

15 Application of the Business Networking Method at SAP

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15.1 Distinction Between Business Networking Strategies

15.1.1 Overview

Chapter 4 describes different Business Networking strategies based on three levels of the Business Engineering Model. In reality these strategies do not normally appear in their original form. Existing strategies, IT applications and their functionalities tend to mix them. Examples of this fact are businesses that:

- Use ‘outsourcing’, ‘insourcing’ or ‘virtual organizing’ in parallel according to their business processes. For example, a corporation runs a virtual organization in procurement, operates insourcing in sales by taking over an eMarket and outsources all fulfillment activities.
- Realize integrated electronic transactions. In the long-term it makes no sense to inform customers about new products, prices, specific product information, availabilities, etc. without giving them the chance to order. And without a selection of products and more or less individual negotiation no physical supply chain can be triggered and no order entry occurs.
- Use different Business Networking systems at the same time. For example, decentralized eProcurement applications and eMarkets are used in parallel for procurement, and process portals support the entire customer needs on the sell side.

Therefore, businesses need to consider different strategies at the same time. A structured approach, such as the Business Networking Method described in Chapter 14, helps to speed up projects and to coordinate dependencies between different projects. Chap. 15.2 suggests how the method can be used to implement Business Networking strategies with standard software components.

15.1.2 Interaction of Strategies From the Customer Perspective

Electronic commerce (EC), supply chain management (SCM) and customer relationship management (CRM) are complementary strategies that focus on different areas of support for the customer process. Successful solutions integrate these strategies in a manner which allows the customer to fulfill his various needs without changing the medium or channel, i.e. ‘Amazon’ (cf. Chap. 3.2.2) or ‘ETA Online Shop’ (cf. Chap. 6.3). When it comes to developing such solutions and designing a Business Network, however, a clear differentiation of the processes is important in order to define:

- which applications and/or functionalities should be used for what,
- where to store (master) data, and
- what interfaces between applications are necessary, which data are to be exchanged etc.

As described in Chapter 4, these strategies focus on different core processes: EC on 'Information', 'Contracting' and 'Settlement', SCM on 'Plan', 'Source', 'Make' and 'Deliver', and CRM on 'Customer selection', 'Customer acquisition' and 'Customer retention'. From a customer perspective, only the outcome of these strategies is relevant, i.e. the maximum support of the customer process (cf. Chap. 2.3.6). As Figure 15-1 shows, customer portals provide support by profiling and obtaining advance information on solving the problem of how to dispose of used goods. Thus, a method has to provide support when identifying the customer segments, the elements of the customer process as well as the functionalities and other properties at the application level. Methods provided by application providers, such as SAP, therefore need to support not only the implementation and configuration process but also the strategy and process levels.

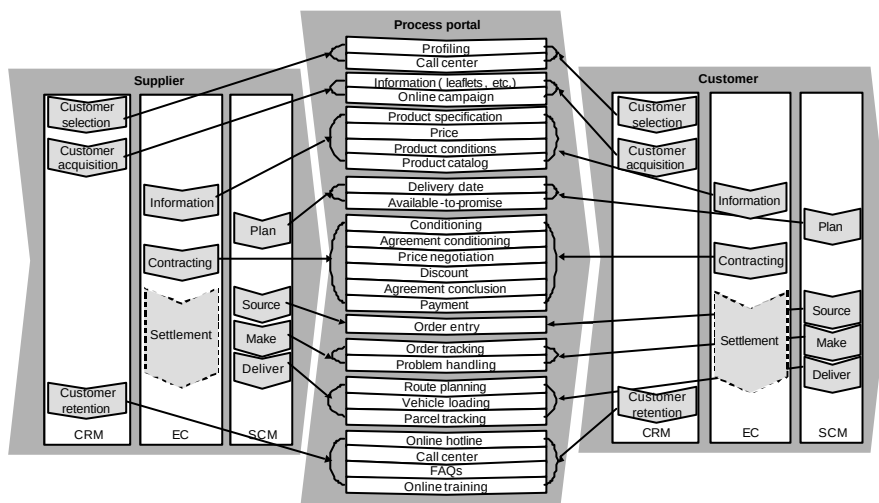


Figure 15-1: Process Portal and Business Networking Processes

¹ Portals are Internet-based systems that integrate content, services and functionalities in order to offer a personalized 'window' for the user.

15.2 A Method for Implementing Supply Chain Modules

15.2.1 Goals of the Method

In order to attain Business Networking goals, such as the simple and fast exchange of transactions, increased customer care or reduced inventories, business partners have to be convinced about new ideas, new business processes among them and new (information) systems. For implementation to be successful, a variety of decisions will have to be taken at the strategy, process and systems levels. Business Networking projects require a procedure completely different from that of traditional ERP implementations because:

- The goals of all business partners have to be taken into consideration in order to establish win-win-situations and reach critical mass (cf. Chap. 2.2.3) both on the supplier and customer sides. Goals might be, for example, a 30% improvement in service level, a 20% reduction in cycle time or a 60% reduction in inventory level.
- Different scenarios have to be evaluated in order to find the appropriate configuration of the supply chain solution, i.e. a vendor-managed inventory (VMI) or continuous replenishment strategy (cf. Chap. 4.3.2).
- A solution which offers full customer support needs to integrate multiple modules, e.g. eProcurement (cf. Chap. 10.2), advanced planning systems (cf. Chap. 9.4), and services, e.g. electronic billing & payment systems, which may be from different vendors.
- Inter-organizational processes (e.g. a VMI process) and exchanged information needs to be coordinated between business partners.

These elements are typically not included in existing implementation methods from software vendors or consulting companies. However, they are a must if the potentials of Business Networking systems are to be exhausted.

15.2.2 Business Networking Systems and Methods of SAP

One successful example that takes the above mentioned points into consideration is SAP AG, headquartered in Walldorf, Germany. SAP AG made a turnover that exceeded € 5 billion in 1999 with 20,975 employees worldwide (8,912 in Germany) [cf. SAP 1999b]. SAP provides solutions for all strategies and components of Business Networking – from traditional ERP, such as financials, human resources, product life cycle management, to newer areas such as business intelligence, SCM, CRM and EC, and finally to the mySAP.com workplace and market-

place. To support the implementation of these products, SAP provides a method called Accelerated SAP (ASAP) which consists of a procedure model, project-specific knowledge (project management, change management, risk analysis, review), tools (implementation assistant, Q&A database, etc.) and services (training, documentation, support, etc.).

The increasing level of networking between components and between business partners means that methodologies of the past need to be enhanced in order to cater for the needs of inter-business networking. At SAP, the first step in this direction has been the introduction of 'Global ASAP', a solution including a methodology for implementing multiple SAP systems within a company or corporation. ASAP solutions for APO, BBP and CRM will include component-specific views of eBusiness strategy, with part of the methodology helping to evaluate business alternatives for cross-company processes, and link the evaluation to the specific component's functionality. Some inter-organizational processes supported by APO, BBP and CRM involve all three components, for example procurement between BBP and CRM in the future as part of a supply chain planned by APO. For these processes it is important that a common language exists to describe them, i.e. we need to avoid having a supply chain-type description, a procurement-based description and a CRM-based description.

15.2.3 Accelerated SAP (ASAP) Roadmap

Traditionally, ASAP has concentrated on the ERP solutions provided by SAP AG. With the advent of mySAP.com components, such as APO (Advanced Planner and Optimizer) for SCM, BBP (Business-to-Business Procurement) for eProcurement and CRM (Customer Relationship Management) for CRM, ASAP methodology has been and still is being enhanced to include Business Networking aspects in the project preparation and business blueprint steps. The ASAP method goes beyond simply explaining how to configure SAP systems and aims to look at the big picture, giving customers and partners a roadmap for a complete project. The 'roadmap' consists of the following steps (see Figure 15-2):

1. *Project preparation* (project planning, project organization, project standards),
2. *Business blueprint* (organization structure of the enterprise, business processes of the enterprise),
3. *Realization* (baseline configuration, configuration and integration testing, conversions, interfaces, enhancements, reports, and user documentation),
4. *Final preparation* (go-live plan, end-user training, system administration, conversions), and
5. *Go-live and support* (system support and system optimization).

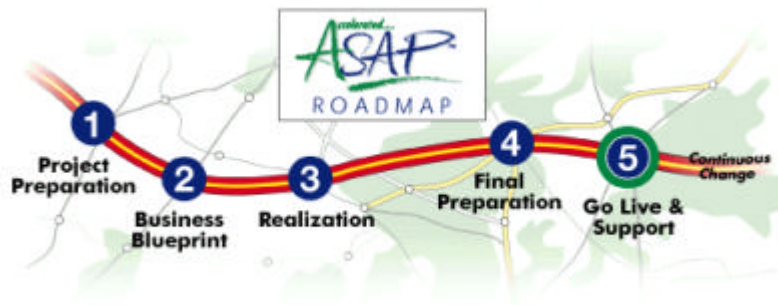


Figure 15-2: Roadmap of the ASAP Method

The second step, the business blueprint, is where a customer's business strategy is analyzed and matched to SAP's solutions. In particular this means analyzing and defining the companies' eBusiness strategy as it relates to the particular mySAP.com component, for example collaborative planning with APO. This part of the business blueprint is called the strategic blueprint and will be the topic of this Chapter.

15.2.4 Strategic Blueprint of ASAP for APO 2.0a

The 'strategic blueprint' is part of the business blueprint within ASAP for APO 2.0a, which focuses on supply chain collaboration scenarios. It consists of the following steps and work packages:

- *Enterprise Vision Definition.* The starting point for defining a Business Networking project is an overall vision. The problems of the as-is situation trigger the need for various analyses such as competitor analyses, best practices, stakeholders, etc. The main goal is to find out the real problems and to create a vision to set up the project.
- *Supply Chain Goals and Performance.* Detailed goals have to be developed for the underlying supply chain processes. This also includes expressive metrics to measure changes over as-is performance.
- *Identify Supply Chain Partners.* Successful collaboration between business partners first needs goals in respect of how the collaboration can be defined, started and maintained. Then collaboration scenarios have to be developed and collaboration partners defined in order to put the scenarios into action.
- *Elaborate Win-Win Situation with Supply Chain Partners.* The main goal is to clarify the collaboration scenarios together with the collaboration partners. The focus must be set on developing win-win situations for all partners concerned.

- *Supply Chain Landscape Considerations.* Commonly agreed strategic goals and a clear picture of specific success factors and potentials must form the basis for defining the to-be business architecture and processes, and implementing projects.

The Business Networking Method (cf. Chap. 14) has been fully integrated into the overall ASAP APO 2.0a method. But it was needed to adapt titles and subtitles to the established ASAP terminology. However, the first three ASAP steps roughly reflect the first phase in the BN method, and the last two ASAP steps the second phase of the BN method.

15.3 Reference Case for the Strategic Blueprint: Woodbridge, Int.

The Woodbridge case is fictitious and was developed in order to provide a general and neutral example which would explain the use of the Business Networking method. It represents the project experience gained within the CC iBN (cf. Chap. 1), which formed the basis for the development of the Business Networking method. In this case, EC elements have been included that are not part of ASAP APO 2.0a.

Woodbridge, Int., located in Seattle, Washington, is a long-established, international manufacturer of cardboard, aluminum and plastic packaging materials. The main customer in the USA is Walters Best in Richmond, Kentucky. Walters Best produces different types of pasta that are packaged with plastics from Woodbridge. Walters Best sells the pasta to its end-customers, i.e. supermarkets, wholesalers, etc. Woodbridge has its own car pool to deliver the materials to Walters Best distribution center.

Enterprise Vision Definition

Over the last two years Woodbridge ran into financial difficulties for the first time. The reasons for this, as shown by internal analyses, were a new competitive situation, rising costs and quality demands. Management's first reaction was to perform various analyses, i.e. potentials and risks, stakeholder, as-is customer, market and portfolio analyses, etc. It was then decided to define new cooperation concepts, open up new markets in South America and increase the level of customer service.

In order to improve external relationships it was decided to improve forecasting capabilities. In the past, it was not possible to exchange future demand figures electronically with business partners and no advanced planning system was in place to calculate different production plans. Customer demand was exchanged by telephone on a monthly basis only. Problems arising from this were:

- poor production capacity utilization,
- high inventory stock levels at Woodbridge and Walters Best,
- no flexible reaction to changing demands, i.e. special offers, postponements, etc.

The results of all analyses revealed weaknesses in logistics and warehousing. The as-is situations of the following three result documents were established: business architecture, process architecture and IS architecture. The as-is business architecture shows a geographic overview of all linked business units, i.e. warehouses, plants, distribution centers, wholesalers, and, of course, end-customers (see Figure 15-3)

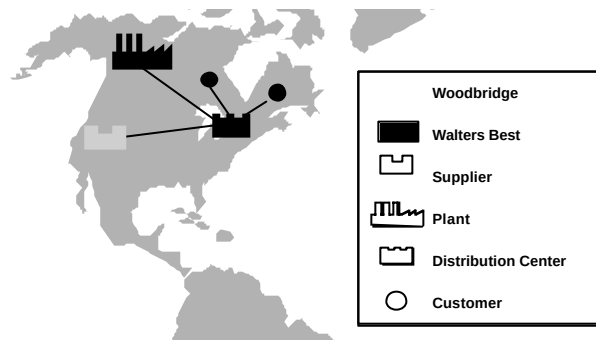


Figure 15-3: As-Is Business Architecture

The process architecture consists of a macro and a micro level similar to established BPR methods [cf. Österle 1995, 49]. The as-is process architecture describes all flows of information, goods and funds that are exchanged between business units (see Figure 15-4). The as-is process architecture at a more detailed (micro) level describes the main processes of the business units and their inputs and outputs within an activity chain diagram (see Figure 15-5).

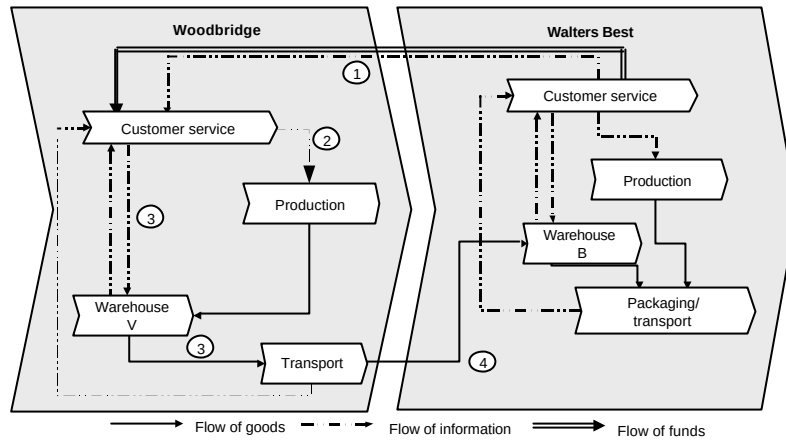


Figure 15-4: As-Is Process Architecture - Macro

At the beginning of the project the customer service from Walters Best ordered plastic materials from the Woodbridge customer service by telephone (1). Woodbridge produced an account of these orders along with past trends (2), and delivered plastics from warehouse V to warehouse B (3 & 4).

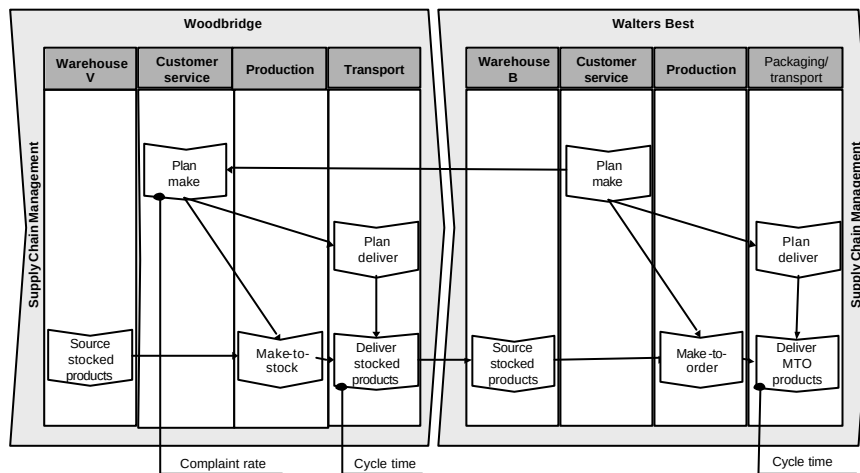


Figure 15-5: As-Is Process Architecture - Micro

As indicated in Figure 15-5 and Figure 15-6, there was neither an integrated planning function for the complete supply chain and future demands, nor an EC-solution to facilitate data exchange. Both enterprises only used ERP systems to plan their internal production (plan-make), delivery (plan-deliver), etc.

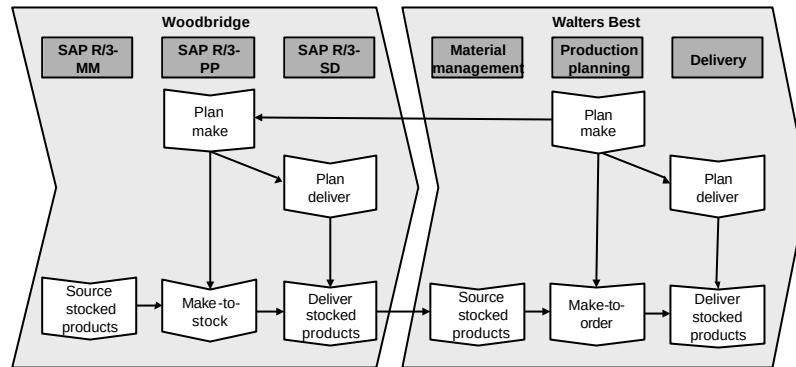


Figure 15-6: As-Is IS Architecture

Supply Chain Goals and Performance

For the purpose of developing efficient collaboration scenarios, Woodbridge decided to consider benchmarking databases and best practices in the sector, such as Riverwood International (see Figure 15-7). As a result, a VMI scenario was established to solve the problems in production and warehousing. An eService scenario was developed to solve the problems in shipment. The VMI scenario was to help decrease the costs of warehousing by about 40%, and the eService scenario was to help simplify the shipment process and decrease costs by about 20%.

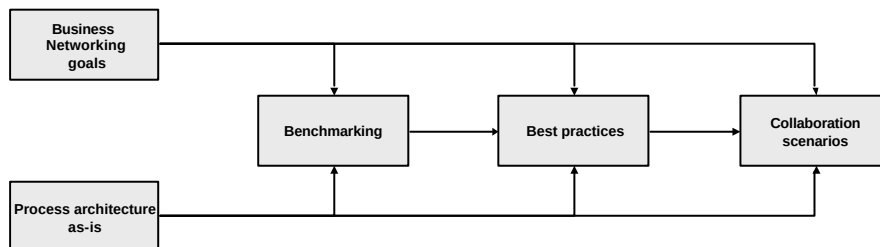


Figure 15-7: Developing Collaboration Scenarios

Identify Supply Chain Partners

Woodbridge analyzed the market in South America and selected three corporations with which they considered collaboration to be a viable proposition: Wheat Ind., Brewers Finest and Delta Choc.² Walters Best and these new corporations signed a preliminary collaboration agreement. Walters Best was defined as the

² Wheat, Ind. produces cereal products, Brewers Finest is a large brewery and Delta Choc. produces various sweets.

pilot partner and the others as partners for the continuation of the project when the pilot was rolled out.

Elaborate Win-Win Situation with Supply Chain Partners

Woodbridge and its partners held various workshops in order to obtain a clear picture of how the benefits could be shared within the collaboration scenario, i.e. the win-win situation. The overall collaboration principles, performance and collaboration goals were also defined. This included, for example, how to deal with conflicts, trust building and management, behavior in relation to competitors and collaboration processes. Finally, the main performance indicators for the scenario were fixed.

Sæenario	Process	Metric	As-is Value
VMI	Make-to-Stock	Capacity utilization	40%
VMI	Make-to-Stock	Unit cost	USD 1 Mio.
eService	Deliver Stocked Products	Order fulfillment cycle time	5 days
eService	Plan Deliver	Order management cost per ton of plastic	USD 15,000

Table 15-1: Metrics of Scenarios at the Start of the Project

Supply Chain Landscape Considerations

The to-be business architecture shows the pilot project and the continuation partners, all warehouses, distribution centers, plants, etc. (see Figure 15-8).

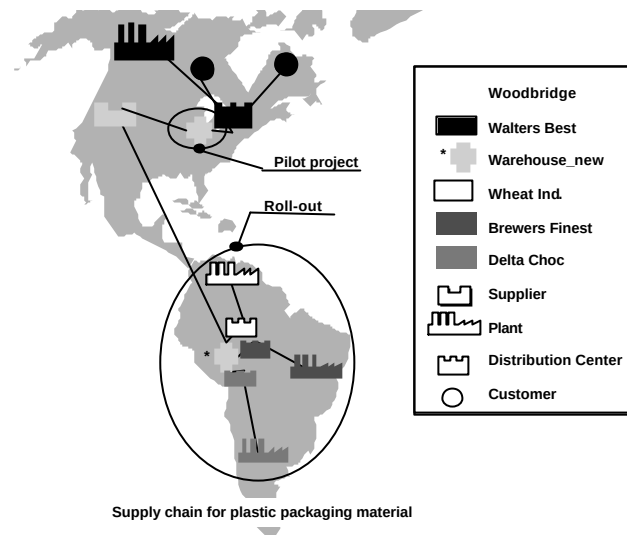


Figure 15-8: To-Be Business Architecture

While the responsibilities of the various customer services remained unchanged, Warehouse V and the new Warehouse B are now managed by Woodbridge. They are responsible for product availabilities and stock level optimization. Transport has been completely outsourced to a new partner, eLogistics (see Figure 15-9).

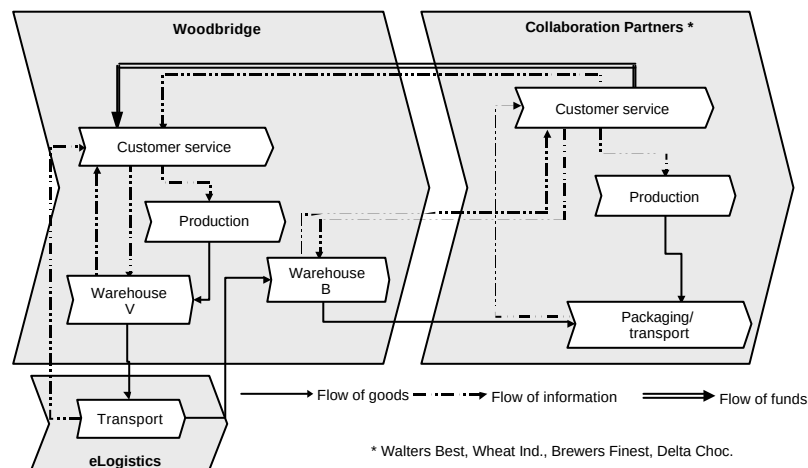


Figure 15-9: To-Be Process Architecture - Macro

These facts are again depicted in Figure 15-10: 'Source Stocked Product' now belongs to Woodbridge and 'Plan Deliver' and 'Deliver Stocked Products' to eLogistics. For the interaction with eLogistics an EC solution was established to facilitate requests for required capacities, availabilities and status information by developing two new processes: 'Inform MTO Service' and 'Contract MTO Service'³.

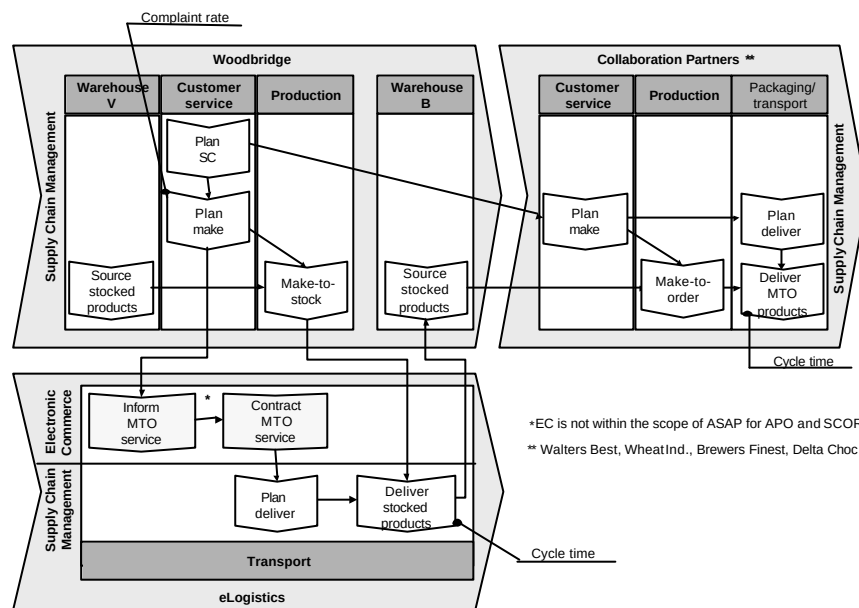


Figure 15-10: To-Be Process Architecture - Micro

To manage the new warehouses and continuous forecasting, Woodbridge implemented an Advanced Planning System (APS) that has various interfaces to the core ERP systems of Woodbridge and partners. On the other hand, Woodbridge uses an electronic catalog system from eLogistics that shows availabilities and conditions of transporters (see Figure 15-11) as well as the status of parcels to be delivered to partners and to Woodbridge itself via the Internet.

³ EC processes do not fall within the scope of ASAP for APO but are seen as an important further development within SAP's method family.

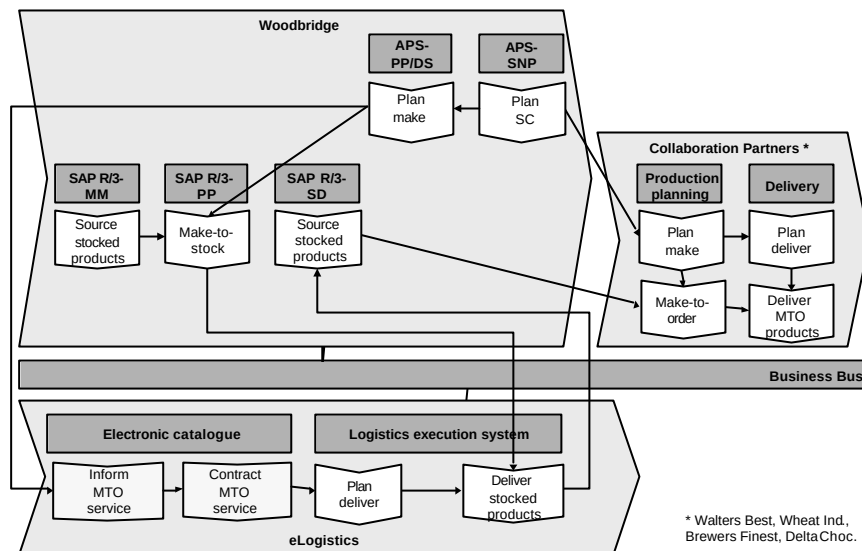


Figure 15-11: To-Be Application Architecture

At the end of the project a final evaluation of the main goals was conducted. As Table 15-2 shows, the project led to significant reductions in all core metrics.

Sæenario	Process	Metric	As-is Value
VMI	Make-to-Stock	Capacity utilization	85%
VMI	Make-to-Stock	Unit cost	USD 560,000
eService	Deliver Stocked Products	Order fulfillment cycle time	1.5 days
eService	Plan Deliver	Order management cost per ton of plastic	USD 8,500

Table 15-2: Metrics of the Scenarios at the End of the Project

15.4 Conclusions and Next Steps

Customer-oriented solutions integrate multiple Business Networking strategies and systems. In many cases systems for eProcurement or EC are implemented, which neglect (1) strategy and process issues and/or (2) the interrelationships with

other strategies. We believe that in the future, the differences between implementing processes between systems or components within a company and implementing inter-organizational processes across company borders will shrink. This has important implications for application providers, such as SAP. As Figure 15-12 shows, in some companies all the components will belong to the company; in other cases, many components will belong to different companies. Collaboration will make the building of virtual companies much easier, at least for certain areas; the building blocks are collaboration scenarios. An Internet trader, for example, might have a CRM system, outsource HR and look to partners for manufacturing and logistics. In other words, he defines and implements collaboration scenarios with his partners, thus creating a virtual company.

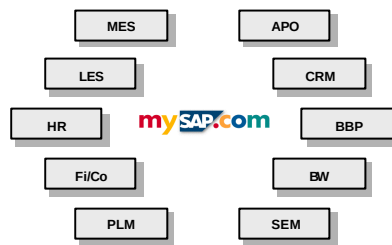


Figure 15-12: mySAP.com⁴ Components

In order to provide a methodology for implementing mySAP.com, we need to build on a common language for describing cross-component business processes, be they within a company or between different business partners. Once a common language is defined, we can set about joining Global ASAP methodologies for eBusiness methodologies for APO, BBP and CRM in order to arrive at a methodology for implementing eBusiness solutions across multiple SAP components, be they Intranet, Internet or both.

The authors were involved in producing ASAP for APO 2.0A, and are currently working on the definition of a common language for describing cross-component business processes. The interaction of SCM and EC as shown in the Woodbridge case represents a first approach to this problem.

⁴ With mySAP.com any of the above components could be running in systems owned by one company, or owned by collaborating partner companies. LES stands for Logistics Execution (Transport and Shipping), MES for Manufacturing Execution, HR for Human Resources, FI for Financial Accounting and Controlling, PLM for Product Life Cycle Management, BW for Business Information Warehouse, and SEM for Strategic Enterprise Management.