stocks in the logistics chain for the European automobile industry.

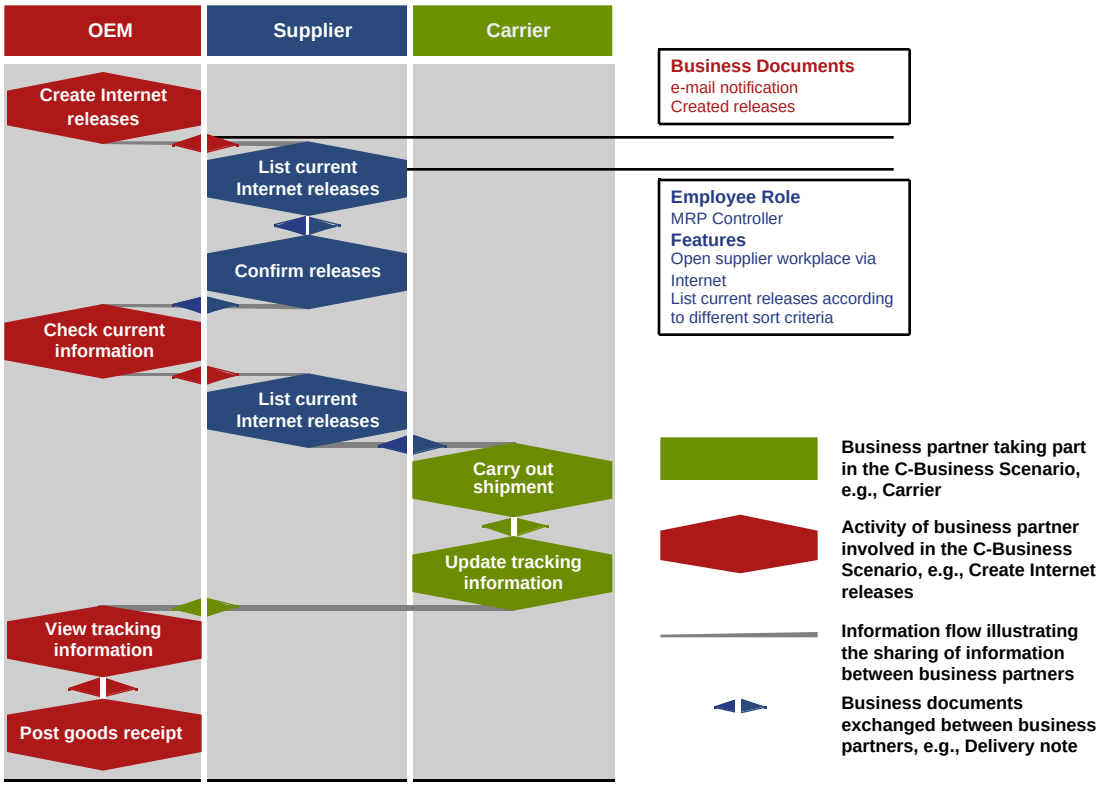
The advantages of an integrated business process are documented as business benefits and value potentials on both sides of the Business View. Business partners can thus check how high the possible return on investment might be before actually implementing a Collaborative Business Scenario.

4.2 Interaction View

The Interaction View describes the process design and detailed dependency relation-

ships between the different activities and responsibilities of the C-Business Scenario participants. The Interaction View provides a wealth of additional information, such as the user roles (e.g. MRP controller, production planner) for certain tasks in the collaborative business process. The business documents which the participants exchange in a C-Business Scenario are also specified in the Interaction View.

You can and should refer to the design of the specific employee workplaces in the process documentation and in the implementation of a Collaborative Business Scenario. In this way you refer to the special features of the business process and design during implementation. You can also link or jump directly to the technical description of the replaced business documents (such as the XML schema).

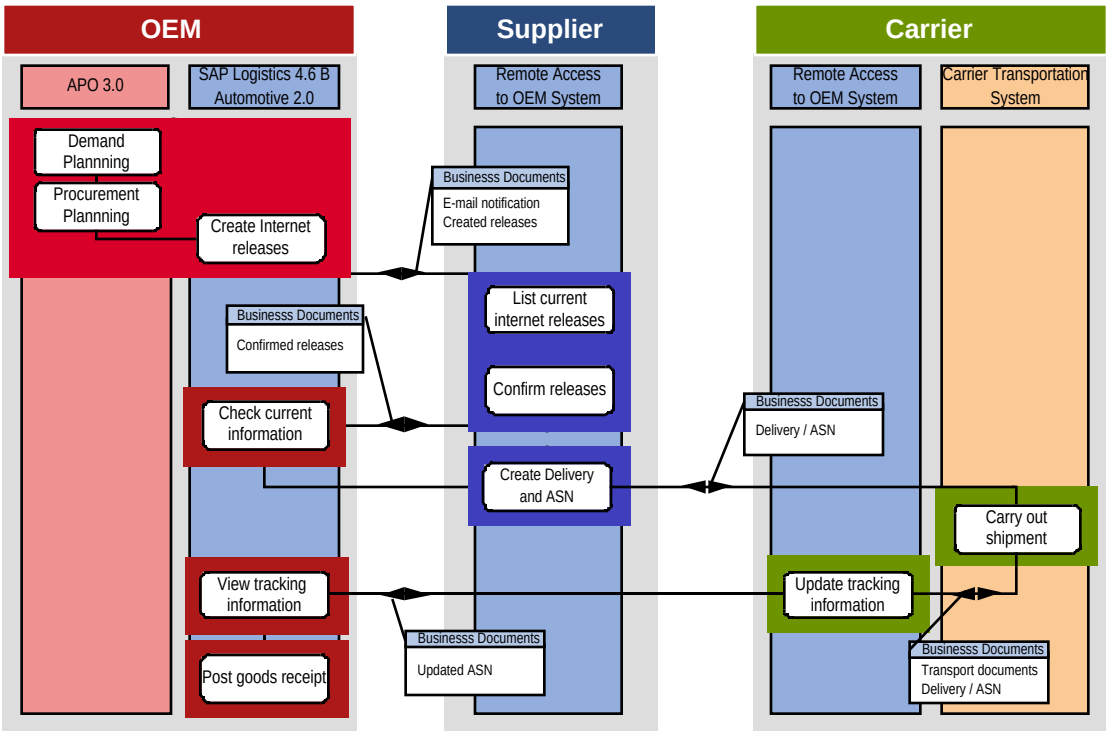


Interaction View on the "Supplier Workplace" Collaborative Business Scenario. Overview of the interactions, participant roles, information flow and business documents exchanged in the C-Business Scenario.

SAP AG first presented the concept of Solution Maps back in 1998. The SAP Industry Solution Maps document the industry-specific core processes of the 20 SAP industry solutions as well as the global support and management processes. The subprocesses and areas that are especially important for the success of the business can be identified in discussions with customers based on a common representation and language. The C-Business Scenarios are also linked into the SAP Solution Maps as a further refinement and development of the concept.

4.3 Component View

If the business process is to be implemented in the system, the required application components must be documented and they must be embedded in the application landscape of the business partners. The Collaborative Business Scenario method uses a third view, called the Component View, to document the corresponding requirements and any technical restrictions.

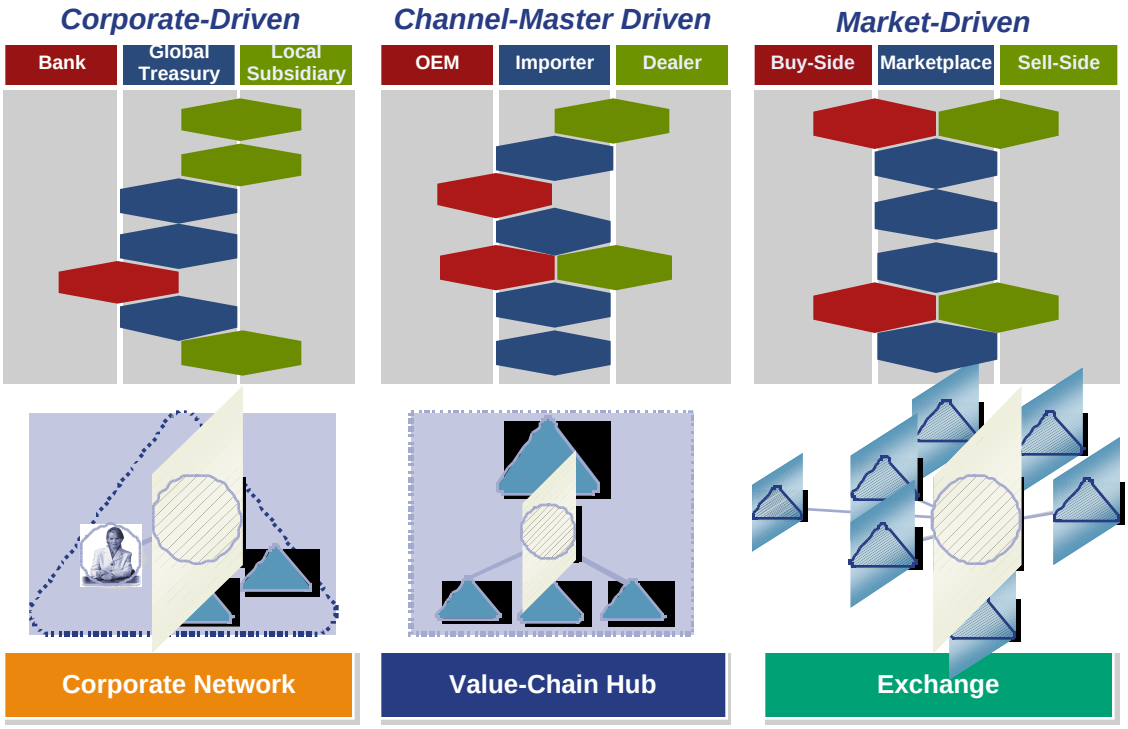


Component View for the "Supplier Workplace" Collaborative Business Scenario. Overview of the application components needed to implement the Collaborative Business Scenario.

The Component View describes the logical application components needed to support the Collaborative Business Scenario business process. The activities can be divided into sub-activities that can be executed in different application components if necessary. The Component View is part of a detailed documentation that also describes any release restrictions and other technical aspects of the implementation. In a project-specific implementation, the Component View can also be enhanced with the old existing customer-specific applications. Accordingly, the Component View usually is the starting point for customer-specific documentation of the technical implementation of a C-Business Scenario. The team of the implementation project can then adjust it to the specific details of the project.

5 Types of Collaborative Business Scenarios

There are three different types of collaboration between enterprises when looking at Collaborative Business Scenarios: Corporate-driven Scenarios, which occur within the organizational structure of a company or holding; Channel-Master-driven Scenarios, in which an important company links its network of sellers or sales partners using a common platform (1:n); and Market-driven Scenarios, in which a number of sellers set up a business relationship with a number of buyers using a central intermediary (Exchange) (n:1:m).



Types of Collaborative Business Scenarios.

The simplest case is collaboration between different business units within a company. Of special interest here are the relationships and work flows between central business units (Shared Service Centers) and the decentral local subsidiaries within a company. A concrete example is the business processes between Global Treasury and the local subsidiaries within “In-house Cash Management”. Claims and payables between the subsidiaries of an enterprise are balanced by the Global Treasury, and external and internal payments are bundled. Such a Collaborative Business Scenario which runs within the organizational structure of a company and is controlled by a central enterprise unit is called a Corporate-driven C-Business Scenario.

A number of companies, especially those with a strong position in the market, are currently trying to use the Internet for themselves and their preferred business partners. A common Internet platform in form of a Value-Chain Hub permits the supplier or sales partner network to be integrated. An example of this is the large oil producers, who get all of their external parts and services for building plants (oil fields, refineries,

etc.) using a central procurement platform. In the automotive industry, some leading automotive concerns work with sales platforms based on Internet technology, making it possible to link their entire network of importers and dealers. A central participant bundles and controls his procurement and sales channels with such an application. Collaborative Business Scenarios assigned to this type are therefore called Channel-Master-driven C-Business Scenarios.

Market-driven C-Business Scenarios describe inter-enterprise collaboration types in which a number of sellers collaborate with a number of buyers via a central intermediary in the form of a (public) electronic marketplace (Exchange). Appropriately, the business processes include the marketplace as an entity within the collaboration. Typical examples for marketplace collaboration are indirect procurement of auxiliary and operational material (MRO Marketplaces) and sales and brokerage of transportation services (e.g., National Transportation Exchange), but trade applications (Oil&Gas Exchange Reconciliation) and Collaborative Supply and Demand Planning can also be carried out at electronic marketplaces.

6 Summary – Benefits of the Collaborative Business Scenario

The seamless support of inter-enterprise business processes using Internet technology gives the participating enterprises a strategic edge on their competitors. By linking the technical processes and collaborating with business partners, all the participants can look forward to a real value potential. Collaborative Business Scenarios can thus be used to optimize and restructure the value chain throughout a number of enterprises. Numerous business benefits await all the parties involved in the Collaborative Business Scenarios: Collaboration across enterprise boundaries brings a competitive edge due to shorter time-to-market cycles, new innovative processes, individual customer services, speed of information exchange, improvement in the quality of the information and effective cost benefits. Collaborative Business Scenarios are thus of strategic benefit and central for business success in the Internet economy.

The C-Business method described emphasizes the strategic implications of inter-enterprise collaboration using Internet technology and guarantees a full view. C-Business Scenarios describe an “outside-in” solution, in which a system implementation is approached in the implementation project starting with the business relationships and continuing across different views. The three different views, Business View, Interaction View and Component View satisfy the immediate information requirements of different parties (management, user departments, IT specialists). Complex processes are displayed in a comprehensible manner, hereby supporting communications between all the interest groups participating in the Collaborative Business Scenario both within a company and with the strategic business partners outside of the company.

The Business View provides information about the business partners and gives an overview of the scope and overall flow of the collaboration. The Business View also documents the business aspects, such as the benefits and the real value potentials, that can be expected by the participants. They are the basis for calculating the investment and the expected return.

The Interaction View is concerned with the dependencies between the individual activities within the entire process and the exchange of information between the business partners. The business documents exchanged between the business partners are defined and specified. The Interaction View also includes the participating persons in their particular roles using personalized use portals (e.g., mySAP.com Workplace).

In the Component View, the IT application landscapes of the participants of a Collaborative Business Scenario are represented together in a consistent manner. The Component View describes the application components needed for the system to support the business process. The activities can be divided into single steps that are executed in the relevant applications. The Component View also contains information about release requests and is the basis for subsequent technical implementation.

SAP AG has already identified more than 130 relevant Collaborative Business Scenarios. The portfolio of the C-Business Scenarios supported by SAP includes all the industries and functional enterprise areas supported by SAP (Financials, Logistics, Human Resources). All the documented C-Business Scenarios were created and tested together with customers, partners and experts.

You can find more information about the Collaborative Business Scenarios available under mySAP.com in Internet under http://www.sap.com/c-bs.

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