

# Enterprise Software: Analysis of Product Strategies

By

Krishna S. Boppana

Submitted to the System Design and Management Program  
in Partial Fulfillment of the Requirements for the Degree of

Master of Science in Engineering and Management

At the

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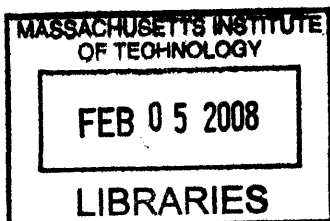
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**To my wife Shanthi**

**To my children Revanth and Sameera**

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## **Abstract**

Since the invention of IBM 360, the first computing system about five decades ago, the processing and software capabilities have grown by leaps and have become major components of businesses. The software applications and capabilities for major business have become necessity rather than a “differentiating” factor to conduct their businesses. This thesis aims to analyze the product strategies in the enterprise software, specifically from the competitive point of view and their position in the market, new technology architectures and core competencies of an organization.

**Thesis Supervisor:** Michael Cusumano,  
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# 1 Introduction

Pure Product strategy of a software organization is driven by disruptions in technology and disruptions in market needs. With fast pace development of high performing semiconductors, software products are constantly under pressure to utilize the new capacities at peak performance levels. Unlike semiconductors, which are several layers away from direct human interaction; software products interface humans and utilizes the capabilities of semiconductors. Human interaction, business processes, non-uniformity of usage makes the development of software products challenging.

As the evolution of enterprise software adoption is evolving from vertical to platform, web services and modularity stage with industry specific business process optimization, software product development firms have the following challenges:

- a) Develop products that are modular
- b) Develop platform technologies that are “sticky” with pluggable modules.
- c) Differentiate and maintain value proposition.
- d) Develop smooth migration path from older versions and
- e) Ease of switching from competitor software products and technologies as enterprise software switching costs are high.

In light of these challenges, this thesis focuses on analyzing product strategies of enterprise software firms, industry trends in technology adoption, competition and organizational strengths.

Section 2 describes a simple framework for analysis of product strategy for enterprise software firms. Section 3 analyzes two dominant enterprise software players SAP and Oracle and their

products and services. Section 4 looks at the other players in the enterprise software other than Oracle and SAP.

Applications on demand or Software as a Service (SAAS) is treated separately in section 5, as it is important to understand the potential disruption to the traditional model and understand how the entrenched firms adopt to this new model.

Section 6 draws conclusions on enterprise software product strategies.

## **2 Framework for Evaluating Software Product Strategy**

The pillars of this framework are *Business Models, Technology, Growth Strategy, Competition, and Eco System*. Analysis of these elements leads us to understand a firm's *Product Strategy*. There are other important aspects of a firm like *core competencies; Organizational structure, etc.* that defines the product strategy as well. This thesis touches upon these aspects from external observations of specific firms and general trends in the industry. Adoption of open standards is evaluated where it is appropriate during technology analysis.

### **2.1 Business Model Evaluation**

#### **2.1.1 Revenue Models**

Traditional software revenue model is licensing. Recently there are fewer and fewer pure product companies. Probably one of the best pure product company examples is Adobe. In the early days of software industry, licensing model is the dominant model. The so called "printing press" model is very attractive with high gross margins. However as the software adoption across

several industries has increased, services have become a major source of revenue for product companies, leveraging the expertise for quick and accurate implementation requirements, support and maintenance.

In the case of a pure software product that is licensed, in the early days of the product, it is perceivable that licensing revenue is much higher than services revenue. There are three reasons for this, one, the market is just defined and there are not many players. The firm which introduced the product focuses on selling as many licenses as possible to establish market share and be the leader. Two, as the available market matures, the license renewals, maintenance and support revenue increases. Three, due to number of competitors, firms try to differentiate themselves with services, SLA's, etc. The revenue stream from a product essentially becomes "hybrid", a combination of licensing and services [1]. At present, combination of products and services revenue is the primary stream for software companies. In this context, it is interesting to understand a firm's strengths and weaknesses, how well a firm positioned to successfully manage the two types of revenue.

While evaluating an enterprises revenue streams, it is important to understand the market dynamics for those products and link the trends to understand and predict the future.

### **2.1.2 Market Segmentation**

With the recent consolidation of the enterprise software industry and maturity of the large enterprise market, market segmentation and targeting a segment have become important strategic steps in the product positioning. For example traditionally SAP has been a dominant player in the large enterprise business applications. With the maturity of this segment, SAP is positioning its products and services for small and medium enterprises as well.

With the success of software as a service business model, most of the enterprise software product and services companies are adopting this model to serve some niche market segments that are created due to this model. The question here is does this create a new segment or SAAS is going to take over as the choice of business model. It is conceivable a few products are more suited for SAAS model than others, it is important to understand when SAAS model becomes an attractive model for a segment.

### **2.1.3 Core Competencies**

For the purposes of product strategy, the core competencies of an organization that are crucial are:

- a) **Technical competency** – Evaluate how best a software firm is technically competent to adapt to disruptions in technology. Is a software firm technology leader or a fast follower [3]? Can they deliver quality products at the right time to the market?
- b) **Organizational competency** – Evaluate if the firm has organizational structure that is aligned with the firm's strategic vision. Evaluate leadership capabilities and adaptability to changing market and technology.
- c) **Financial competency** – Financial and management ability and flexibility to use financial resources wisely is a crucial competency not only for choosing right projects and also for mergers and acquisitions.

### **2.1.4 Eco System Evaluation**

It is impossible for one software firm to provide all the required software components that satisfy all their customers. Two simple reasons for this, one is customers requirements are much broader than a core software product is capable of and two, software firm's core competencies are not

necessarily in developing solutions for specific segment or functionality. For example, SAP partnered with Microsoft to integrate with Microsoft Office products as an interface to SAP's applications. Here SAP's core capabilities are not in desktop productivity applications and it is Microsoft's core strength. This relationship is an interesting dynamic as Microsoft also develops enterprise software applications that are similar in nature to SAP's but they target different segments of the market. Here there is complementary as well as competitor relationship. It is interesting to analyze these relationships and understand where the boundaries are and manage conflicts [7].

An eco system or partner consists of several different types; from pure marketing and sales channel partners to technology solution providers and integrators. Eco system has become a major competitive advantage in recent years as differentiation in other areas is blurring. Also, the larger the footprint one can create, the harder it is to dislodge an incumbent for new entrants, especially in the enterprise software.

The eco system evaluation focuses on understanding how best a firm leverages their external relationships to create better value for their customers and there by provide a stronger argument for long term success for themselves as well as for their customers.

## ***2.2 Technology Evaluation***

In the early days of computing industry, the few players in the market, like IBM manufactured and sold hardware, software and services as a bundle. With the introduction of System/360, IBM unbundled hardware, software, and services and sold them separately [4]. The unbundling strategy helped innovation at different levels, fostering third party software and services.

However, the products and services are for a specific hardware and are specific to a particular market segment. In other words, the software industry was vertical and proprietary in nature in its early days. With the introduction of high-level languages and development of different architectures helped the growth of software's that run on different hardware architectures. This created the architecture for "horizontal" platform and vertical applications. More recently in the 21<sup>st</sup> century, with the advent of concepts like "build anywhere, run anywhere" tried to promote the elimination of hardware differences and promote hardware independent software.

Horizontal software applications have the potential for very large market size, though niche players can still be successful [3]. Large software firms like IBM, Microsoft focus on developing horizontal applications (Operating Systems) as well as vertical applications (CRM). Pure enterprise application software firms focus on providing enterprise wide business process applications, which are specific to an industry; however has the capability of providing a "platform" for an entire enterprise. To evaluate technology, it is imperative to understand market segment a software firm is targeting and the role of platform and vertical applications [1].

With the invention of Internet Browser, the thick clients that dominated late 80's and 90's are quickly disappearing. Internet browser as a form of interface to all facets of enterprise applications and end user application is a de-facto standard now. The technical disruption of browser is that, it hides the content origination technological differences with which a user is interacting. With the recent trend of "WebTop" applications, the productivity software (MS Office) is evolving into browser based software as well. This phenomenon blurs the technical advantages of a particular hardware and software development technologies and methodologies as long as they satisfy the needs of users. As the industry is accepting open standards and

compatibility is key for future success, The important factor to analyze here is how a software firm is creating value and how it is positioning for future when the technology differentiation is disappearing.

The technology adoption can be divided into four stages [9] based on the architecture of the products:

- 1) *“Business Silos Architecture: Where companies look to maximize individual business unit needs or functional needs*
- 2) *Standardized Technology Architecture: providing IT efficiencies through technology standardization and, in most cases, increased centralization of technology management*
- 3) *Optimized Core Technology: which provides company wide data and process standardization as appropriate for the operating model*
- 4) *Business Modularity Architecture: where companies manage and reuse loosely coupled IT-enabled business process components to preserve global standards while enabling local differences”*

The IT adoption has matured through stage 1 and 2 above and there are still niche players in these two stages which develop and support niche applications. Large enterprise software developers and majority of the adopters are in the stage 3 and stage 4, development and adoption of business process standards and modular products.

The technology evaluation analysis focuses on product architecture adoption and its impact on product strategy of a software firm.

## **2.3 Growth Strategy Evaluation**

In software industry, a single dominant player like Microsoft is unusual. Almost all types of software and all types of market segments have many players with different offerings differentiated by technology stack, price points and services. Perhaps there is a lesson or two to learn from Microsoft. Microsoft developed the most ubiquitous and horizontal products in the software industry has ever known, Windows and Office. Microsoft products are adopted by enterprises irrespective of the industry they operate in.

In enterprise business software applications, as the technology stack matures serving the high end customers, the mid and low end markets are natural migration for large existing players. At the same time the low end markets may be served by technologies that are not yet attractive to large enterprises due to the size of the market, performance considerations, scalability considerations, etc.

The recent trend is to build products with compatible and similar technologies (SOA, browser based) and differentiated on other measures like scalability; price and services which are the key growth strategies to serve wide variety of markets.

Compatibility and open standards are especially important in the end consumer market. For example, Adobe primarily served the Microsoft Windows based end consumers for document publishing and management. With recent popularity of Apple's Mac, Adobe ported their products to Mac operating system and their document format is operating system independent.



The growth strategy analysis focuses on how a firm is positioning its offerings and how it chooses to compete in a given market segment. Other elements of growth strategy may include developing on new core competencies, acquisitions, and entering new markets.

In the software industry, growth by acquisition, joint ventures and new internal projects are part of the key growth strategies. Roberts and Berry [8] familiarity matrix helps analyze a key undertaking by a firm. The familiarity matrix framework is shown in Appendix A.

## **2.4 Open Standards Vs Proprietary**

Does it really matter whether a business application uses open standards as against to proprietary standards? The premise for this question is business processes in enterprises seldom change; even if they change usually they are incremental improvements. Also, it is rarely concerned with interaction with external enterprises. This reason proliferated development of different methods, standards and proprietary architectures by different software firms. Actually, this reason helped enterprise applications businesses to grow in its early days. While the following sections discuss specific products and services, the three reasons summarized below will be useful to think why the enterprise software products are moving towards more open standards.

- As the world of computing grew dramatically in the last decade or so, enterprise applications became part of enterprises core requirements to conduct business efficiently. This also involved interacting with external entities like partners, enablers (E.g. banks, suppliers, etc). This motivated both product developers and enterprises to seek for open standards.
- Innovation in computing world has become more of a collaborative effort. The needs of firms have grown to such an extent that it is almost impossible for one vendor to provide

whole suite of applications that satisfy all segments of a market. This forced to provide Application Interface (API) to interact with products from other vendors. More than often it is a strong selling point for application software if it can be integrated well with several different applications.

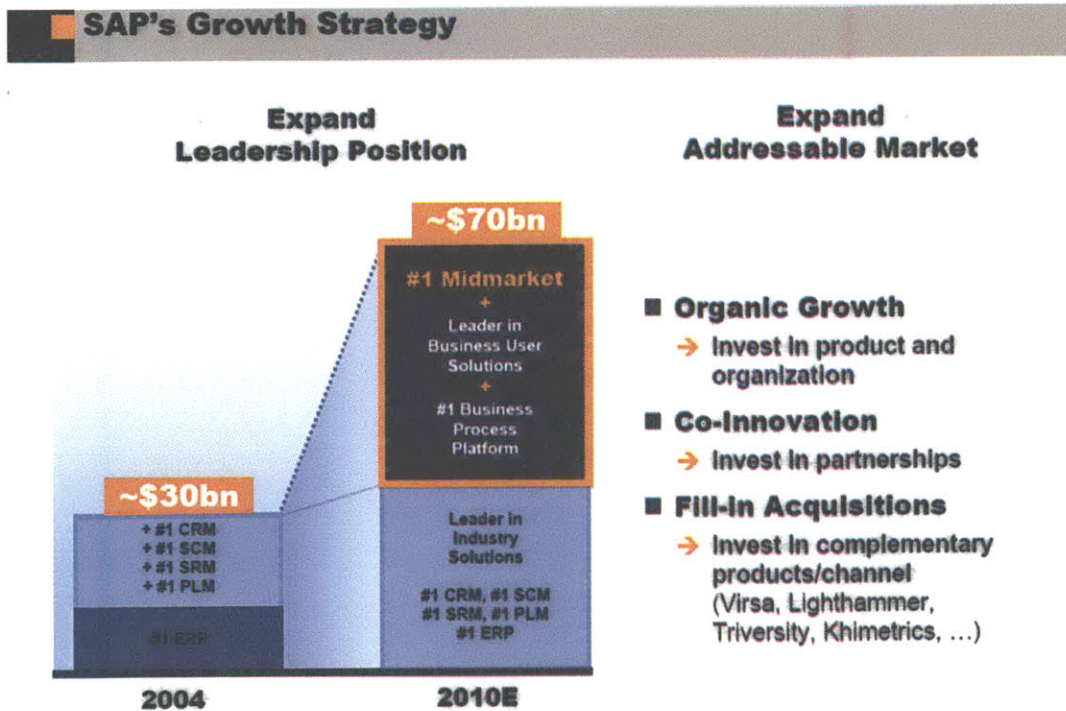
- Product life cycles have become shorter and shorter in the last decade. This required the enterprise application vendors to deliver new products and services at much faster pace. This put tremendous pressure on development cycle, development team management. Also, because of cycles in economy, people and skills management has become an important issue unlike in the early days of the industry. Ideally an employer likes to hire someone with skills that can contribute to development as soon as possible. This is possible only with the technologies that are standard in the industry.

## **3 Enterprise Software**

### **3.1 SAP**

#### ***“The Best-run Businesses run SAP”***

SAP is founded in 1972 by five former IBM employees and headquartered in Waldorf, Germany. SAP is the fourth largest software company in the world with approximately \$8.5 billion in revenue for the fiscal year 2005. SAP’s flagship product is mySAP ERP (Appendix B lists SAP’s products). SAP has more than 33,000 customers worldwide with more than 100,000 installations [10]. However SAP is going through a massive re-organization following their 2010 goals of 50 percent revenue from products and services other than mySAP, and increase the market share from 30% to 40%-45%. The figure 1 [40] shows SAP business goals for year 2010.



**Figure 1: SAP Growth Strategy**

The services and business mix goals include increasing the mid market services revenue and productized (All-in-One) solutions revenues (see figure 5 for SAP services mix and the goals for 2010).

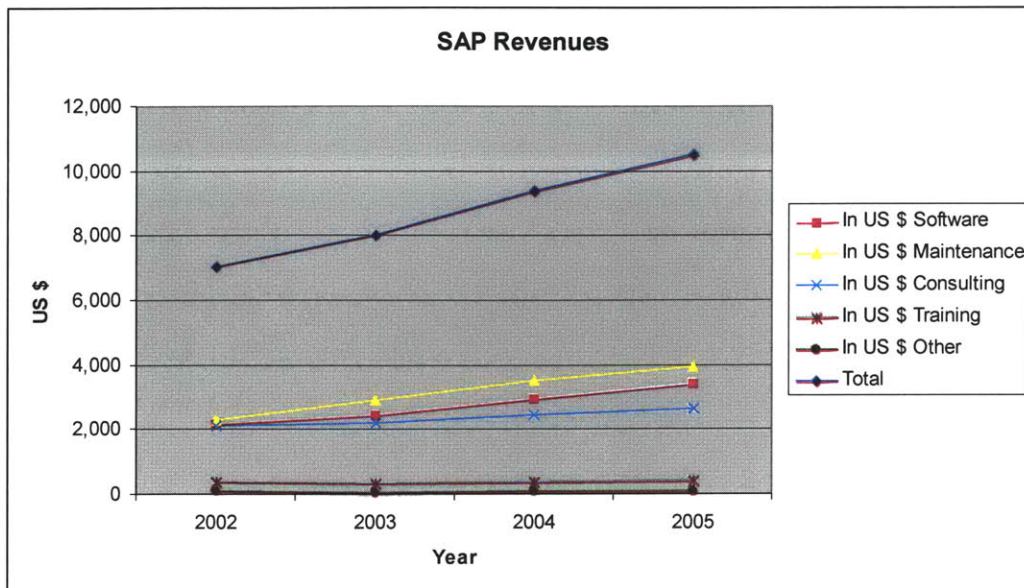
### 3.1.1 Business Model

This section describes SAP's revenue model, market segmentation and eco system. These three aspects of the model define core of SAP business model.

#### 3.1.1.1 Revenue Model

The figures 2, 3 and 4 below indicate SAP's revenues as of fiscal year 2005, from various business models [39]; new licenses, maintenance revenues, training and consulting. SAP is a late entrant to offer software as a service with the introduction of mySAP CRM on demand in February 2006. Appendix D lists the breakdown by revenue stream. Key highlights of SAP revenues.

- Licensing revenues account for about 33%, maintenance accounts for about 37% and the rest of the revenues come from consulting (25%) and training (4%).



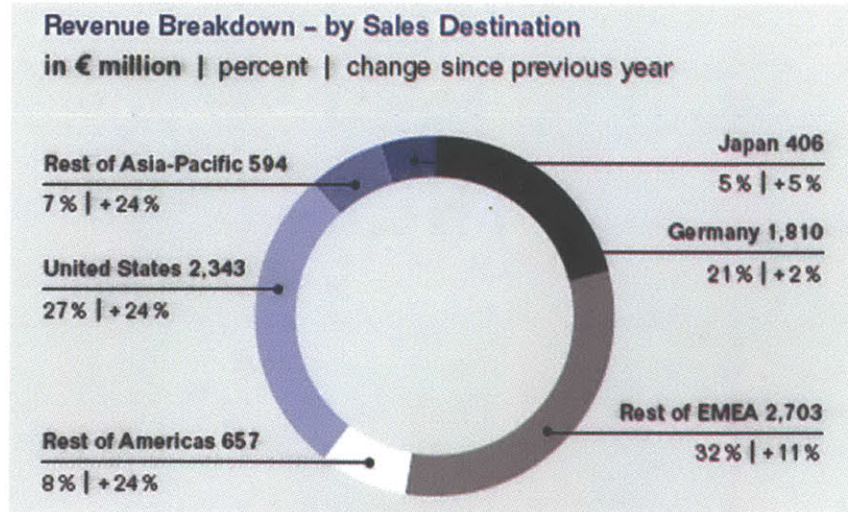
**Figure 2: SAP Revenue Stream Trend**

- Revenues from maintenance have increased from 33% in 2002 to 37% in 2005.
- Software licensing revenues are growing much slower or steady as a percentage of total revenues.
- The consulting share of total revenues decreased from 30% in 2002 to 25% in 2005. This loss of share is compensated in licensing and maintenance.
- Training revenues are steady at about 4%.

Year	%Software	%Maintenance	%Consulting	%Training
2002	31	33	30	6
2003	31	37	28	4
2004	31	38	26	4
2005	33	37	25	4

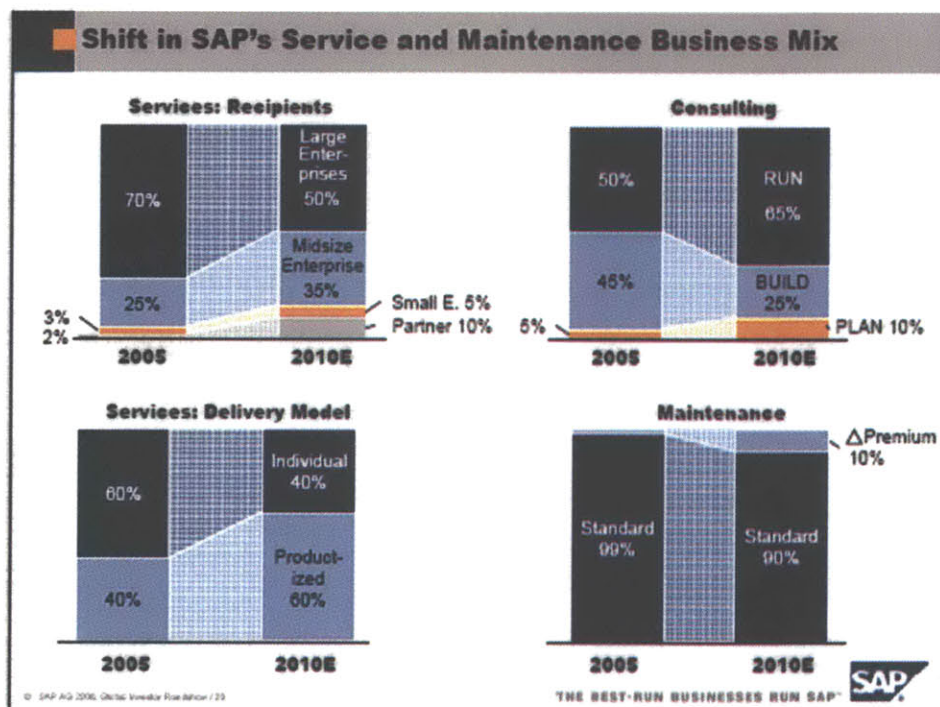
**Figure 3: SAP Revenue Distribution**

- SAP revenues are distributed across the globe evenly, see figure 4 below.



**Figure 4: SAP Geographic Revenue Distribution**

Figure 5 below shows SAP revenue mix goals for 2010.



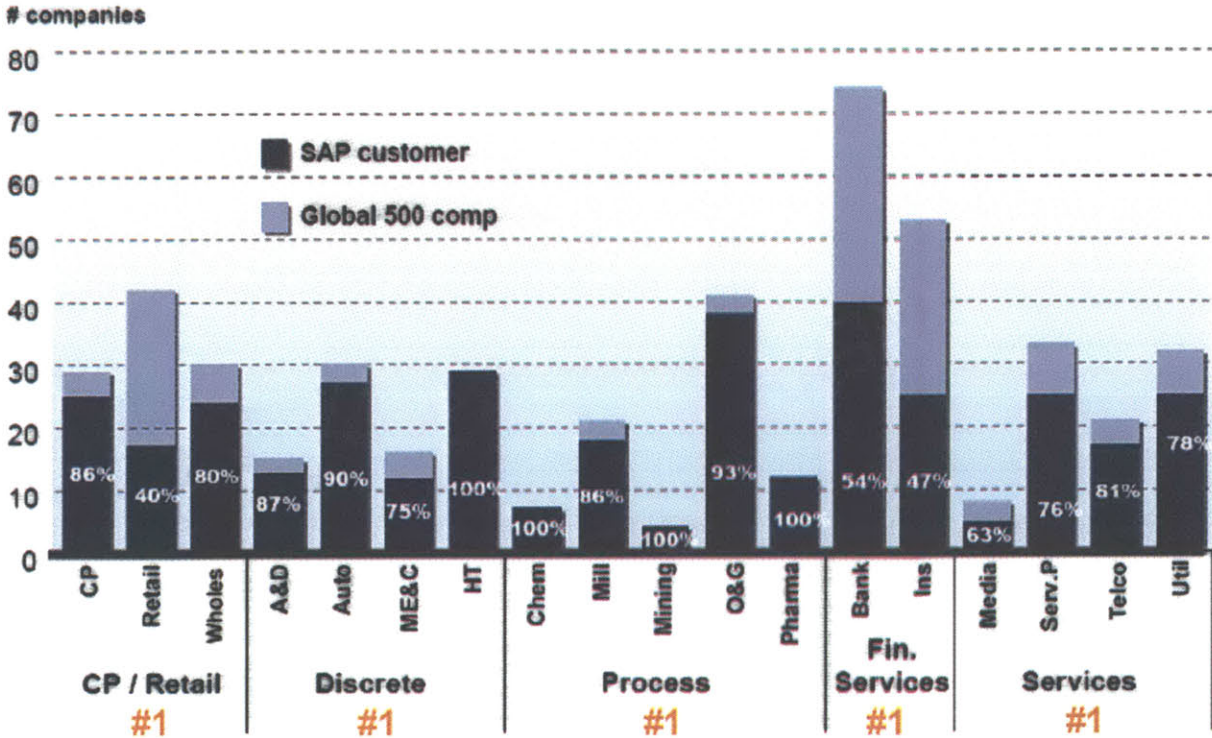
**Figure 5: SAP Revenue Mix Goals for 2010**

Interesting point to note here is their services deliver model goals, which are moving towards more “productized” revenue. This is interesting from two aspects, One, while the on demand model is gaining traction in the overall industry. Two, SAP does not seem really focused in this

delivery model. The lack of SAP interest in this model is evident with the IBM partnership for most of their on demand solutions.

**3.1.1.2 Core Competencies**

SAP has deep knowledge of several vertical industries. SAP has dominant position in many verticals and in some cases 100% of the market [40], see figure 6 below. This section analyzes reasons for SAP dominance in these verticals and how their core competencies align with the corporate vision for future growth.



**Figure 6: SAP vertical Dominance**

**a) Technical competency**

SAP is a strong proponent of organic growth. Over the years SAP developed their own language (ABAP) for their application development, developed almost all industry vertical products organically. SAP is a leader in researching and developing products for verticals.

With the re-architecting effort of their product line with Business Process Platform (BPP), in 2005, increased head count by 18% for R&D and development see figure 7 below (see Appendix E also).



**Figure 7: Continued investment in R&D**

SAP products are complex to implement and in some cases took years for satisfactory implementations. There are two problems, one, their applications (R/2, R/3) are written in German language, which are hard to understand for non-native German's. The ABAP language that SAP developed and used for their application implementation and customization is proprietary; it is difficult to find talent pool for enterprises to hire people off the street.

The challenge for SAP is not only developing new products with new technologies and using industry accepted technologies rather than proprietary technologies, but also migrating existing customers to new technologies and providing a clean migration path. This is a complex task, considering each of their customers has solutions that are unique to their

organization. If the migration path is not clear or clean and expensive for new licenses and consulting, there will be high attrition and perhaps the switching costs will be a non-deciding factor. Oracle claims that only 6% of SAP customers are on their most recent version of mySAP business suite as opposed to 94% of Oracle's customers on the most recent version of their applications. The question is does SAP has technical competency to develop new products and technology and able to provide a migration path with low TCO.

SAP established SAP labs in different parts of the world for research and development of products using new technologies. SAP took the approach of evolutionary product development. The wrapper around NetWeaver is a prime example of this approach. With this approach, there will be product updates and patches that customers have to apply often to keep moving towards new architecture. However there is a significant risk when a customer upgrades to newer version with upgrades, let alone the IT departments have to perform thorough testing before they can put it into production. This is a significant cost and pressure for each and every customer of existing install base. It is a long path to reach to mySAP business suite. The new mySAP technology architecture is expected to complete in 2007. However customers wait for a stable version and perform upgrades at their own pace. It is reasonable to expect most of their customers will still be running old versions for SAP even in 2010.

As part of SAP growth strategy 2010 (See Figure xx1), the Business Process Platform is crucial. The real challenge for SAP as far as technical competency is their ability to grow new technology competency and sustain existing proprietary technology for the next 5 years.



## b) Organizational competency

As SAP is going through the re-architecting phase of its products and services, it is important to understand its organizational strengths and weaknesses as well as the alignment with the corporate strategy.

Recognizing that in the old structure it is difficult to achieve alignment between products and services group, SAP organized into five segments as shown figure 8 below.



**Figure 8: SAP organizational Structure**

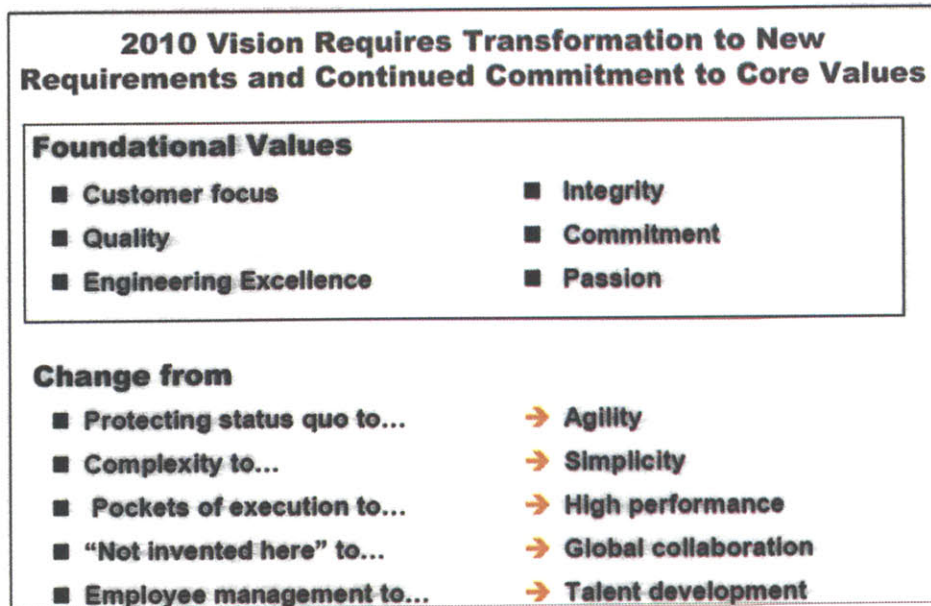
The major effort was to bring the products groups under one person's control, for existing products, Product and Technology Group. Also, a new group is formed for Research and Development for innovative product development. Clearly SAP has to manage the "change" throughout the organization and communicate to employees and motivate them. Traditionally, SAP employees, especially the engineers who develop and support products and services stay with SAP for long time, with an average seniority of about six years, see figure 9 below.



**Figure 9: SAP Employee Retention**

SAP senior managers and corporate managers are also with SAP for long time [14]. It is important for an organization to have a satisfied engineers as well as stable senior management. However this could be a drawback as well, they do the business same way as they know it. SAP responded to changing market dynamics and leading the market with their vision and expected products.

Figure 10 shows SAP's organizational goals for 2010 [44]. The changes listed are not easy transitions and will take long time to achieve, especially with long retention of employee history and conservative management style.

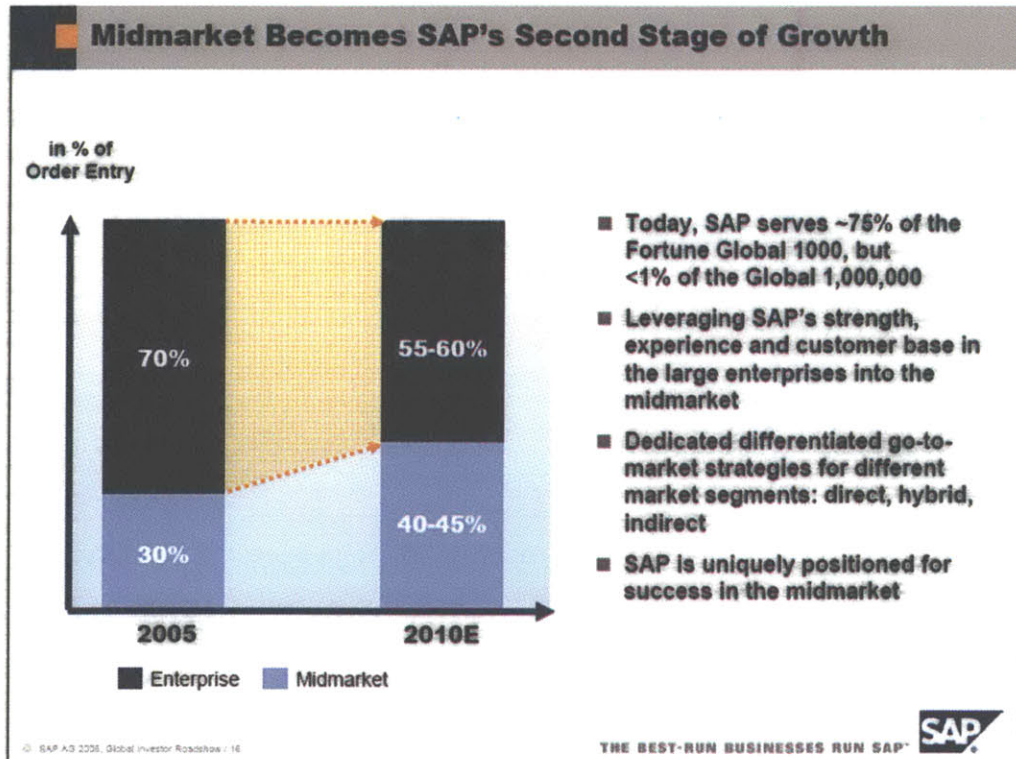


**Figure 10: SAP Organizational Change Goals**

**c) Financial competency**

SAP has revenues of \$10.5 billion as of fiscal year 2005 (Appendix D shows the revenue mix of SAP). 30% of revenues come from product licensing and 70% from services and maintenance. The operating margin for SAP is 27.5%. SAP has \$3.7 billion in cash with no debt. This shows that SAP manages their finances conservatively. SAP's ROE over 10 year period is 19.8% with over 20% average annual return for the past decade [41].

SAP is expecting to continue the dominance in the larger enterprise market and take positioning itself do the same in the mid market, see figure 11 below [42].

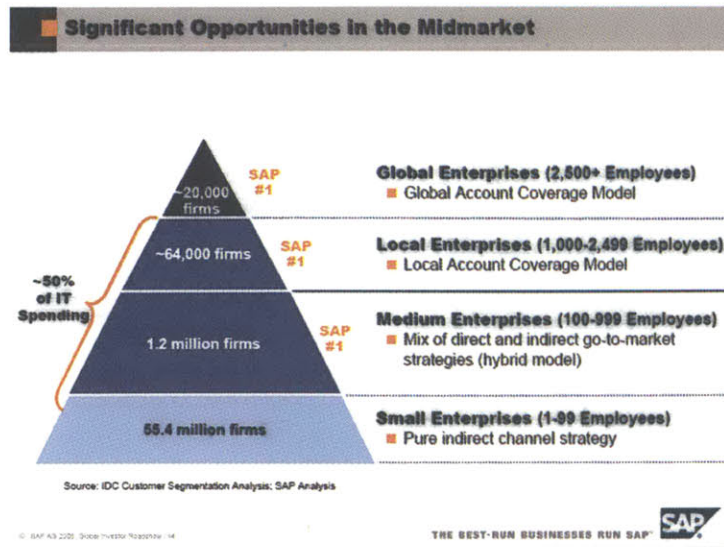


**Figure 11: SMB market opportunity**

### 3.1.1.3 Market Segmentation

Traditionally SAP target has been the large and global enterprises. SAP captured 70% of the top tier clients in the fortune 500 enterprises. As the saturation has become a major bottleneck for growth, SAP is positioning its products and services to target “mid” market and small companies (see figure 1).

SAP defines the mid market based on the number of employees less than 2,500 or revenues less than billion dollars. As of now, 2/3<sup>rd</sup>s of the SAP customers are small and medium enterprises (SME). SAP is expecting the available market size grows from existing \$30 billion in 2005 to \$70 billion by 2010. A large portion of the growth is in the mid market. See figure 12 below [42].



**Figure 12: SAP Opportunities**

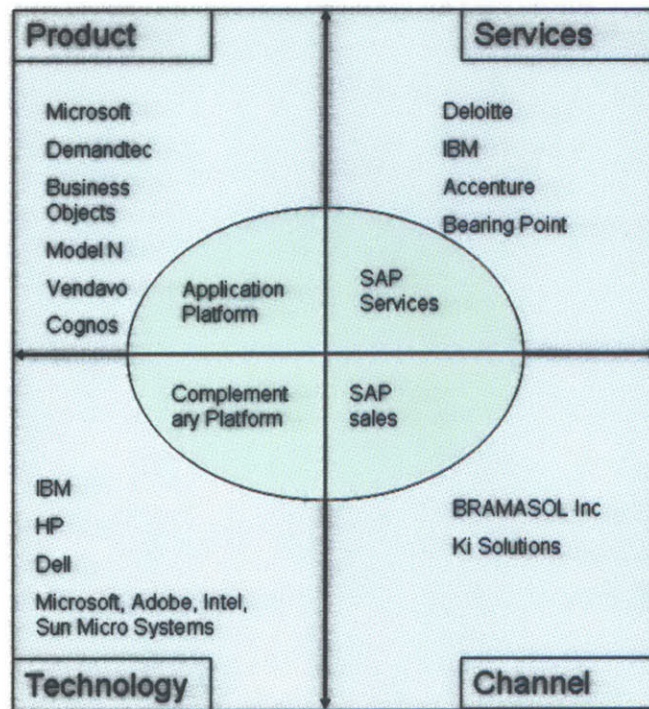
SAP products and services are being architected with web services, flexible and easy to implement solutions to position and capture leadership position in the mid market also. An important offering is their targeted product of mid market is All-in-One, an out of the box solution for specific industries. These mid market solutions are provided by SAP's certified partners network by customizing mySAP business suite, they do not come directly from SAP. One reason for the out-of-box solution is SAP's image as "complex products and difficult to implement". Also, this helps lowering TCO.

SAP also segments its target market by type of industry; consumer products/retail services, process industry like chemical industry, financial services, discrete industry like automobile industry and other services like utilities, see figure 5. SAP products and services are aligned with segmentation along with the size of an enterprise.

Clearly the next generation of growth is in mid market and SAP is changing itself to position to server the mid and small enterprises.

### 3.1.1.4 Eco System

SAP understands that they need help creating channels to potential customers, especially with their new focus on mid market. The mid market is a volume business. SAP recently created PartnerEdge program for channel partners to prepare and launch for the mid market segment. The PartnerEdge program supports marketing and sales efforts, lead sharing, co-marketing and marketing budget allowances, collaborative online network, education, etc. SAP also distinguishes partners based on the geographic region, segment and product line; see figure 13 below [43].



**Figure 13: SAP Eco System**

SAP divides their partners into 8 categories as described below, excerpted [44].

- *Content partners – These partners integrate their data, intellectual property, or information services with SAP solutions.*
- *Education partners – Education partners work with SAP to deliver high-quality, professional training in SAP solutions and technology.*
- *Hosting partners – These companies provide turnkey solutions and services by hosting SAP solutions.*
- *Services partners – SAP’s services partners are consultants who help SAP customers implement and integrate SAP solutions, optimize business processes, and provide strategic business consulting.*
- *SAP channel partners for small and midsize enterprises (SMEs) – SAP delivers its SME solutions through a network of providers and partners that provide services such as one-stop shopping and turnkey operations.*
- *Software partners – These partners provide complete, technically verified turnkey software solutions that extend and add value to SAP solutions. In addition, third-party software vendors can develop applications based on SAP’s standard, release-stable interfaces. Special partnering opportunities are provided by the Powered by SAP NetWeaver partner program – These partners develop business applications and innovative composite applications based on the SAP NetWeaver platform.*
- *Support partners – SAP works with partners to ensure that our customers receive the best possible support throughout the life cycle of SAP solutions.*
- *Technology partners – SAP works with leading technology vendors to provide the infrastructure for SAP solutions, including hardware platforms, databases, storage systems, networks, and mobile devices”.*

SAP also has interesting relationship with Microsoft and IBM to develop solutions for integration and accessibility. As mentioned in technology analysis, SAP’s Duet integrates with Microsoft information worker product suite. This is important for SAP than for Microsoft. This interface tool expands the market for SAP as the interface technology is undifferentiated with the browser. This integration created a possible market for 45 million users [12] at about \$1000 a license, very innovative growth strategy. Also, Microsoft and SAP has relationship to sell the products for each other.

SAP's application server NetWeaver is interoperable with IBM's application server WebSphere. This is more important for SAP than for IBM because NetWeaver has no market outside SAP's applications while IBM's WebSphere is the market leader along with Oracle's and BEA systems application servers.

Another significant partnership is with Adobe. Together they developed interactive forms for paper heavy business processes. This integration brings another large software company to co-sell with SAP and creating new markets for both SAP and Adobe.

Considering the above strategic relationships, SAP knows how to tap into other large organizations and co-sell their products and services. However there is one caveat for these integrated tools. The future innovation and incremental improvements are going to be delivered at much slower pace, as the coordination across large development groups is expected to be slow at best. From customer's point of view, they will be "stuck" with a specific version of the software for long time; probably a strategic customer "lock-in" by SAP.

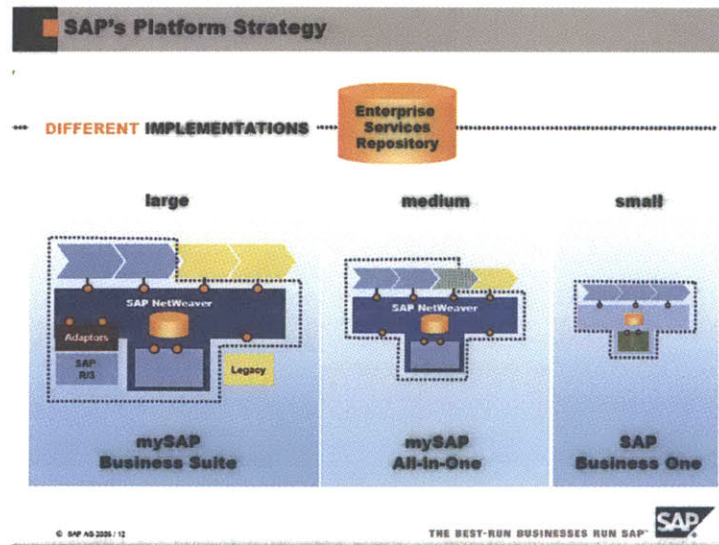
At the end, one can think of SAP strategy consists of a direct coverage and an in-direct coverage. With direct coverage, SAP uses their own channels and sales force while the in-direct coverage of the market uses channel partners, on demand applications and hosted solutions.

### **3.1.2 Technology Analysis**

SAP has three different platform offerings based on the size of the enterprise; mySAP for large enterprises mySAP All-in-One for mid market BusinessOne for small market. Figure 14 shows

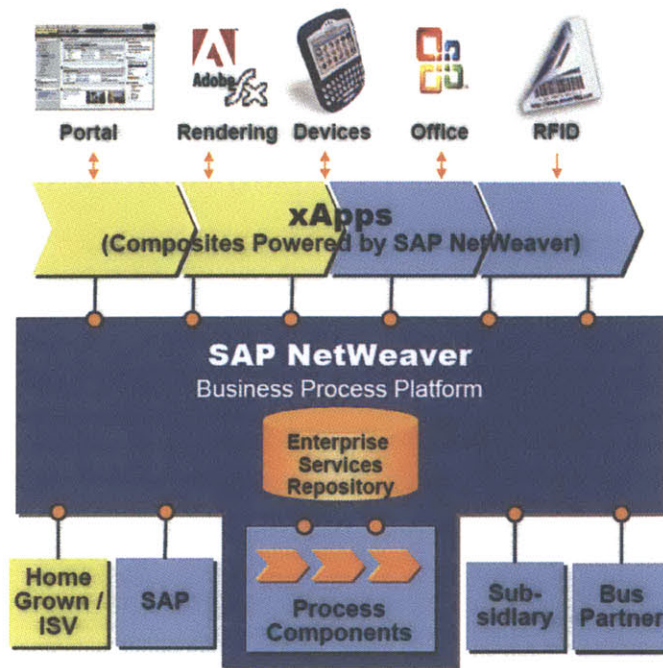


SAP platform strategy. SAP has 28 industry products (See Appendix B for complete list of solutions).



**Figure 14: SAP Platform Strategy**

In the early days, SAP targeted large enterprises with deep pockets and able to sell complete solutions. However with recent focus on “mid” market (see figure 1), SAP re-architecting efforts are crucial to its success. SAP is now using commercially available technologies like J2EE for their application server; however their application server uses wrapper to their NetWeaver application server, originally developed in ABAP. mySAP, their most recent version is built on top of NetWeaver. Figure 15 shows the Business Process Platform (BPP) technology stack of mySAP business suite [41].



**Figure 15: SAP Business Process Platform**

The mid market solution, mySAP All-in-one is a out of the box, fixed scope solution, provided by certified partners for faster implementation for low TCO. Another component of partner solution is xApps. The following is an excerpt on xApps.

*“The SAP xApps family of composite applications enables continuous business innovation -- and provides the flexibility necessary to respond quickly and profitably to business change. SAP xApps composite applications extend the value of your core business investments and maximize the return on your strategic assets: employees, knowledge, products, business relationships, and IT” [13].*

The BusinessOne is a solution targeted for small enterprises. Appendix F shows the features and benefits of BusinessOne solution. BusinessOne product is result of an acquisition.

SAP is moving away from their proprietary end user interface programs, now using browser based interface and integrated with Microsoft Information product suite for productivity tool integration. See figure 16 for screen shots.

**Focusing on the Business User: Duet**

The figure consists of two screenshots. The top screenshot shows the SAP Corporate Portal interface with a calendar view. The bottom screenshot shows a Microsoft Outlook calendar with SAP data overlaid on it. Both screenshots have orange circles highlighting the SAP logo and the calendar integration area.

**Duet...**

- ...links SAP process functionality directly to Microsoft® Office applications

**Joint Go-To Market**

- SAP and Microsoft have agreed to each resell the complete solution

**Available Scenarios in Version 1.0**

- Time Management
- Leave Management
- Budget Monitoring
- Organization Management

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THE BEST-RUN BUSINESSES RUN SAP™

**Figure 16: Duet: SAP and Microsoft Office integration**

Integrating with Microsoft products arguably has two advantages, one, the end user is more productive, and two, SAP created about 45 million potential users for this integrated tool [12].

Salesforce.com success created a new business model for enterprise software. The technology challenges are quite different with subscription model compared with traditional licensing model.

The premise of SAAS model is to create a vanilla version of the software with few

customizations and reach small and medium enterprises. The SAAS model reduces the upfront investment and reduces the risk for their customers. This is especially true if the customer is reluctant to invest in data centers, IT staff, etc. SAP is a late comer to this model and offered on demand CRM starting in February 2006. SAP is hoping that when a customer has grown large enough, there is an opportunity to sell more products and services preferably the mySAP business suite, which requires stand alone implementation and licensing.

### **3.1.3 Growth Strategy: SAP**

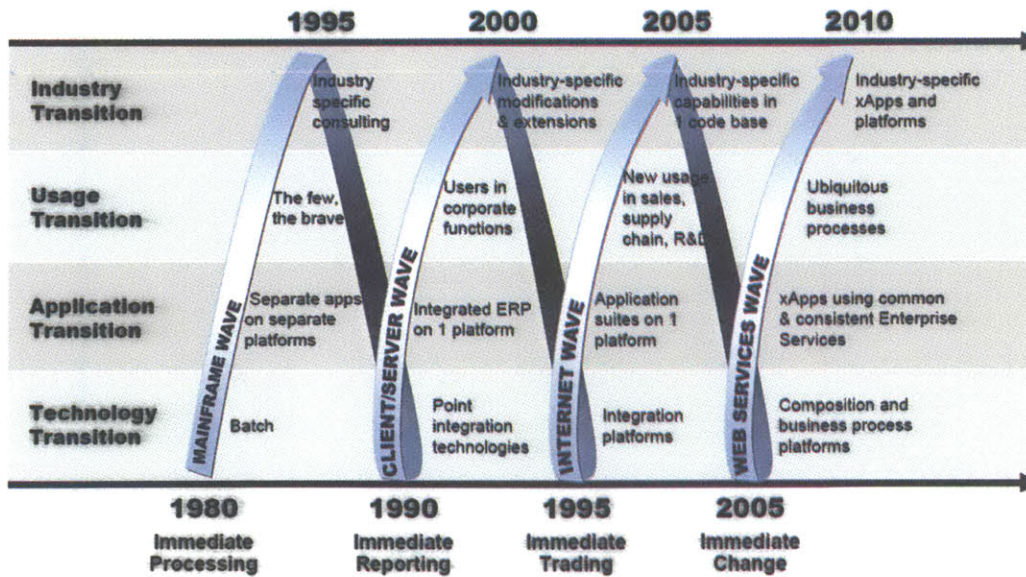
SAP recent initiatives point to three strategic steps for growth:

- Organic Growth & Business Process Platform
- Solutions for mid market
- Access to more business users

The following sections discuss the three growth strategies.

#### **3.1.3.1 Organic Growth & Business Process Platform**

SAP is a strong proponent of organic growth although it did make a few acquisitions in some very niche areas (see Appendix C for SAP philosophy and list of acquisitions), primarily aimed at acquiring technology. Their emphasis on organic growth has meant building of deep technical and functional expertise in the company, integral and scalable product architecture and an R&D organization focused on only one product suite. Figure 17 shows SAP's view of how the enterprise software development evolved over the years.



**Figure 17: SAP product Evolution**

With its focus on developing core competencies in several verticals, SAP always relied on its own research and development of applications. Industry analysts and researchers agree that organic growth is better than growth by acquisitions. However there is a caveat with pure organic growth, SAP has to keep up with innovation and be at the cutting edge of developing new applications. As the firms grow large, it is a difficult task to achieve. To encounter this SAP uses “co-innovation” to fill in this whole. Also, SAP ventures, a venture arm of SAP funds concepts to develop new products and potentially absorb them if the concept turns into a possibility.

In the fast pace of technology, It is also an important to able to acquire and integrate the technologies that have potential to enhance the value of their product offerings. It is difficult to perceive the SAP’s response if there going to be a disruptive technology is developed in the market.

Business Process Platform (BPP) is important for SAP for several reasons. One, to continue the evolution of the application server (NetWeaver), two, integrate several industry verticals into one platform. For example, SAP existing architecture requires different systems for CRM, SCM, ERP, etc. These applications lack the integration and single point of access for enterprise wide truth. The BPP platform with web services will alleviate this problem for these disparate systems, though they are still going to be different systems.

BPP also represents an up-sell possibility for SAP. Once BPP is implemented in an enterprise, it is easy to plug in other modules when the need arises, potentially reducing the TCO for customer. It is important to note that, SAP never claiming that they are re-architecting their applications and solutions, but rather providing a layer of abstraction to access their products and services. As mentioned earlier, SAP took the evolutionary approach; it will be several years before any of their applications are updated with newer technologies.

### **3.1.3.2 Mid Market Focus**

The product position clearly aligns with SAP's growth strategy of focusing on mid market. For mid market, the product has to be flexible, easy to implement and perhaps scalable when the customers' enterprise grows. SAP addresses these points with BPP and All-in-One solutions.

### **3.1.3.3 Access to More Business Users**

Access to more business users has been the "mantra" for almost all enterprise software vendors since the browser became the interface for these applications. SAP is following the industry trend here, though a few years behind Oracle in this particular capability. Also, SAP took it to the next level with productivity tool integration, partnering with Microsoft.

### **3.1.4 Conclusion: SAP**

SAP realized that the large enterprise market has matured and focusing on small and medium enterprises. SAP defined its core vision for 2010 to grow in mid market from 30% market share to about 45% with the expectation that the total addressable enterprise software market will grow from \$30 billion to \$70 billion.

SAP is trying to shed the image of “proprietary” technology, “difficult” to implement, “rigid” architecture and “expensive” solution to “open” technology, “easy” to implement, “flexible” architecture and “reasonable” solution.

SAP realigned its organizational structure to handle the “volume” business that they are focusing for 2010 and beyond. SAP products and services have been difficult to develop third party solutions for. SAP is making a concerted effort to develop strong eco system to further the innovation and develop solutions for “micro” verticals and for other needs.

SAP partnered with industry’s dominant players to integrate SAP application access with productivity tools. This is important for mid market strategy and an innovative market creation in the application access.

One of core strengths of SAP is vertical knowledge its organic solutions for 28 industries. With the focus on developing platform technology, SAP evolving its middleware to move towards SOA adoption. However NetWeaver is a wrapper around the “proprietary” solution.

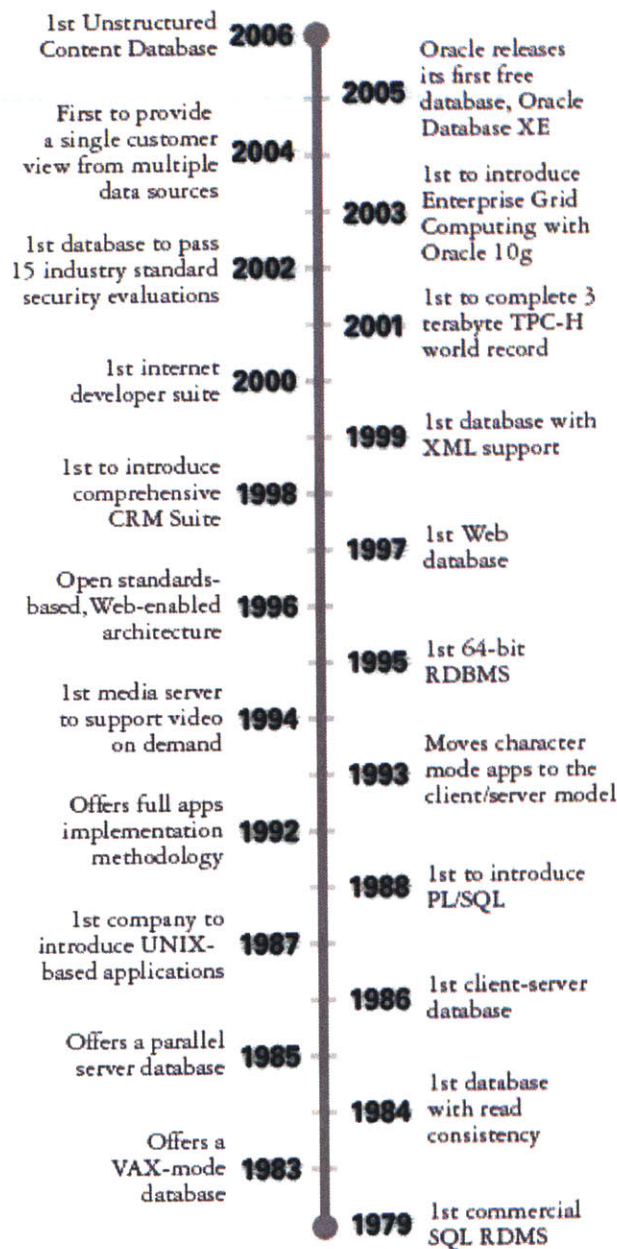
An R/2 or R/3 customer has to migrate to mySAP 2005 to migrate into new architecture. For large process industries, this is a significant risk and expensive. SAP migration path is not clear though they have well public sized their vision and got industry buy into it. Only 6% of existing SAP customers are on their current version. The question is how easily or successfully their existing customers will be able to migrate to mySAP 2005, taking advantage of the new architecture.

Overall, SAP will do well in the mid market, however the risk of their mid market product All-in-One is, it is pre-configured partner supplied product, will it be as trouble free and stable as a custom mySAP solution? Will the risk outweigh the additional price?

### **3.2 Oracle**

Oracle is founded in 1977 by Larry J Ellison, Bob Miner and Ed Oates. Oracle made its name with their industry leading Database Management software, with an estimated market share of 44.6% [17]. In the early 1990's Oracle entered the business applications market see figure 18 below [45].





**Figure 18: Oracle Innovation Timeline**

Oracle has always been innovative to adapt new technologies and introduce cutting edge products. For example, Oracle embraced browser as the standard interface in 1998 for their applications as well as introduced web enabled database, almost a decade ahead of SAP adapting to internet technologies.

Historically, Oracle chooses technologies that are open and independent of operating systems, so the products are horizontal in nature. For example, they used C language to develop the DBMS product to start with; almost all operating systems supported the language. More recently, embraced the open source movement with free database version see figure 18 above, free JDeveloper (Java developing tool), supporting Linux, an open source operating system. Oracle's commitment with Internet technologies more than a decade old and has developed core competencies and their adaptation.

To enhance the growth, Oracle has been focusing on the enterprise applications; with the SOA technology that is suitable to easily integrate different applications, Oracle saw opportunities to leverage their competencies with technology, familiarity with applications and the supporting database technology.

Oracle's vision for enterprise applications is "**Information Driven Enterprise**" [15]. Oracle used the following principles to save \$1 billion within Oracle to coordinate business processes.

- **Simplify:** Speed information delivery with integrated systems and a single database.
- **Standardize:** Reduce cost and maintenance cycles with open, easily available components.
- **Automate:** Improve operational efficiency with technology and best practices.

The two important aspects of these principles are "integrated systems and single database" and "open, easily available components". Oracle is sticking to these principles even after the recent acquisitions (see Appendix G) to enter into enterprise business applications with best of the breed technologies. Oracle's re-architecting efforts are centered on these two fundamental principles. It is a challenging task to achieve "integration" with a "single database", though

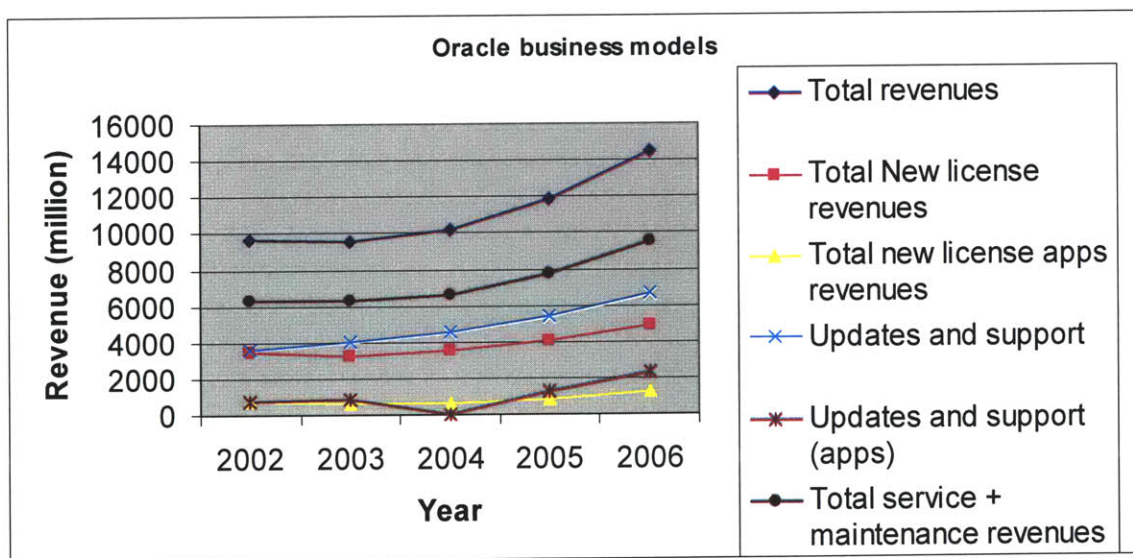
Oracle has been a proponent of promoting open standards and technologies since their existence of business applications, perhaps the most open of all the business application providers so far.

The following sections analyze Oracle’s business model, technology architecture and growth strategy with a conclusion of Oracle analysis.

### 3.2.1 Business Model

#### 3.2.1.1 Revenue Model

Oracle has the most comprehensive list of revenue streams of all the enterprise software providers, licensing, consulting, education, support and maintenance, hosted applications, software as a service (SAAS). Figure 19 (see Appendix H for revenue break up) shows the revenues from these various channels since 2002 adapting to hosted applications and SAAS shows that Oracle is agile and quick to adapt to new business models.



**Figure 19: Oracle Revenue Stream trend**

### ***3.2.1.1.1 New licenses***

Total new license revenues for Oracle increased about 20% in 2006 compared to 2005 compared to 8.28% growth in 2004 licenses. Perhaps the acquisition strategy is working for Oracle or it could be purely the market is in general growing. Also, note that new license revenues had declined in 2003, a probable driver for acquisition strategy.

### ***3.2.1.1.2 Maintenance***

Maintenance revenues consist of license upgrades and support. Oracle's revenue from maintenance has increased from 36% in 2002 to 46% in 2006. Combining maintenance revenues and service revenues from training, consulting and software as a service, the total service revenues have accounted for about 65% of Oracle's revenue since 2002 while the remaining 35% has come from the sale of new licenses. Even after the acquisitions, the 65% and 35% streams remained in tact.

### ***3.2.1.1.3 Education***

Oracle's share of revenues from education has been steadily declining since 2002. It declined from 3.3% in 2002 to 2.2% in 2006 although in absolute terms there has been a growth of 12.7% in 2005 and 19.7% in 2006. Acquisition seems to have proved favorable to the education business by virtue of the additional education and training revenues from acquired companies. From authors' experience, recently, education is being used as part of maintenance and support contracts, for example, a maintenance contract could be negotiated to include free educational training for certain number of credits. Often customers are looking for these free credits to train and also using other inexpensive means to train their employees. With open standards and sharing of knowledge using internet booming, traditional training for software applications has

decreased. More than often now a day's one can find snippets of code and examples for the problem they are trying to solve. This significantly changed the perception of training for most popular applications, the more number of users there, the more information is available.

#### ***3.2.1.1.4 Consulting***

The portion of revenues from consulting has declined steadily from 21.2% in 2002 to 14.7% in 2006. In fact revenues declined in absolute terms as well from 2002 to 2004. This can be attributed to two reasons. One, develop ecosystem with systems integrators. Two, this was the period after the dot com bust and enterprises scaled back on IT budgets and consulting efforts. However consulting revenues have been growing since 2004 with a growth rate of 13.9% in 2005 and 17.2% in 2006. Acquisitions seem to have created new consulting opportunities, which could explain the growth in consulting revenues.

#### ***3.2.1.1.5 SAAS***

Oracle provides its software as a service via a service called 'Oracle on demand'. As of December 11, 2006, 1.7 million users [36] use Oracle on demand services and has accounted for about 3% of Oracle's revenues since 2002, fetching revenues of about \$300 million each year. The small and medium business segment is finding SAAS extremely attractive as evidenced by the rapid growth in this segment. Oracle on demand supports all of their major applications, database and middleware products [37], which is the most exhaustive SAAS offerings in the market today.

#### ***3.2.1.2 Core Competencies***

Oracle has deep technology capabilities and has track record of developing market leading products over a period of time. Oracle is lead by visionary and flamboyant CEO Larry Ellison,

who is a strong proponent of innovation and willing to take risks with new products. Oracle has financial strength and political savvy (PeopleSoft acquisition) to orchestrate 26 acquisitions in a period of 2 years.

This section analyzes core competencies of Oracle from Technical, Organization and Financial point of view.

a) **Technical Competency**

Oracle is a strong proponent of developing cutting edge products embracing new technologies and open standards. Oracle has strong technical competencies in “data” related products, however they were successfully developed competencies in “process” related products for the last decade. Oracle has track record of entering a market with established players and dominating the market. For example, Oracle database products and more recently Application server (Fusion). In the application server market, IBM’s WebSphere (32%) and BEA’s application servers (33%) are dominant players [38]. Oracle is trailing as a distant third (2.5%) and \$1 billion in revenues. However with the fusion architecture and next generation of applications, Oracle application server is expected to gain market share. This is the evidence of “developing” technical competency when Oracle makes a strategic entry into a market. Oracle has 21 industry specific solutions, see table below [46].

- Aerospace and Defense
- Automotive
- Chemicals
- Communications
- Consumer Products
- Education and Research
- Engineering and Construction
- Financial Services
- Healthcare
- High Technology
- Industrial Manufacturing
- Life Sciences
- Media and Entertainment
- Natural Resources
- Oil and Gas
- Professional Services
- Public Sector
- Retail
- Travel and Transportation
- Utilities

However, Oracle lacks the deep vertical expertise of SAP. Oracle never focused on industry specific “processes”, rather developed horizontal products and customized solutions. However with recent acquisitions of industry specific applications and “best of the breed”, Oracle is filling void. Oracle is architecting their applications with “single database” (their vision) and integration as key drivers in Fusion, see the table below [47].

Oracle Fusion Architecture is based on three emerging trends in Information Technology:

- Grid Computing Architecture: predictable, low cost operations of all key infrastructure components that power business applications: databases, middleware and storage.
- Service Oriented Architecture: an applications development and deployment strategy that enables effective, predictable business process changes through standards based integration of applications developed as web services.
- Enterprise Information Architecture: the systematic management of the complete life cycle of information of all types.

The Fusion architecture elevates the recently acquired products integration and position for future flexibility of acquisitions and partnering with other “best of the breed” products. This will also give Oracle customers choice to integrate other third party or legacy products.

Oracle has challenging task ahead with 26 acquisitions with different architectures and technologies. Oracle is building for this “flexibility” realizing that rarely an enterprise will have uniform set of requirements, technologies and applications. The Fusion builds the integration platform and the applications will have the elements of Fusion to integrate into the platform. This approach essentially dissociates technical competencies that are required for an industry application using different technologies and still able to integrate into enterprise platform. With this vision, the integration of 26 acquisitions does not seem

impossible. Oracle executed on this vision with Retek integration into fusion 6 months after the acquisition in 2005.

**b) Organizational Competency**

Oracle is lead by its founder and industry respected Larry Ellison. Oracle always attracted top management talent and the management style has been aggressive and agile. It is interesting that both current presidents (Charles Phillips and Safra Catz) of Oracle are educated in business and law and both have worked in the investment banking. This is strong evidence that Oracle treats technology products and services as pure business though they have excelled in technical competency. Oracle's CFO Safra Catz has been credited with the acquisition of PeopleSoft for \$10 billion despite several obstacles with share holders. Also, Oracle outbid SAP for Retek and used Retek products to rise to #1 position in retail offerings [19].

From Organizational perspective, Oracle is diverse, from top to bottom. One of their presidents is an ethnic minority and the other president is a woman. Oracle has offices in 145 counties with 55,000 total employees [17].

Oracle is positioning itself to compete head on with SAP in enterprise applications and acquired lot of companies, Oracle organizational structure at the top has little impact. The acquired companies are run as separate business units under enterprise applications. Oracle is a true global and diverse company.

**c) Financial Competency**

Oracle has a market capitalization of about \$90 billion as of 2006 with annual revenues of about \$15 billion. Oracle has \$8.3 billion cash and \$5.9 billion debt. Oracle spent about \$13



billion [18] in acquisitions in the last 2 years. Oracle is clearly driven by financial objectives along with technology. With the acquisitions, Oracle is expecting to bolster licensing revenue not only for the acquired products and services but also for the database, middleware and perhaps for Linux operating system support with bundled pricing.

### **3.2.1.3 Market Segmentation**

With large enterprise market maturing, the key growth area is in the small and medium business area. Oracle products and services scale with the size of the customer. For small and medium business, Oracle is planning to offer out of the box solution with wizards for faster implementation. The SMB solutions are based on their only product line and customized by partners, similar to SAP's approach. The SMB solution includes bundles that are industry specific solution, database and middleware. With this Oracle can actually sell database as well. This is one of the benefits of having market dominant database product to support their applications. Continue with this theme of providing other components for an enterprise application environment, Oracle is supporting Linux, a new stream of services revenue.

Oracle does not really segment the market based on the number of employees and the revenues of the customer, rather their products and solutions are licensed based on the usage (per CPU or per user) in the enterprise tailored for a customer, a typical B2B marketing and selling method. Since Oracle does not have different lines of products for different segments, it is easy to scale the solutions for their customers, especially with grid computing and fusion architecture.

The flexibility in their product architecture helps them to adapt to the market segmentation dynamics. Oracle reached out to small customers for years with their scaled down versions of the database to run on smaller servers, as the options can be configured easily. Oracle's on

Boppana Thesis, January 2007

demand applications offering are the most comprehensive in the industry, from hosted applications to pure subscription model. Oracle adapts to market segments quickly and has been at the forefront of the new paradigms.

#### 3.2.1.4 Eco System

Oracle has strong partners network with 17,700 registered partners [20] worldwide. Oracle has three levels of partners; partner, certified partners, certified advantage partner (see appendix K for details of partner's advantages). Within these levels, there are different types or categories of partners based on the service they provide as follows [21].

*“Oracle embraces all types of partners delivering resources and benefits that align with your business model and relationship with Oracle. Oracle’s four distinct Product Focus and Specialization Areas address these different partner models and allow simplified access to information based on your interests. Included are selling and marketing resources, training and certification resources, technical resources and support, development resources, and business discounts and rewards that help partners, regardless of size or market reach, create unique solutions across the broad spectrum of Oracle platforms and applications.*

- **Independent Software Vendors (ISV)** develop and own proprietary applications that they distribute and support directly or through other channels. ISV applications are built on or integrated with Oracle's products.
- **System Integrators (SI)** provide consulting and integration implementation with Oracle-based products and solutions.
- **Hardware and Infrastructure Providers** provide a wide range of products, technologies, and services upon which Oracle products run.
- **Value-Added Resellers (VAR)** give complete, Oracle-led, business solutions and value-added services to their customers.
- **Hosting Service Providers** include managed and utility services providers for business and consumers, and deliver services over a network for an externally managed facility in a one-to-many, service fee-based model running on Oracle's products.
- **Management Consultancies** promote excellence in qualified and professional consulting to management, recommending Oracle's products and solutions.
- **Professional Associations** are industry, trade and other professional, membership-based organizations, seeking to seize new business opportunities”.
- **Content Providers** create, buy, adopt, and deliver data and information services or other intellectual content that is integrated with Oracle products to deliver to their customers a more complete horizontal or industry specific solution.
- **Education Providers** provide instructor-led training courses utilizing Oracle's curriculum and instructors approved by Oracle University”.

Oracle partners' network (OPN) member has several benefits, along with the most important of all is access to "Marketing Development Fund" [22] and sales benefits [23]. The sales benefits include 30% discount for partner's internal use and able to sell Oracle's products bundled with their solutions and earn a 5% to 10% referral fee.

Oracle is opportunistic in its partners strategy. Oracle is known to compete with partners with similar offerings of their own. For example, Oracle themselves provides hosting services and also supports hosting partners. Another example is Oracle provides consulting services for implementation and supports systems integrators like Accenture as a partner. More recently, Oracle started offering Linux support services to compete with RedHat. Oracle also aggressively acquires complementary products provided by partners (see appendix G).

### **3.2.2 Technology Analysis**

Oracle technology strategy is to leverage services oriented architecture (SOA), develop a middleware that is capable of providing interface for hot pluggable modules and interact with single database. The main driver for this strategy is that Oracle realized it takes long time to develop an industry vertical expertise and develop applications and saw an opportunity to consolidate enterprise applications market with SOA enablement. This affectively provides Oracle a product line that could compete with SAP in numerous industries. Also, Oracle likes to create a duopoly, a game that Oracle knows how to play with experience from database market, competing with IBM.

History shows that Oracle is always at the forefront of adapting new technologies into their product line and leads the industry (see figure 18). For example, adapted the first browser based

enterprise applications, adapted Java technologies, which turned out to be the de-facto standard for application development. Oracle is also fast to adapt to new business models, for example, Oracle envisioned hosted applications and SAAS will develop into a major services delivery method and has offered these services since 2000, a full 5 years ahead of SAP and Microsoft, A key technical core competency advantage.

Oracle embraced open standards along with internet technology for the past decade. Oracle lead the industry with online support technology ranked best several times in the past decade [24]. Oracle also has one of the best online user forums for sharing knowledge about products, product downloads, trials, etc [25].

The future of Oracle depends on how well the Fusion is executed. Fusion holds the key for Oracle's success. Oracle strategy of integrating the "best of the breed" products through acquisitions will be tested in the next 3 to 5 years. The risk of the Fusion seems low, as Oracle has technical competencies in middleware and enterprise applications with more recent trends in technology. Oracle delivered the Fusion promise for one of their 2005 acquisitions, Retek, integrating retail applications with other ERP applications in a single database. Oracle is planning to take evolutionary approach with integrating other major acquisitions, PeopleSoft and Seibel. The strategy with these two acquisitions is to build Fusion platform for PeopleSoft and Seibel and in parallel develop "elements" of fusion in these two products to integrate them together. For an existing customer this would be a smooth transition as Oracle is aggressive in keeping their customer base up to date product versions, delivers product patches seamlessly via internet and product architecture allows customizations intact while the patches are applied. Also, the Fusion elements built in their products are optional as they can choose when to switch

to Fusion as they are backward compatible (no forced upgrades) [26]. Also see appendix I for an image of Oracle marketing material.

Oracle has the complete stack of products for enterprise applications; operating system (Linux), industry dominant database products, middleware, and industry vertical applications. With these capabilities, the value proposition for a customer is a “one-stop” shop, well integrated products, commitment to free upgrades with maintenance and support.

### **3.2.3 Growth Strategy: Oracle**

Oracle growth strategy is three fold.

- Middleware platform and In-organic growth
- Focus on SMB market
- New delivery models – Hosted applications and SAAS

The following sections describe Oracle’s growth strategies.

#### **3.2.3.1 Middleware platform and In-Organic Growth**

To catch up to SAP, Oracle chose acquisition strategy to grow in the enterprise applications. Oracle is developing scalable applications platform for best of the breed applications, leveraging the existing technology stack products. The middleware platform with SOA adoption, will server as launch pad for future applications growth either organic or in-organic. The Fusion platform also serves as the enterprise wide infrastructure for IT governance, third party applications can be hooked into and customize solutions for an enterprise. With in-organic strategy, Oracle instantly filled gaps in their vertical offerings.

Oracle’s acquisitions are primarily are in their base or “new familiar” technologies and markets (see Appendix A for Roberts Berry Familiarity Matrix). When an acquisition squarely falls in

these two categories, the synergies are high with their product offerings and probabilities are high for achieving estimated benefits.

#### **3.2.3.2 SMB market focus**

Both Oracle and SAP are focusing on the small and medium businesses. Oracle is bundling their database and middleware products to push the products leveraging its strength in database products and differentiating in pricing. Traditionally Oracle products have been scaling well to address both SMB and large enterprise segments. Oracle encourages free trials of the products and some free software applications like JDeveloper to entice small and medium customers. Oracle's commitment to open standards also helps get the mind share of the SMB customers with hassle free upgrades. With SAAS and hosted applications (described in the next section), Oracle has positioned itself to cover the next generation of delivery method for SMB customers.

#### **3.2.3.3 SAAS and Hosted Applications**

As mentioned earlier, Oracle adapts to new business models, offering hosted applications and SAAS since 2000 [27]. IDC projects that by the year 2010, these new models will account for 30% of service delivery revenues [27]. Oracle developed state of the art data centers for this purpose throughout the world with customer support personnel backing the operations. Oracle supports hosted applications for full suite of their applications, including maintenance and management of the data. SAP introduced on demand services in 2005 for their CRM module, perhaps another evidence of reacting slowly to changing market conditions.

#### **3.2.3.4 Leveraging Ecosystem**

Perhaps the most important type of partner for Oracle is systems integrator. Oracle has comparable offerings with other types of offerings (see section 3.2.1.4). For example, Oracle partnered with systems integrators like Accenture to advance the enterprise software implementation. Since Oracle technology stack uses the industry accepted technologies, partners

are able to develop complementary products without a lot of help from Oracle itself. Also, Oracle competes in the same space as its partners. For example Oracle also has consulting division which competes with Accenture for customer implementation services. However recent revenue streams show that Oracle has lowered its focus on consulting, perhaps to entice more systems integrators (see Appendix H, Table 3).

### **3.2.4 Conclusion: Oracle**

Oracle is well positioned to be a leader in the enterprise applications in the next 3 to 5 years albeit the chaos of integrating the 26 acquired companies. Oracle realized that it takes too long to develop industry focused application organically, and time to market is crucial to establish as market leader. Oracle leveraged its strengths in database and middleware market and architecting platform with these two as core components and all the acquired technologies as pluggable modules. This architecture opens up the door for Oracle future growth either through acquisitions or through internal development.

As more and more customers are inclined towards dealing with less number of vendors for their IT needs, Oracle's complete technology stack with Linux support can be considered as a significant advantage in the SMB market. Oracle's commitment to open standards, adaptation of cutting edge technologies and open source like business model for their entry level products is sure to entice potential SMB customers.

Knowing what Oracle did to IBM's DB2 database over the years, Oracle likes to compete in a duopoly situation, where Oracle aggressively pushes new technology architectures and adapts and eventually leads the industry with quality, technology and business models. Another

example is middleware software, where they entered the market late, improving the quality incrementally to match industry leading products.

Oracle strategy is clearly driven by economics with the two presidents from investment banking background. Oracle saw the opportunity to be one of the few of enterprise software players for the next decade, packaged financial deals effectively to secure their future. As the long term customer lock in is a reality in enterprise software, Oracle needed to seize the moment to position itself for the projected \$70 billion market by 2010.

Oracle's risks are two fold. One, integrating newly acquired technologies into Fusion platform and two, integrating the culture of 26 different companies into Oracle culture. So far, Oracle is able to keep these two risks under control with proven Retek integration into Fusion and maintaining PeopleSoft and Seibel as separate business units.

With acquisitions as growth strategy, one has to expect that there will be sales people leaving, layoffs and re-organizations. For example, PeopleSoft acquisition left oracle with drained deal pipeline and took a year to rebuild it [28].

Oracle is well positioned to be successful in the enterprise software market. With their brilliant complete technology stack offerings strategy, Oracle is poised take leadership in the next 5 years.

## **4 Enterprise Software: Other Players**

### **4.1 IBM**

In the enterprise software space, IBM plays the role of a systems integrator and does not develop any specific software products. IBM has strong alliances with SAP (see Appendix L), Seibel, Boppana Thesis, January 2007



PeopleSoft and JD Edwards now part of Oracle (see Appendix M). Traditionally IBM manufactures and sells systems and system software. IBM global services, the consulting division vie for the system integration services.

IBM's WebSphere, a middleware, is the only software product that competes in the enterprise software business processes category. IBM's WebSphere with 37% market share is the leader with BEA systems WebLogic has a market share of 14.5%, and Oracle has 8.7% [29]. For business process enterprise applications with 3-tier architecture, middleware is a key component for application interface and execution. With both Oracle and SAP integrating their middleware in the enterprise applications for the next generation, IBM partnered with both of them, so IBM's WebSphere is supported by Oracle and SAP.

An interesting strategy to consider for IBM is merging with SAP to provide complete technology stack and compete with Oracle.

## **4.2 Microsoft**

Microsoft is leveraging its dominant position in the desktop and productivity tools for the enterprise software market. Microsoft has limited number of applications and services compared to Oracle and SAP (see Appendix N).

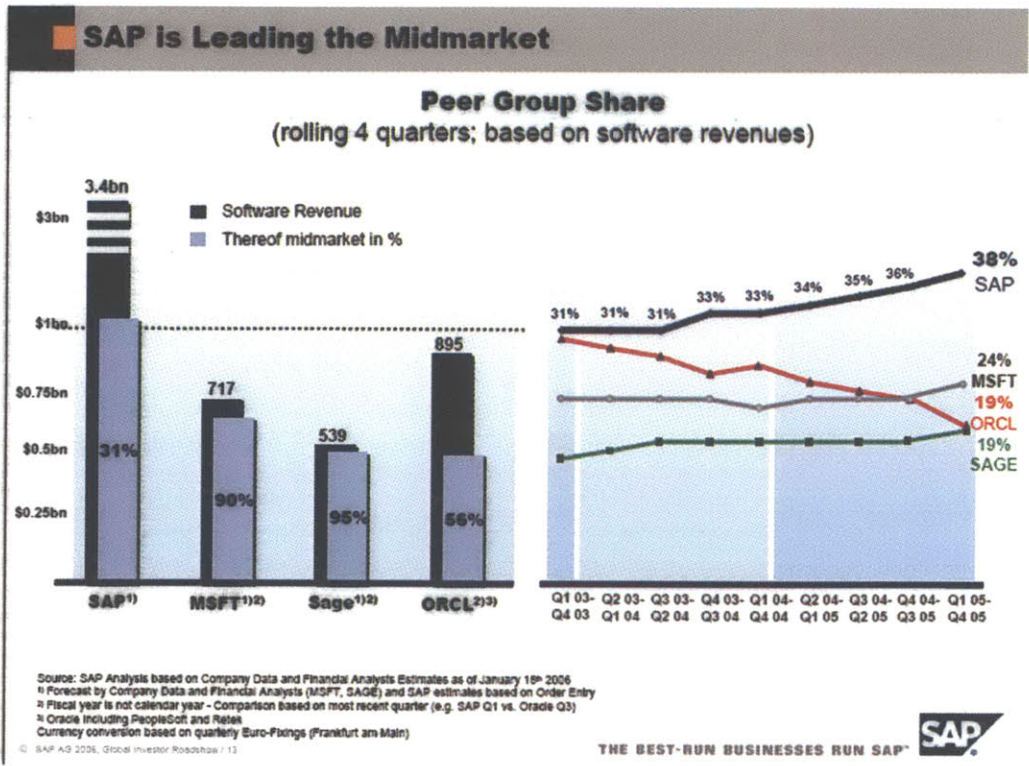
Microsoft leveraging its Microsoft Office interface familiarity with its install base and offering CRM, SCM and Financial management and ERP applications. The Microsoft "snap-ins" for Microsoft Office is a strategy to enhance the existing install base and target small and medium businesses (see Appendix O for screenshots). This strategy is similar to SAP's Duet Microsoft

Information worker integration. The success of Microsoft CRM solution that mimics Microsoft Outlook is a compelling reason to continue with productivity tool integration.

All of Microsoft products uses Microsoft's technology stack; MS SQL server, Microsoft Windows Operating System and Microsoft's middleware (Internet Information Services). Here also, the strategy is to leverage its infrastructure install base to "snap-in" enterprise applications in the existing infrastructure.

Microsoft does not have the depth, breadth and scalability of Oracle and SAP's products. However they are well positioned for small and perhaps for some medium businesses with cost effective solutions. SAP's BusinessOne is a direct competitor for Microsoft Dynamics offerings. However with flexible pricing and scalability, Oracle competes in the small enterprise markets as well. The Microsoft Dynamics is not as ubiquitous as other Microsoft products to leverage the install base and the brand name recognition is low.

Microsoft is a distant third in the enterprise business applications, see figure 21 below.



**Figure 21: Enterprise applications market share in SMB**

Microsoft’s core offering, Dynamics GP and NV are acquired in 2001 and 2002. Microsoft envisions an opportunity to enhance its products that complements its core infrastructure products. Microsoft does not yet offer SAAS model in the enterprise business applications, perhaps low awareness of its offerings as well as lack of brand name in this space.

As with IBM, Microsoft is another player who can acquire SAP and compete with Oracle on a complete technology stack basis. However Microsoft is more engaged in fierce competition in the consumer software with Google, Yahoo, Apple (Zune Vs iPod) and Sony (Xbox Vs Play Station). Also, SAP’s technology choice is Java and J2EE as opposed to Microsoft’s .NET. So, there is lack of synergies for this possible acquisition.

Microsoft does not offer consulting services for its Dynamics implementation. Also, their partner program is weak [30] with very few partners and alliances; overall their ecosystem is not impressive. Microsoft focuses on handful of industries; Construction, Distribution, Education, Government, Healthcare, Manufacturing, Retail as the most significant one's [31].

## **5 Applications on Demand (AOD)**

Information Technology became an integral part of businesses irrespective of an industry. The traditional approach has been licensing model and the enterprise owns the IT infrastructure and controlled the data. Hosted application providers have become popular during late 1990's with internet technology adoption. In hosted applications, typically an enterprise owns the license; however the hosted vendor manages the infrastructure. Enterprises accepted that it is more effective to outsource the IT needs and let the specialized vendors manage their IT needs.

Software As a Service (SAS) is differentiated from hosted applications and licensing model in that the user pays fee for using the software rather than owning the software. The benefits of the SAAS model are upfront cost, maintenance costs, upgrades, scalability. The risks are data security, trust and availability. One of the early SAAS applications is the free email introduced in late 1990's. With the advantage of accessing from any browser, the free email providers offered services for paid subscription.

Another reason SAAS for becoming popular is the maturity of the internet technologies and physical computer network capacities. The time is ripe to exploit the network infrastructure performance and capacity improvements in the past 5 years. Gartner predicts that by 2010, 25% of services delivery will be via SAAS (see Appendix R).

Salesforce.com popularized SAAS model with their Customer Relationship Management (CRM) offerings. One of the premises for the SAAS is that minimum customization for each customer, so the vendors like salesforce.com can maintain the software effectively with faster and seamless updates to the software features. The “vanilla” version of the software segment matured quickly and vendors realized that building flexible software that allows customizations broadens the available market and is more appealing to the mid and large enterprises as well. Now the new mantra for this trend is “Applications on Demand”, which is a combination of hosted applications and SAAS model. The AOD model benefits include the flexibility of customizations, SLA’s, flexible infrastructure with dedicated servers.

The following sub sections analyze major players in AOD; Salesforce.com and the response from traditional vendors, Oracle, SAP. Microsoft does not offer SAAS services, though they offer web based services for productivity tools like Microsoft Windows and Microsoft Office with “Live” version.

### **5.1 Salesforce.com**

Salesforce.com was founded in 1999 by Marc Benioff, a former Oracle executive. Salesforce.com offers on demand Customer Relationship Management (CRM) solutions. For 2005, salesforce.com has revenues of \$310 million with net income of \$28 million [32] with estimates of \$495 million revenue for the year, 2006. Salesforce.com has about 27,000 customers and 556,000 subscribers [33]. Salesforce.com is expecting to increase its revenues to about \$700 million in fiscal year 2007. However, for the past 3 quarters, salesforce.com is still in losses even with their meteoric subscriber growth, see figure 20 below.



**Figure 20: Salesforce.com Subscriber Growth**

Also see Appendix P for awards and appendix Q for financials. The cost of acquisition of a subscriber is very high, for every \$1 they spent on SG&A; they are earning \$1.5.

Salesforce.com started as “printing press” model of software as a services delivery, very little customization. However, there are some serious drawbacks with this standalone approach. CRM services have to be integrated with other enterprise applications; for example, ERP modules like financials and accounting. Also, each enterprises needs are unique and the business processes are unique. To accommodate these, Salesforce.com developed a platform, AppExchange, which acts as interface to their CRM solution and provide a path to integrate with other enterprise and third party applications. Also, they developed flexibility to customize to suit the unique needs of organizations. Now, Salesforce.com claims that each one of their user’s implementations is unique [33]. This is essentially a transition from software as a service to applications on demand.

Salesforce.com created an eco system (Appendix P) with AppExchange platform to promote ISV application offerings. This strategy seems paid off as it filled the gaps in the offerings and created a large footprint for Salesforce.com. 45% of the total transactions in salesforce.com products is through the AppExchange API (see Appendix R).

The two key learning from salesforce.com are that, enterprise applications can't live standalone and business process applications do not adapt to "printing press" model.

## **5.2 Oracle on Demand**

Oracle has the most comprehensive on demand offerings. Oracle has been offering hosted applications rather than on providing pure SAAS. Oracle manages the infrastructure, software and operational services. The key difference between Oracle on demand and Salesforce.com's SAAS is, with Oracle, it is enterprise wide capability while with Salesforce.com; it is per subscriber access. Oracle offers complete set of enterprise applications on demand including ERP, SCM, CRM, etc [34]. Oracle adapted to this new business model quickly and has been offering complete technology stack on demand services. Oracle generated revenues of nearly \$400 million from on demand services (see Appendix H Table 2). Oracle leverages its core competencies in product development and consulting to provide on demand services.

For traditional product companies, it is an easy transition to host the applications to provide on demand services. The products that are used for on demand are exactly same as those licensed. Salesforce.com offerings are pure services or their product is services. The product architecture is quite different for these two types of products. The difference is so called single tenancy (licensing, hosted applications) Vs multi-tenancy (SAAS).

### **5.3 SAP on demand**

SAP partnered with IBM to offer CRM on demand services. SAP also offers managed services that include hosted applications and applications management. SAP is a late entrant to on demand model, introduced in 2005. One reason for such a late entry into this market is that, SAP has to redesign their CRM product architecture and provide internet browser interface. In general, SAP is slow to adapt to new business models and technologies (discussed in detail in section 3). SAP outsourcing its services or partners with infrastructure providers like IBM. Clearly, SAP is focused on the revenue streams from licensing and slow to develop competencies in services.

### **5.4 AOD Conclusions**

Software as a service created a new delivery model for services. The semantic differences between hosted applications, SAAS and Applications on Demand are not very clear. In some sense, they are used interchangeably, as the core difference lies in how the provider implemented their services. From customer experience point of view, the difference is not significant. One key difference between hosted applications and SAAS is, whether it is single tenancy or multi-tenancy. Multi-tenancy helps reduce the costs and help serve low end market. The single tenancy model supports strong security, customization and perhaps availability. It is conceivable to see that single tenancy is preferred model for a customer if the costs are same as the multi-tenancy. From vendor's point of view, multi-tenancy requires product architecture changes to support security, information privacy, etc. For well established players like Oracle and SAP (IBM as partner), the business case to develop different kind of architectures for single and multi-tenancy is not strong. This is especially true if the infrastructure costs are controlled, the multi-tenancy Vs single tenancy advantage is insignificant. However Oracle and SAP have the advantage of integrating well with other business process applications. To accommodate this need,



salesforce.com developed the AppExchange platform and uses web services (aka SOA) to integrate with other enterprise applications.

When the web services (SOA) mature and are widely adapted, it is conceivable that enterprise applications are a “mash-up” of several web services. Perhaps we are 5 to 10 years away from this fundamental change in enterprise applications. Again, the question to answer here is information security. As the adoption of application outsourcing increases, single tenancy and mash-ups prevail for medium and large enterprise customers.

## **6 Conclusion**

Enterprise software that focuses on business processes have come long way from niche and industry specific applications to platform based enterprise wide accessible applications. The argument of organic Vs inorganic is weakened with ease of integration using web services technology, made the recent industry consolidation possible. The middleware technology has become the conduit for application integration. Organizations increasingly looking for reducing the complexity of their IT needs and the number of vendors they have to deal with. Also, brand name has become more important than ever to get the attention of enterprises that are risk averse.

From technology point of view, enterprise software industry is at the cusp of business process implementation and modular architectures that have standard interface to communicate. The enterprise wide platform with SOA enabled communication will be the core integration interfaces.

The key trends in the enterprise software are summarized as follows:

1. Enterprise wide platform for all the business applications.
2. Minimize IT infrastructure maintenance; i.e. single platform, outsource IT needs with Applications on Demand, fewer vendors to deal with.
3. Flexible products and services for customization and scalability.
4. Implementation independent architecture; specifically web services (SOA) for possible future mashup of business applications; For example Salesforce.com created API's to integrate with other enterprise applications. Without this interface, salesforce.com is difficult to exist in the enterprise applications.
5. Increase ROI with increase in productivity; i.e. increase in usage and productivity software integration.
6. By 2010, there will be one stop solution providers like Oracle and SAP (with IBM); there will be fewer and fewer niche providers like salesforce.com. However, with web services, "gap" applications from ISV's can be easily integrated into enterprise platforms.
7. Industries with high legal liabilities that require privacy of data (financial services, chemical, health etc) are hard to penetrate with pure SAAS; however application on demand is possible.
8. Open source applications may not be able to penetrate into enterprise wide applications and platform in the next 10 years. The application development is complex, requires domain knowledge and effort.
9. Long term customer lock-in is a natural phenomenon in this industry because of switching costs and complexities involved in migrating applications and processes. Vendors rush to close deals for future revenue streams.

10. Keeping up to date with technology evolution will become more important than before. For example, more than 90% of SAP customers are stuck with technology that is seldom used now for new implementations. On the other hand, Oracle applications flexible architecture made it possible to push the upgrades to their most recent versions for more than 90% of their customers. Oracle's licensing and maintenance structure also helped made this possible; free upgrades with full support.
11. In the next 10 years, the services revenue will increase compared to licensing revenue, as the available markets mature. If the vendors deliver on the promise of applications on demand, this transition will be on fast track with quicker adaptation by enterprises.

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# Appendices

## Appendix A: Roberts Berry Familiarity Matrix

<b>Market Factors</b>	<b>New Unfamiliar</b>	Joint ventures	Venture capital Venture nurturing Educational acquisitions	Venture capital Venture nurturing Educational acquisitions
	<b>New Familiar</b>	Internal market developments Acquisitions (Joint ventures)	Internal ventures Acquisitions Licencing	Venture capital Venture nurturing Educational acquisitions
	<b>Base</b>	Internal base developments (Acquisitions)	Internal product developments Acquisition Licencing	Joint venture
		<b>Base</b>	<b>New Familiar</b>	<b>New Unfamiliar</b>
<b>Technologies or Services Embodied in the Product</b>				

# Appendix B: SAP products<sup>1</sup>

## Enterprise Applications

- mySAP
  - Customer Relationship Management (CRM)
  - Enterprise Resource Planning (ERP)
  - Product Lifecycle Management (PLM)
  - Supply Chain Management (SCM)
  - Supplier Relationship Management (SRM)

## Business Solutions

- SAP Advanced Planner and Optimizer (APO)
- SAP Analytics
- SAP Business Information Warehouse (BW)
- SAP Business Intelligence (BI)
- SAP Catalog Content Management (CCM)
- SAP Enterprise Buyer Professional (EBP)
- SAP Enterprise Portal (EP)
- SAP Internet Transaction Server (ITS)
- SAP Exchange Infrastructure (XI)
- SAP Human Resource Management Systems (HRMS)
- SAP Manufacturing
- SAP Materials Management (MM)
- SAP Master Data Management (MDM)
- SAP Knowledge Warehouse (K W)
- SAP Service and Asset Management
- SAP Strategic Enterprise Management (SEM)
- SAP Solutions for mobile business
- SAP Solution Manager
- SAP Solution Composer
- SAP Training and Event Management (TEM)
- SAP Web Application Server (Web AS)

## SAP xApps: Solutions for Small and Midsize Enterprises

- SAP Business One (6.2, 6.5, 2004, 2005, 7.x)

## Platforms and frameworks

- SAP Enterprise Services Architecture
- SAP NetWeaver Platform
  - SAP NetWeaver Portal (formerly SAP Enterprise Portal)

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<sup>1</sup> [http://en.wikipedia.org/wiki/List\\_of\\_SAP\\_products](http://en.wikipedia.org/wiki/List_of_SAP_products)



- SAP NetWeaver Business Intelligence
- SAP NetWeaver Visual Composer
- SAP Auto-ID Infrastructure
- SAP Composite Application Framework

### **Legacy Platforms**

- SAP R/3
- SAP R/2

### **Others**

- SAP CCMS, monitoring program
- SAPgui
- eCATT

## Appendix C: SAP Acquisitions<sup>2</sup>

The following excerpt from SAP web site as noted in the reference.

*“While we believe in organic growth, part of our strategy involves growth through smaller fill-in acquisitions. We routinely evaluate various alternatives and engage in discussions and negotiations with potential parties to such transactions.*

*Past acquisitions include the following companies (please note that this is not a complete list of SAP’s acquisitions):”*

- *Kieffer & Veittinger GmbH*
- *TopTier Software Inc.*
- *TopManage Financial Solutions Ltd.*
- *DCW Software AG*
- *iLytx Systems AS*
- *SAP Systems Integration AG*
- *A2i Inc.*
- *TomorrowNow Inc.*
- *Lighthammer Software Development Corp.*
- *Triversity Inc.*
- *Khimetrics Inc.*
- *Virsa Systems Inc.*
- *Praxis Software Solutions Inc.*
- *Frictionless Commerce Inc.*

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<sup>2</sup> <http://www.sap.com/company/investor/inbrief/acquisitions/index.epx>

## Appendix D: SAP Revenues and deal size<sup>3</sup>

in Euro's

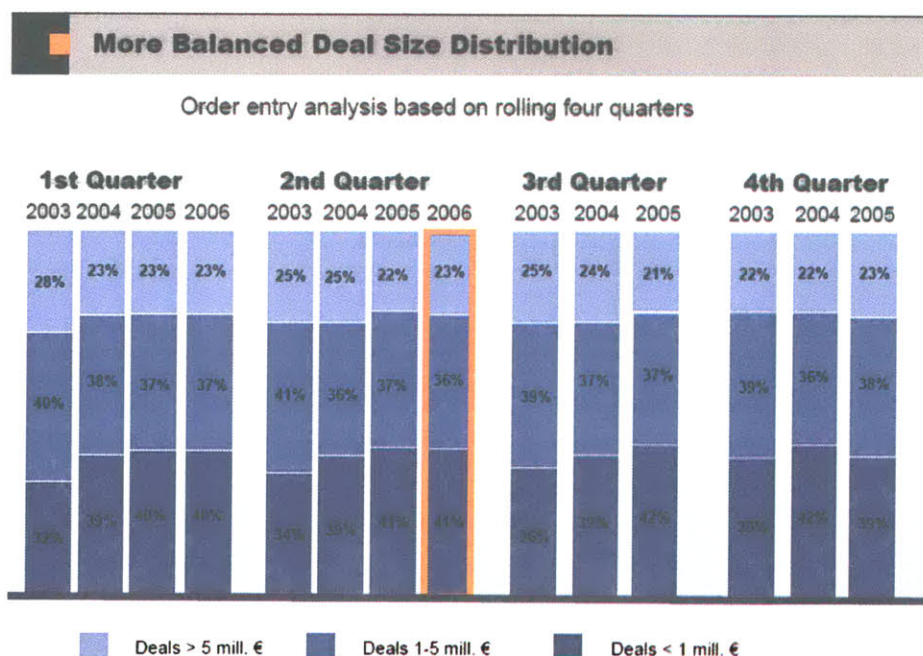
Year	Software	Maintenance	Consulting	Training	Other	Total
2005	2,783	3,175	2,139	343	73	8,513
2004	2,361	2,823	1,970	302	57	7,513
2003	2,147	2,568	1,953	299	55	7,022
2002	2,290	2,422	2,204	413	81	7,410

Annual  
Average  
Exchange  
Rate for 1  
Euro

2005	2004	2003	2002
1.236	1.249	1.1394	0.9499

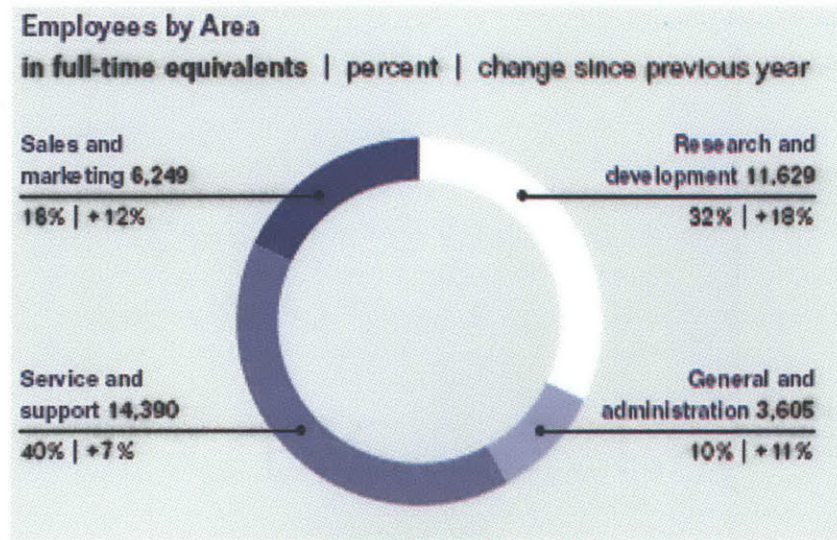
In US \$

Year	Software	Maintenance	Consulting	Training	Other	Total
2002	2,175	2,301	2,094	392	77	7,039
2003	2,446	2,926	2,225	341	63	8,001
2004	2,949	3,526	2,461	377	71	9,384
2005	3,440	3,924	2,644	424	90	10,522



<sup>3</sup> SAP Annual reports 2002-2005 and supplements

## Appendix E: SAP Employee Distribution<sup>4</sup>



<sup>4</sup> SAP Annual Report 2005

<sup>5</sup> SAP presentation for MBA rotational program hiring in MIT Sloan – Oct 2006

## Appendix F: BusinessOne Features and Functionality<sup>6</sup>

SAP Business One offers a robust base system with powerful core functionality, including CRM, manufacturing, and finance capabilities. The application includes primary work processes as well as country-specific localizations, such as legal, currency, and financial requirements for use in any given country.

SAP Business One brings you powerful capabilities in 12 key functional areas:

- Financials – Read the Financials Management Fact sheet (PDF, 279 KB)
- Sales opportunities
- Sales – A/R
- Purchasing – A/P – Read the Purchasing Management fact sheet (PDF, 1.44 MB)
- Business partners
- Banking
- Inventory
- Production
- Material requirements planning (MRP)
- Service management
- Human resources
- Reporting – Read the XL Reporter fact sheet (PDF, 451 KB)

The SAP Business One application resides on a single server that integrates seamlessly with your Microsoft Windows network. Using a Win32-based, 2 tier, client-server architecture, SAP Business One secures peak performance and leverages your existing network for maximum efficiency. It includes security, backup, and network access protocols. Access is granted via wide area network (WAN) terminal services or dial-up network connectivity.

In the SAP Business One environment, you can utilize standard database backup procedures, easily saving and transferring the database to another machine and providing immediate access to critical business information. The streamlined SAP Business One architecture support Microsoft SQL Server and IBM DB2 Universal Database Express Edition.

To learn more about how to leverage the power of a single software application, take a look at the SAP Business One brochure. This information will provide more detail on SAP Business One, including key functions and configurations.

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<sup>6</sup> <http://www.sap.com/smallbusiness/solutions/overview/detail.epx>

## Appendix G : Oracle's Acquisitions<sup>7</sup>

### January 2005

PeopleSoft: PeopleSoft's board of directors relents and accepts Oracle's sweetened offer of \$26.50 per share, bringing to an end the 18-month, \$10.3 billion takeover battle.

### March 2005

Retek: Retail technology vendor Retek Inc. finally decides between its two suitors and selects Oracle, which outbid rival SAP with a \$670 million total offer.

### March 2005

Oblix: Shortly after buying Retek, Oracle branches out into identity management and security with Oblix. It is later integrated into Oracle Identity Management and will serve as the security foundation for Fusion Middleware.

### June 2005

**TripleHop** : Looking to extend its content management arsenal, Oracle buys up TripleHop's MatchPoint technology, a context-sensitive enterprise search tool.

### June 2005

TimesTen: Oracle acquires the real-time data management software vendor, an in-memory pioneer, to manage events, transactions and data within performance-critical applications. By October, it offers version 6.0 .

### July 2005

ProfitLogic: Oracle celebrates the anniversary of the American Revolution by buying another retail technology vendor. ProfitLogic's technology enables accurate sales forecasting and pricing decisions by showing customer demand patterns. It will integrate with Retek tools.

### July 2005

**Context Media**: Complementing its earlier TripleHop acquisition, the content integration and unified access features that Context Media provides with its content interchange platform prove attractive. Oracle acquires Context Media's Interchange Suite, Intershare, PortalPlus and EdgeShare products, which will be used to extend Fusion Middleware and

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<sup>7</sup> [http://searchoracle.techtarget.com/originalContent/0,289142,sid41\\_gci1219501,00.html](http://searchoracle.techtarget.com/originalContent/0,289142,sid41_gci1219501,00.html)

complement the enterprise content management capabilities in the Oracle Collaboration Suite.

### **August 2005**

**I-Flex:** Oracle ups its stake in Indian banking software firm i-Flex from 52.5% to 55.1% for \$125 million.

### **September 2005**

G-Log: During its annual OpenWorld conference, Oracle reveals it has bought G-Log and its logistics and transportation management and supply-chain software. It will later become part of Oracle Transportation Management 5.5.

### **October 2005**

**Innobase:** Oracle begins its open source spree, buying up the developer of discrete transactional open source database technology. Sleepycat's CEO says it's just an effort to disrupt MySQL AB.

### **November 2005**

Thor Technologies and OctetString: Oracle plucks a couple of private identity management firms off the shelf, adding Thor and OctetString to help it compete with IBM, Computer Associates and Sun, and complement its Oblix buy.

### **December 2005**

TempoSoft and 360 Commerce: Oracle acquires French workforce-management vendor TempoSoft just before the New Year to add workforce scheduling to integrate with PeopleSoft Enterprise, its E-Business Suite and Oracle Retail applications. Oracle also adds retail management software vendor 360 Commerce to capitalize on point-of-sale systems integration with customer interaction data.

### **January 2006**

Siebel: In one fell swoop, Oracle acquires CRM's big dog, adding Siebel and its 3.4 million users for the price tag of \$5.85 billion. Siebel will be the centerpiece of Fusion CRM moving forward, and its analytics tools round out Oracle's BI offering.

### **February 2006**

Sleepycat: The CEO changes his tune, and the Berkeley DB open source database product line, with an estimated 200 million deployments, becomes the latest target in Oracle's buying spree. By May, Oracle releases a new version of Berkeley DB.

## **February 2006**

**Hotsip:** Oracle acquires Sweden-based Hotsip, a provider of telecommunications infrastructure software and Session Initiation Protocol-enabled applications for IP telephony, presence, messaging and conferencing on converged networks.

## **April 2006**

Portal: The revenue management software vendor provides Oracle a quick way to take on Amdocs and other order management vendors and build a billing infrastructure to reach into the telecom, cable and media markets.

## **April 2006**

**Net4Call:** A provider of Parlay/OSA service delivery components for the telecommunications industry, Net4Call will be combined with Oracle SDP to help customers turn siloed network investments into a service-oriented architecture.

## **June 2006**

Demantra: Oracle buys its way into the supply-chain software business for a reported \$41 million. It bulks up its retail arsenal with a vendor that helps companies like Dunkin' Donuts, Welch's and Cargill manage their supply chains based on customer demand.

## **June 2006**

Telephony@Work: Oracle dials up the hosted contact center market and buys the underlying platform of its existing Siebel Contact OnDemand, its SAAS customer service application. Together, the acquisitions are intended to provide a full hosted contact center from one vendor.

## **August 2006**

**Sigma Dynamics:** Bulking up its Business Intelligence business, Oracle adds a real-time and predictive analytics vendor that will be offered standalone and as part of Oracle BI and Fusion Middleware.

## **October 2006**

Sunopsis Inc.: Oracle says the purchase of data integration vendor Sunopsis will enhance its Fusion Middleware offering by providing greater support for both Oracle and non-Oracle data sources.

## **October 2006**



MetaSolv Software Inc.: Oracle is planning to purchase telecommunications software provider MetaSolv

## Appendix H: Oracle's revenue breakup since 2002<sup>8</sup>

Year	Total revenues	New license	New license (apps)	Updates and support	Upgrade and support (apps)
2002	9672	3441	702	3540	746
2003	9475	3270	605	3929	842
2004	10156	3541	615	4529	
2005	11799	4091	785	5330	1288
2006	14380	4905	1303	6636	2252

**Table 1**

Year	Consulting	SAAS	Education	Total service	Total service + maintenance
2002	2053	317	320	2690	6230
2003	1761	257	258	2276	6205
2004	1589	258	239	2086	6615
2005	1810	299	269	2378	7708
2006	2120	397	322	2839	9475

**Table 2**

Year	Total revenues	Updates and support	Upgrade and support (apps)	consulting	consulting %	SAAS	Edu cation	Total service	education %	Total service + maintenance	%
2002	9672	3540	746	2053	21.23	317	320	2,711.23	3.31	6,251.23	64.61
2003	9475	3929	842	1761	18.59	257	258	2,294.59	2.72	6,223.59	65.61
2004	10156	4529		1589	15.65	258	239	2,101.65	2.35	6,630.65	65.21
2005	11799	5330	1288	1810	15.34	299	269	2,393.34	2.28	7,723.34	65.41
2006	14380	6636	2252	2120	14.74	397	322	2,853.74	2.24	9,489.74	65.91

**Table 3**

Year	Americas	EMEA	Asia
2002	5292	3050	1329
2003	4844	3254	1377
2004	4983	3677	1496
2005	5798	4288	1713
2006	7652	4708	2020

**Table 4**

<sup>8</sup> [www.oracle.com/investors](http://www.oracle.com/investors) - Consolidated financial statements

## Appendix I: Oracle's Offense on SAP Proprietary Technologies<sup>9</sup>

<b>Oracle</b>	<b>SAP</b>
<b>ORACLE FUSION</b>	<b>Business Process Platform "PROJECT VIENNA"</b>
Standard Java™	Proprietary ABAP
Native Service-Oriented Architecture	Wrap Old ABAP Code For SOA
Standards-Based Fusion Middleware	Proprietary Netweaver Middleware
One Integrated Data Model	Five Separate Data Models
No upgrade fees	Expensive upgrade fees
<p><i>SAP's Project Vienna: complex, forced upgrades for which you have to pay more.</i></p>	
	
<p>oracle.com/OFFSAP or call 1.800.633.0741</p>	
<small>Copyright © 2006 Oracle. All rights reserved. Oracle, JD Edwards and PeopleSoft are registered trademarks of Oracle Corporation and its affiliates. Other names may be trademarks of their respective owners. Java is trademark of Sun Microsystems, Inc.</small>	

<sup>9</sup> <http://www.oracle.com/ad/index.html> - Last accessed on January 12, 2007

## Appendix J: Oracle Fusion architecture

The Tables below shows the Fusion architecture components.

### Oracle Fusion Architecture Technical Components<sup>10</sup>

- ▶ Oracle Grid Infrastructure – Oracle 10g Database and Oracle Fusion Middleware in a grid configuration monitored by Oracle Enterprise Manager, Grid Control for maximum performance and uptime.
- ▶ Fusion Service Registry – based on Oracle E-Business Suite web services registry, the Fusion Service Registry defines all of the Oracle applications web services, the integration interfaces for third party web services, and meta-data services that are specific to each customer deployment.
- ▶ Fusion Service Bus – based on Oracle Fusion Middleware Enterprise Service Bus technology, the Fusion Service Bus is the runtime environment for application services.
- ▶ Business Process Orchestration – the tools to monitor and manage technology components at the business process level. Based on Oracle Fusion Middleware BPEL technology.
- ▶ Business Intelligence and Business Activity Monitoring – based on business intelligence delivered from Oracle Applications and BI tools (i.e. Oracle Discoverer) as well as Oracle Fusion Middleware BAM technology.
- ▶ Unified Portal – provides personalized collaborative portals for optimum employee productivity and effectiveness. Based on Oracle Collaboration Suite 10g and Oracle Portal.

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<sup>10</sup> <http://www.oracle.com/applications/fusion-architecture-components.html>

# Appendix K: OPN Resources and Benefits by Membership Level<sup>11</sup>

<p>OPN Resources and Benefits</p> <p>(Refer to the Marketing Services section in the OPN Agreement)</p> <p>Access to Oracle Development Tools (ADT)</p> <p>Branding and Logo</p> <p>Purchase lists of Oracle subscriptions for your campaigns</p> <p>Create a world class event with the Events Director tool</p>	Content Provider			Association	Education Provider		
	Hardware / Infrastructure	ISV	Systems Integrator			Management Consultancy	
	Hosting Provider		VAR				
	Membership Level					Membership Level	Membership Level
	Partner	Certified Partner	Certified Advantage Partner			Partner	Partner
<p>Get Enabled</p> <p>Read about the <a href="#">New Discount Structure for Education Effective July 24, 2006</a></p>							
Partner-specific education roadmap	✓	✓	✓	✓	✓		
Free attendance at partner only online seminars, selected training events and workshops	✓	✓	✓	✓	✓		
25% discount on Oracle University products and services	✓	✓	✓	✓	✓		
Free Oracle Certification Program (OCP) exam vouchers	2	4	6	2	2		
25% discount on exam fees for certification of additional OCPs	✓	✓	✓	✓	✓		

<sup>11</sup> [http://www.oracle.com/partners/home/why\\_allusers/en/benefits.html](http://www.oracle.com/partners/home/why_allusers/en/benefits.html) - Accessed on December 25, 2006

Free access to Oracle University Knowledge Center (OUKC) Passport	✓	✓	✓	✓	✓
Market Your Solutions					
(Refer to the Marketing Services section in the OPN Agreement)					
Access to Market Development Funds (MDF)		✓	✓		
Use of Oracle partner branding and logos	✓	✓	✓	✓	✓
Purchase lists of Oracle subscribers for your campaigns		✓	✓		
Create a world class event with the Events Director tool	✓	✓	✓	✓	✓
Participate in demand generation activities through Go-to-Market Initiatives		✓	✓		
Professional development of joint customer success stories		✓	✓		
Free subscription and discounts to advertise in Oracle publications		✓	✓	✓	
Oracle partner display plaques	Upon request	✓	✓	Upon request	Upon request
Product marketing kits for your customer collateral and messaging	✓	✓	✓	✓	✓
Assistance from professional writers for editing press releases	✓	Quotes from Oracle executives			
Event advertising and sponsorship opportunities		✓	✓		

available only for partners					
Learn about product directions, strategy and partner initiatives at regional Oracle boot-camps, seminars, and Oracle PartnerNetwork Days	✓	✓	✓		
Invitation to Oracle Executive Partner Forums			✓		
<b>Transform your Investment into Results</b>					
Purchase Oracle at a 30% discount for internal use		✓	✓		
Partner-only distribution discounts	✓	✓	✓	✓	✓
Your profile and solutions published through Oracle PartnerNetwork Solutions Catalog	✓	Priority placement	Highest priority placement	✓	✓
Register your net new opportunities under the Resale Initiative		✓	✓		✓
Earn 5-10% when you refer or co-sell Oracle business	✓	✓	✓	✓	✓
Product sales kits (customer positioning, market trends, objection handling)	✓	✓	✓	✓	✓
Guide for teaching your sales team how to position and sell Oracle technology products	✓	✓	✓	✓	✓
Business practices and pricing training with handbook	✓	✓	✓	✓	✓
Offer your customers Oracle Financing	✓	✓	✓	✓	✓

Create your Online Business Plan	✓	✓	✓	✓	✓
<a href="#">Free Oracle Web Conferencing meetings</a>	50	75	100	50	50
Validated Integrations for Oracle Application		✓	✓		
Deliver Demos for OracleE-Business Suite		✓	✓		
<b>Find Technical Assistance</b>					
(Refer to the Technology Programs, Applications Programs, Technical Support, and Methodology/Engagement Materials sections in the OPN Agreement)					
Log support service requests via web or phone (Database, Application Server, Collaboration Suite)	30% disc	✓	✓		Education Related Only
Free Software Updates	✓	✓	✓		✓
Free number of online support service requests for Oracle E-Business Suite		100	200		Education Related Only
Bug and Fix Support for PeopleSoft Enterprise, JD Edwards EnterpriseOne, and JD Edwards World		✓	✓		
Free number of online support service requests for Siebel		10	20		
10% discount on Advanced Product Support offerings	✓	✓	✓		✓
Product support documentation (includes user, admin, reference and error manuals)	✓	✓	✓		✓
Unlimited development & demo licenses (Database,	✓	✓	✓		✓



Application Server, Collaboration Suite)					
Demonstration licenses for Applications Programs		✓	✓		
Resources to help you migrate to Oracle (tool kits, workbench, & third-party migration providers)	✓	✓	✓		
Collaborate with developers through Oracle Technology Network and AppsNet communities	✓	✓	✓		
Release Control Documents for Oracle E-Business Suite		✓	✓		
Access to methodologies for implementing Oracle E-Business Suite		✓	✓		

Availability of benefits is subject to regional restrictions and compliance with program criteria set forth in the Oracle PartnerNetwork Policies. [Review Benefits Decommissioning Policy](#). Oracle reserves the right to correct administrative errors in the OPN Resources and Benefits by Membership Level table at any time and at Oracle's sole discretion.

## Appendix L: IBM and SAP Alliances

### Solutions by industry

Aerospace and defense

Automotive

Banking

Chemicals and petroleum

Consumer products

Cross-industry

Electronics

Government

Retail

Small and medium business

Travel and transportation

### Hardware

IBM Systems and SAP

IBM Storage and SAP

### Services

IBM Global Services and SAP

### Software

IBM DB2 and SAP

IBM WebSphere and SAP

NetWeaver

IBM Rational and SAP

IBM Tivoli and SAP

IBM Lotus and SAP

IBM and SAP solutions for all industries<sup>12</sup>

< [Previous](#) | [Next](#) >

#### ➔ **Business intelligence solution from IBM and SAP**

Business Intelligence (BI) from IBM and SAP, especially when running on IBM DB2, can help boost decision making by transforming disparate data into practical, real-time information. Why is this important? Because while timely access to information is critical, as data sources multiply, the ability to effectively make use of it can diminish.

#### ➔ **Customer relationship management from IBM and SAP**

Sustaining existing customer relationships and identifying new markets is integral to your success. IBM and SAP can provide you with the applications, best practices and industry expertise you need to succeed in today's customer-centric world.

#### ➔ **Document compliance and retention from IBM and SAP**

Is your records retention and document retrieval process compliant with the rigid standards facing corporate America? While many companies offer basic solutions to address Sarbanes-Oxley requirements, few offer complete applications

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<sup>12</sup> [http://www-03.ibm.com/solutions/sap/doc/jsp/indseg/all/index.jsp?P\\_IndustrySegment=143683230&desc=no](http://www-03.ibm.com/solutions/sap/doc/jsp/indseg/all/index.jsp?P_IndustrySegment=143683230&desc=no) – Accessed on December 26, 2006

designed from the ground up. Let IBM develop a solution to help you stay compliant.

➔ **Enterprise resource planning from IBM and SAP**

Are you prepared for escalated customer expectations and increased industry complexity? IBM and SAP can help you avoid concerns of lower profit margins and higher employee churn. Regain control of your enterprise, increasing efficiency and profitability.

➔ **ERP for aerospace and defense from IBM**

Are you prepared for escalated customer expectations and increased industry complexity? IBM and SAP can help you avoid concerns of lower profit margins and higher employee churn. Regain control of your enterprise, increasing efficiency and profitability.

➔ **IBM eServer i5 Solution Edition for mySAP ERP**

IBM and SAP team to combine the power of the market-leading mySAP™ ERP solution with the high-performance, reliable IBM eServer i5 system. Sense and respond to market changes. Align operations with market demand. Maintain business continuity. With a powerful, easy-to-use, cost-effective solution for mid-sized businesses.

➔ **IBM eServer OpenPower and DB2 for mySAP All-in-One**

Looking for an integrated, Linux™-based infrastructure for a SAP® environment? IBM combines a powerful platform and leading database—optimized for Linux and SAP solutions. Pre-packaged solutions. Affordable, fixed pricing model developed for your business. Applications pre-configured for your industry.

➔ **IBM Express Fabrication and Assembly Solution, a qualified mySAP All-in-One solution**

Tailored functionality from order entry, manufacturing, production, warehouse, procurement and financial management functions.

➔ **IBM Express Life Sciences Solution, a qualified mySAP™ All-in-One solution**

Small- and mid-sized biopharmaceutical companies face many challenges. Time-to-market. Reducing costs. Rigorous regulations. The IBM Express Life Sciences Solution can be implemented quickly and is designed to help growing companies successfully navigate the waters of regulatory

mandates.

- **IBM Express Services for Inventory Management**  
Solution toolkit leverages SAP NetWeaver BI functionality to create an efficient, repeatable, and intelligent process for reducing and managing inventory levels.
- **IBM Express Supply Chain Solution, a qualified mySAP™ All-in-One solution**  
A prepackaged, preconfigured ERP solution for addressing SCM and advanced planning and optimization across industries.
- **IBM Express Wholesale Distribution Solution, a qualified mySAP™ All-in-One solution**  
How do you build your competitive advantage as your company grows? The IBM Express Wholesale Distribution Solution can help. This solution enables sophisticated ERP processes designed to improve service, grow revenue, reduce inventory levels and lower supply chain costs.
- **IBM Food and Beverage Express Services, a qualified mySAP All-in-One solution**  
Tailored functionality from order entry, manufacturing, production, warehouse, procurement and financial management functions solution for SMB consumer packaged goods and food and beverage clients.
- **IBM Full Economy Model for SAP**  
Lower your total cost of ownership. Create consistency in your SAP environment. Simplify complex and redundant applications. IBM has aligned its existing SAP consulting, application, infrastructure, services, support and maintenance offerings under one umbrella—the IBM Full Economy Model for SAP.
- **IBM Integrated Case Management solution for social services and social security with mySAP™**  
Is your social services or social security organization trying to overcome the challenges of constant legislative change, rising costs and silo-based organization and IT systems in order to meet client needs? Our integrated case management solution can help you improve the provision of service and benefits to your clients.
- **IBM IT Resource Optimization for mySAP™ Business Suite**  
Implement cutting-edge technologies in virtualization,

automation, orchestration and provisioning. Create a flexible, responsive, less expensive infrastructure that is easier to manage and upgrade. IBM IT Resource Optimization for mySAP™ Business Suite helps deliver maximum value for IT investments.

→ **IBM System z9 solution for SAP applications**

Select IBM System z9™ servers as a platform for integration to help maintain high availability, reduce complexity in the data center and drive down the cost of ownership for your SAP system environment. Our solution can help you achieve better SAP system management, higher business resilience, improved security and reduced costs.

→ **IBM Systems solution for SAP NetWeaver Business Intelligence Accelerator**

IBM Systems solution for BI accelerator from SAP is an easy-to-deploy, prepackaged solution for near real-time analytics. This solution can help you access and analyze large volumes of business data, providing quicker access to management information for better day-to-day tactical and strategic business decisions.

→ **Merchandising and supply chain solution from IBM and SAP**

Are your systems stocking Florida stores with turtlenecks in May and Alaska stores with bikes in December? Base your decisions on near real-time visibility into consumer demand and market conditions to optimize your inventory levels. Merchandising and supply chain solutions from IBM and SAP can help you predict and respond to market changes.

→ **New product development and introduction from IBM and SAP**

Experiencing competitive pressures due to technology advancements, deregulation, global expansion or exploding product variety? IBM and SAP have teamed up to help you meet those challenges head on. Reduce time to first revenue. And analyze data for better insight into successful development of new product and service ideas.

→ **Product lifecycle management from IBM and SAP**

Product innovation is crucial to success. So are quick, efficient production and time to market. With IBM and SAP, you can implement a solution that helps drive effective product development and manage those products from design through to

retirement.

→ **SAP BusinessOne**

An affordable, integrated business management solution that offers the comprehensive array of capabilities needed to run your business--from general ledger and banking activities to service, sales and inventory operations.

→ **SAP extensions for chemical and petroleum from IBM**

Respond instantly to customers. Deliver personalized information to internal users. Slice non-production procurement costs and streamline business processes. Unlock the full potential of your ERP investment with help from IBM and SAP.

→ **SCM for aerospace and defense from IBM**

Your business is only as strong as your supply chain. New application and technology tools can help you better manage the production of decades old products while innovating new developments. IBM incorporates lean processes to help enable you to bring down costs while increasing manufacturing capabilities.

→ **Supplier relationship management from IBM and SAP**

Intelligently and flexibly manage procurement operations. IBM and SAP offer fresh ideas to unlock business value and promote sustainable financial advantage. By streamlining communication processes you can make more informed, timely decisions and cost-effectively execute supply management, sourcing and procurement.

→ **Supply chain management from IBM and SAP**

Intelligently and flexibly manage procurement operations. IBM and SAP offer fresh ideas to unlock business value and promote sustainable financial advantage. By streamlining communication processes you can make more informed, timely decisions and cost-effectively execute supply management, sourcing and procurement.

→ **Trade promotion management from IBM and SAP**

Trade promotions—a big line item in your budget? And are you getting the best return for that spending? IBM and SAP offer innovative thinking and tangible solutions to help you efficiently capture and measure promotions.

## Appendix M: IBM and Oracle Alliances

IBM and Oracle solutions<sup>13</sup>

### ➔ **Account opening solution from IBM**

Your account opening process is your institution's first contact with a potential customer. It can also be a major cost item. Duplicated efforts. Multiple systems and applications. High abandonment rates. The need for a single customer view. IBM can help you implement an easier, more cost-effective account opening process.

### ➔ **Campaign management for air travel from IBM and Siebel**

Is your business ready to handle the increasing traffic volume and long-term growth expected within the travel industry, while at the same time reducing costs and maximizing revenue? With online, automated, end-to-end campaign management from IBM and Siebel, your company won't be left behind.

### ➔ **Campaign management for freight and logistics from IBM and Siebel**

Is your freight, rail or airline business ready to handle increasing traffic volume and long-term growth expected within your industry? With automated, end-to-end campaign management from IBM and Siebel, your company can keep up with customer demands, while at the same time reducing costs and maximizing revenue.

### ➔ **Campaign management for rail transportation from IBM and Siebel**

Is your freight, rail or airline business ready to handle increasing traffic volume and long-term growth expected within your industry? With automated, end-to-end campaign management from IBM and Siebel, your company can keep up with customer demands, while at the same time reducing costs and maximizing revenue.

### ➔ **Campaign management for rail travel from IBM and Siebel**

Is your business ready to handle the increasing traffic volume and long-term growth expected within the travel industry, while

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<sup>13</sup> <http://www-03.ibm.com/solutions/businesssolutions/oracle/doc/jsp/indseg/all/index.jsp> - Accessed on December 26, 2006

at the same time reducing costs and maximizing revenue? With online, automated, end-to-end campaign management from IBM and Siebel, your company won't be left behind.

➔ **CRM done right from IBM**

CRM can deliver great value for most companies—if it's done right. Success is achieved when CRM is treated as a core business function and initiatives are framed strategically against the value they produce. Successful CRM projects set achievable goals and apply clear guidelines during implementation.

➔ **Customer loyalty from IBM and Siebel**

Recognize each customer's lifetime value—and tailor services and promotions accordingly. IBM and Siebel can help you determine the best timing and channels for communications. Anticipate a customers' emotional response to campaigns. Improve loyalty strategies to build a profitable, long-lasting bond with customers.

➔ **Customer self-service for insurance from IBM and Siebel**

Can you turn insurance service interactions into revenue-generating opportunities? Deliver faster, more personalized service over less expensive channels of communication? Offer a Web-based service solution that increases customer satisfaction while lowering the cost of providing service? Can you compete if you don't?

➔ **Enterprise banking analytics solution from IBM and Siebel**

Integrate data enterprise wide. Gain a single view of customer information. Extend analytics to all levels of your bank. IBM and Siebel Business Analytics can help you differentiate from competitors. Focus on revenue growth. Up-sell and cross-sell effectively. Build loyalty. Align your bank around customer profitability.

➔ **IBM Integrated Case Management Solution with Siebel**

Increasing citizen expectations and diminishing public budgets are driving modernization at social services and social security agencies worldwide. The IBM Integrated Case Management Solution with Siebel provides full-lifecycle case management for social services and social security organizations.

➔ **IBM life sciences solution with Siebel Pharma OnDemand**

Your business is about making a difference in the lives of patients while carrying on your responsibilities to shareholders. This means getting the best products to patients at the right time



and in the right way ...communicating to physicians in the most effective manner ...

→ **Insurance contact center solution from IBM and Siebel**

Can your insurance company compete effectively in a market where customers use the Web to become better informed? Companies that integrate sales and service data for better customer focus gain the competitive edge. We can help you coordinate customer touch points across multiple channels and sales entities.

→ **Retail banking branch and teller solution from IBM and Siebel**

Can your tellers access an integrated, complete view of the customer standing in front of them? Can they effectively cross- and up-sell targeted customers? Can your current systems leverage the wealth of legacy data you have saved? Energize your front-line staff with customer-centric tools from IBM and Siebel.

→ **Sales force automation for air travel from IBM and Siebel**

IBM and Siebel travel sales force automation helps organize and consolidate data, provide relevant customer information throughout all levels of your organization, while also empowering your sales team with tools to better utilize their time, increase their productivity and ultimately become more effective closers.

→ **Sales force automation for freight and logistics from IBM and Siebel**

IBM and Siebel transportation sales force automation helps organize and consolidate data to provide relevant customer information throughout all levels of your organization, while empowering your sales team with tools to better utilize their time, increase their productivity and ultimately become more effective closers.

→ **Sales force automation for rail transportation from IBM and Siebel**

IBM and Siebel transportation sales force automation helps organize and consolidate data to provide relevant customer information throughout all levels of your organization, while empowering your sales team with tools to better utilize their time, increase their productivity and ultimately become more effective closers.

→ **Sales force automation for rail travel from IBM and Siebel**

IBM and Siebel travel sales force automation helps organize and consolidate data, provide relevant customer information throughout all levels of your organization, while also empowering your sales team with tools to better utilize their time, increase their productivity and ultimately become more effective closers.

→ **Sales force automation for travel-related services from IBM and Siebel**

IBM and Siebel travel sales force automation helps organize and consolidate data, provide relevant customer information throughout all levels of your organization, while also empowering your sales team with tools to better utilize their time, increase their productivity and ultimately become more effective closers.

→ **Siebel business analytics from IBM**

When the world's business intelligence leader pairs with the market's premier business analytics software provider, your business wins. Together, IBM and Siebel offer solutions to develop accurate and insightful information that, in turn, can help you respond with improved speed and relevance to your customers.

## Appendix N: Microsoft Enterprise Applications<sup>14</sup>

### Microsoft Dynamics

Microsoft Dynamics is a line of integrated, adaptable business management solutions that automate and streamline financial management, customer relationship management (CRM), and supply chain management (SCM) processes. Your employees will be productive and effective quickly-thanks to the consistent look and feel of Microsoft Dynamics, which is similar to Microsoft Office.

#### , Microsoft Dynamics

### Microsoft FRx

Microsoft FRx helps bring insight and control to the entire report creation, generation, and distribution process. It enables you to create the kind of financial reports your organization requires, when you want, with the detail and flexibility you need to stay on top of the trends in your business. Microsoft FRx helps you and everyone in your department to work more efficiently, which means you can close the books faster and distribute critical financial information more effectively.

#### , Microsoft FRx

### Microsoft Office SharePoint Server 2007

For collaboration and information sharing, Office SharePoint Server 2007 provides enterprise-scale capabilities to meet business-critical needs like managing content and business processes, simplifying how people find and share information across boundaries, and

### Microsoft Forecaster

Microsoft Forecaster is an affordable budgeting and planning solution that helps businesses produce accurate and meaningful budgets in significantly less time. Microsoft Forecaster is easy to use and can help your financial team gain control of your budgeting process by measuring daily business performance. Used alone or with Microsoft FRx software-the application that simplifies and speeds financial reporting and analysis-your organization can reap the benefits of better financial information.

#### , Microsoft Forecaster

### Microsoft Office Professional Plus 2007

Office Professional Plus 2007 can help your employees work more effectively with a set of tools that includes electronic forms creation, presence information, and instant messaging for creating, managing, analyzing, and sharing information. The newly redesigned user interface makes Office Professional Plus 2007 easier to use, and the new graphics capabilities makes creating great-looking, high-impact documents easy. This Microsoft Office suite includes Office Word, Office Excel, Office Outlook, Office PowerPoint, Office Access, Office Communicator, Office InfoPath, and Office Publisher.

#### , Microsoft Office Professional Plus 2007

### Windows Mobile

Windows Mobile software powers advanced, easy-to-use devices people can use to send and receive e-mail messages, browse the Internet, and work on mobile versions of familiar Office software away from their desks, at any time of the day. Business users can easily stay up-to-

<sup>14</sup> <http://www.microsoft.com/business/peopleready/process/products.msp> - Accessed on December 27, 2006

enabling more informed decisions. Used with business process software such as Microsoft Dynamics, to create business portals and collaborative workspaces, Office SharePoint Server 2007 puts business users in greater control of their content, with features like a real-time version of current business performance and metrics. SharePoint Server 2007 provides IT administrators with a single platform to manage intranet, extranet, and Internet applications across the organization.

, Microsoft Office SharePoint Server 2007  
Microsoft SQL Server 2005

SQL Server 2005 is a comprehensive, integrated, end-to-end data solution that provides your employees a more secure, reliable, and productive platform for enterprise data and business intelligence (BI) applications. SQL Server 2005 delivers powerful, familiar tools to IT professionals as well as to information workers, reducing the complexity of creating, deploying, managing, and using enterprise data and analytical applications on platforms ranging from mobile devices to enterprise data systems. Through a comprehensive feature set, interoperability with existing systems, and automation of routine tasks, SQL Server 2005 provides a complete data solution for enterprises of all sizes.

, Microsoft SQL Server 2005

date with customer activity and other timely information through mobile versions of key line-of-business applications such as Microsoft CRM.

, Windows Mobile

Microsoft BizTalk Server 2006

You can use BizTalk Server 2006 to create effective business processes that connect systems, data, processes, and people. BizTalk Server extends Microsoft Dynamics processes beyond the application, and can increase customer return on investment by enhancing and streamlining key end-to-end business processes. In addition, BizTalk Server 2006 includes 23 application and technology adapters for connecting to legacy systems (mainframe and mid-range) and line-of-business applications (such as SAP, Siebel, PeopleSoft, Oracle, and JD Edwards) to support hub-and-spoke scenarios. The complete suite of adapters provides rich integration connectivity designed for specific needs at an affordable price, for better value than “do it yourself” integration.

, Microsoft BizTalk Server 2006

## Microsoft Dynamics Products<sup>15</sup>

Microsoft Dynamics is a line of integrated, adaptable business management solutions that enables you and your people to make business decisions with greater confidence. Microsoft Dynamics works like and with familiar Microsoft software to help your people be more productive.

The following products automate and streamline financial, customer relationship, and supply chain management to help you drive business success:

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<sup>15</sup> <http://www.microsoft.com/dynamics/product/productoverviews.msp> -Accessed December 27, 2006

- Microsoft Dynamics AX (formerly Microsoft Axapta)
- Microsoft Dynamics CRM (formerly Microsoft CRM)
- Microsoft Dynamics GP (formerly Microsoft Great Plains)
- Microsoft Dynamics NAV (formerly Microsoft Navision)
- Microsoft Dynamics SL (formerly Microsoft Solomon)

## **Related business products**

### •Microsoft Forecaster

Microsoft Forecaster works with a variety of general ledger applications—including Microsoft Dynamics products—to automate and simplify the budgeting and planning process. It provides a quick, intuitive, cost-effective way to help you create more accurate budgets and meaningful financial predictions.

### •Microsoft FRx

Microsoft FRx financial analysis and reporting software provides deep insight into all aspects of your business. By enabling up-to-date, accurate business intelligence, it can help your people drive marked improvements in efficiency and effectiveness, provide timely and accurate information, and accelerate decision-making.

### •Microsoft Point of Sale

Microsoft Point of Sale provides small retailers with an easy-to-use program to track sales, inventory, and customer information. Designed to replace a cash register, Microsoft Point of Sale saves time and money, automating stores at an affordable price.

### •Microsoft Retail Management System

Microsoft Retail Management System provides small and midsize retailers with a customizable, integrated point-of-sale solution to manage operations within stores and across the business. This powerful software package helps retailers track inventory efficiently and improve customer service.

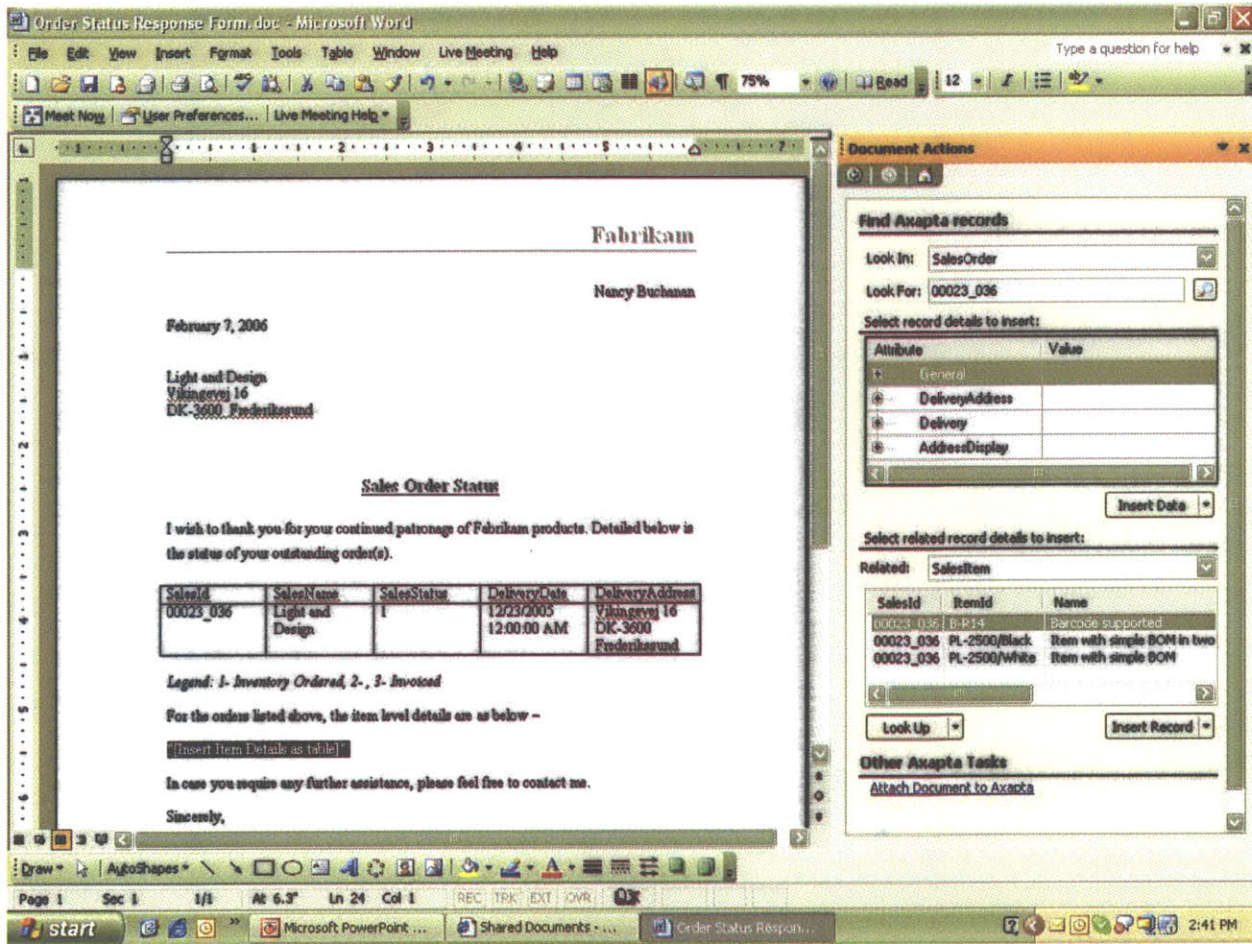
### •Microsoft Office Small Business Accounting 2006

Microsoft Small Business Accounting is a full-featured financial management program designed for companies with 25 or fewer employees. It allows small business owners to manage their business financials using out-of-the-box software that has the familiarity of Microsoft Office.

### •Microsoft Small Business Financials

Microsoft Small Business Financials is an affordable, easy-to-use accounting solution for small, growing businesses. It's designed to help you become more productive and to effectively integrate with other software. With Small Business Financials, you can access vital information to make informed business decisions.

# Appendix O: Microsoft Dynamics Snap-in for Office<sup>16</sup>



Screenshot: Business Data Lookup Snap-In

<sup>16</sup> <http://www.microsoft.com/presspass/features/2006/feb06/02-20Dynamics.mspx> - Accessed on December 27, 2006

Nancy Buchanan.dot - Microsoft Word

File Edit View Insert Format Tools Table Window Help Type a question for help

100% Times New Roman 12

Insert from CRM Attach to CRM

### Sales Order Status

I wish to thank you for your continued patronage of Fabrikam products. Detail the status of your outstanding order(s).

Name	Customer
Blue touring bikes	Amazing bikes

*Legend: 1- Inventory Ordered, 2- , 3- Invoiced*

For the orders listed above, the item level details are as below -

Amount	Extended Amount	Freight Terms	Pricing	Prod
\$25,001.46	\$26,961.53		Use Default	Tour Blue

In case you require any further assistance, please feel free to contact me.

Sincerely,

Nancy Buchanan  
Super Sales Rep  
Fabrikam

**Document Actions**

**Find Microsoft CRM records**

Look In:

Look for:

**Select attachment options**

Attach to:

This record

Related:

Attach as:

Note

Activity:

**Other Microsoft CRM tasks**

Insert details from Microsoft CRM

Document attached successfully

Help on this page

Page 1 Sec 1 1/1 At 5.0" Ln 21 Col 1 REC TRK EXT OVR

Microsoft CRM 3.0 - Mic... Document1 - Microsoft ... Nancy Buchanan.dot ... 9:51 AM

Inbox - Microsoft Outlook

File Edit View Go Tools Actions Help

Type a question for help

New Reply Reply to All Forward Send/Receive Find Type a contact to find 0 Search

Vacation Timesheet Create Timesheet

Mail

Favorite Folders Arranged By: Date Newest on top

Inbox

Vacation Management History

New Vacation Request

Employee Name Open new journal

Start Date 1/ 1/2006 End Date 7/ 7/2006 View Details Show In Groups

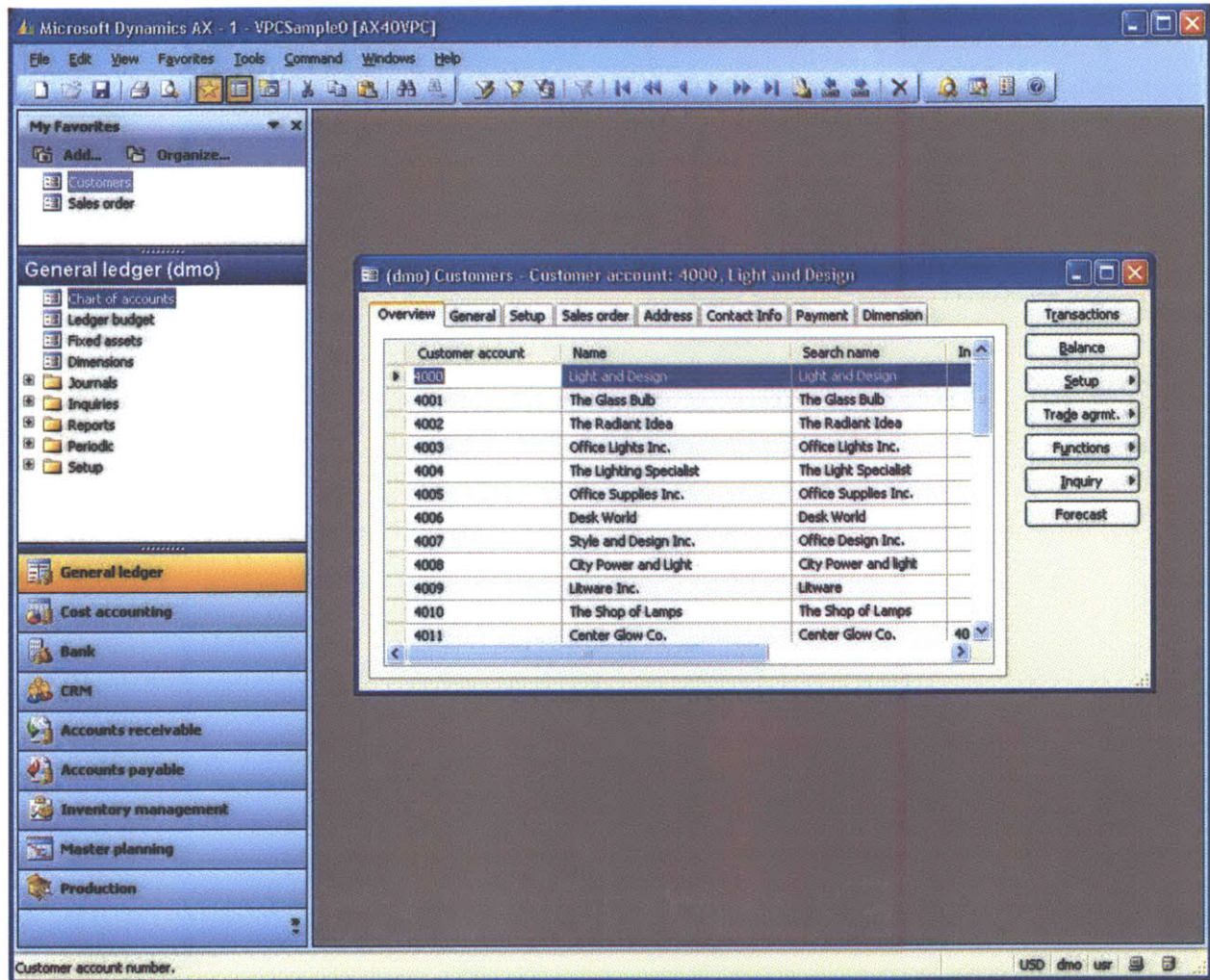
Journal Id	Period From	Period To	Created	Type	Va..	Unit
Vacation - [2]						
00018_135	3/1/2006	3/31/2006	3/1/2006	Vacation	2	Hours
July - [179]						
00020_135	5/1/2006	5/31/2006	5/1/2006	July	7	Hours
00020_135	5/1/2006	5/31/2006	5/2/2006	July	8	Hours
00020_135	5/1/2006	5/31/2006	5/3/2006	July	8	Hours
00020_135	5/1/2006	5/31/2006	5/4/2006	July	8	Hours
00020_135	5/1/2006	5/31/2006	5/5/2006	July	8	Hours
00020_135	5/1/2006	5/31/2006	5/6/2006	July	0	Hours
00020_135	5/1/2006	5/31/2006	5/7/2006	July	0	Hours
00020_135	5/1/2006	5/31/2006	5/8/2006	July	7	Hours
00020_135	5/1/2006	5/31/2006	5/9/2006	July	8	Hours
00020_135	5/1/2006	5/31/2006	5/10/2006	July	8	Hours
00020_135	5/1/2006	5/31/2006	5/11/2006	July	8	Hours
00020_135	5/1/2006	5/31/2006	5/12/2006	July	8	Hours

Created Transferred Rejected Approved

1433 items

start Microsoft PowerPoint ... Inbox - Microsoft Out... Vacation Managemen... 11:46 AM





Business Portal - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Mail Internet Options

Microsoft Business Solutions My Settings Help

## Business Portal

The World Online, Inc.

Home Employee Company To Do List Manager Finance Sales Purchasing Inventory Payroll HR Site Settings Quick Links

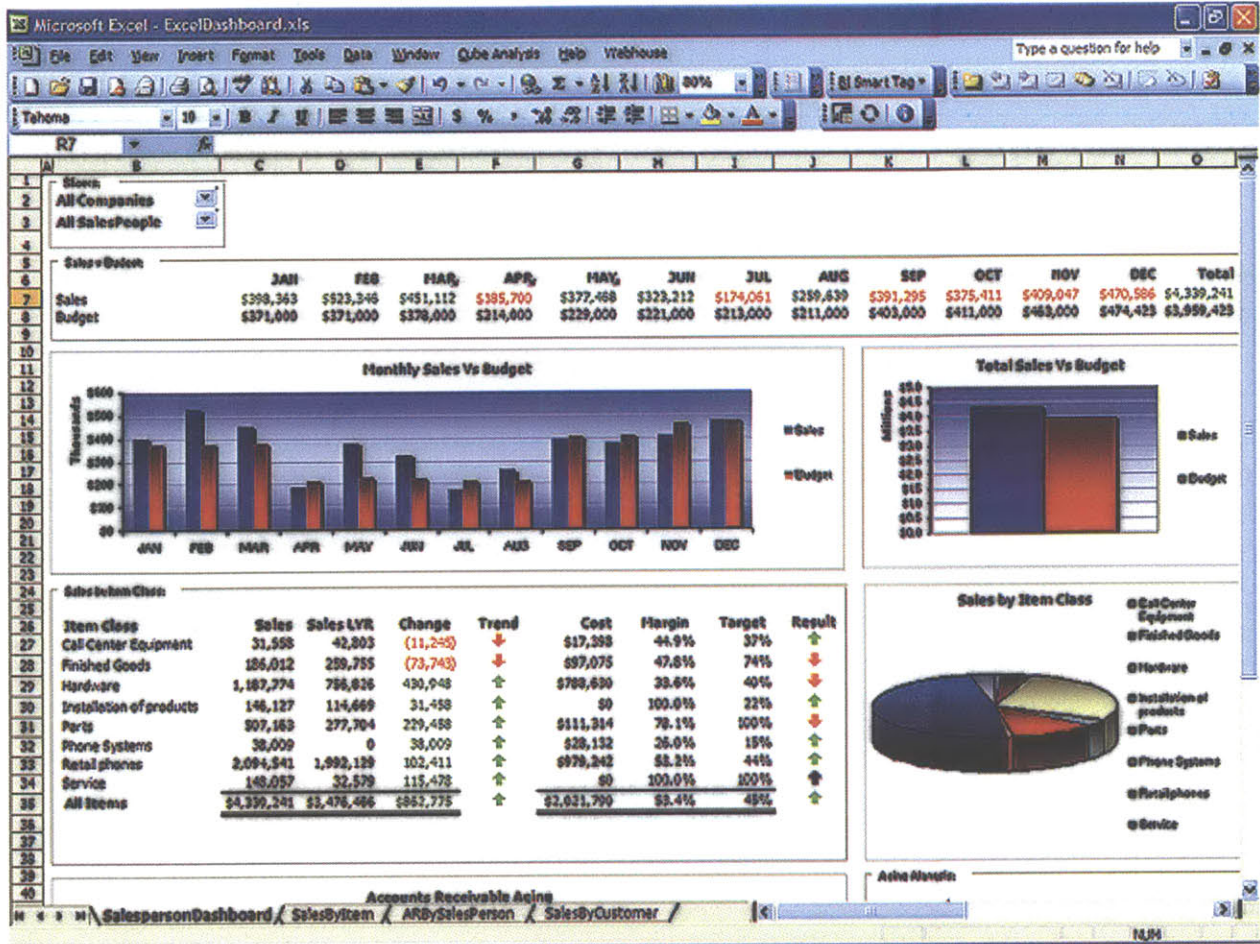
Customers Prospects Commissions Territories Reports Queries

### Sales Queries Modify Shared Page

New Query Modify Query Save Query Copy to Excel Parameters Find Refresh

Queries	Customer ...	Customer ...	Address	City	State/Pro...	Zip
My Queries	Contoso, Ltd.	\$80,714.12	2401 Mine...	Omaha	NE	68145-2401
Shared Queries	Office Desi...	\$76,479.78	Place 16 ...	Winnipeg	MB	R2M 2G6
Samples	Alton Manu...	\$68,955.00	P.O. Box 3...	Detroit	MI	48233-3343
Center Queries	Vision Inc.	\$66,947.65	210 S.W. ...	Indianapolis	IN	46206-1222
Account	Vancouver ...	\$59,656.42	419 12 Av...	Vancouver	BC	V6E 3J7
Commission History	Berry Medi...	\$50,797.10	Suite 187	Fond Du Lac	WI	54935-9990
Customer	Johnson, Ki...	\$47,420.90	6149 S. 4...	Rockford	IL	61125-6149
Item	Humongous...	\$47,001.07	4509 145t...	Omaha	NE	68107-4509
Item Quantities	World Ente...	\$46,899.02	950 Office...	Detroit	MI	48233-4832
Links	Place One ...	\$41,704.82	1455 East...	Vancouver	BC	V6C 3J9
Customer	Rainbow Re...	\$40,568.07	3427 N. J...	St Louis	MO	63156-3427
Addresses	Getaway Inn	\$39,950.00	203 E Can...	Saginaw	MI	48605
Cash Account	Central Ilin...	\$38,412.31	733 West ...	Peoria	IL	61601-4542
Commission History	Blue Yande...	\$36,646.45	P.O. Box 1...	Wichita	KS	67201
Commissions	Downtown ...	\$36,633.89	2008 Ches...	Chicago	IL	60618-2991
Corporate Customer	Riverside U...	\$36,555.10	5190 Her...	Vancouver	BC	V6E 3J7
Cost Account	Mendota U...	\$36,245.59	1817 Colle...	Grand Rap...	MI	49548-3343
Credit Card	Hampton Vi...	\$36,134.74	239 Hamp...	Springfield	IL	62703-1252
Currency	Mid-City H...	\$34,658.44	8907 N. Pl...	Gary	IN	46401-4211
Discounts Available Acct	Mahler Sta...	\$34,289.30	4000 McD...	Minneapolis	MN	55404-4000
Discounts Taken Account	Metropolita...	\$32,374.38	5713 W. J...	Milwaukee	WI	53202-5713
Drop-Ship Purchase Orde	Country Vi...	\$32,344.37	71 Albert ...	Palmersto...		
	Holling Com...	\$31,767.14	114 Sugar...	Columbia	MO	65201-3846
	St. Patrick'...	\$30,623.84	253 Phillip	Melbourne	VIC	3000
	Castle Inn ...	\$30,039.67	264 103 A...	Ottawa	ON	K4T 8W2
	Reynolds S...	\$29,406.12	411 Colleg...	Benton Ha...	MI	49022-9090
	S & S Prop...	\$28,076.47	2190 S. R...	Detroit	MI	48233-2190

Query "Outstanding Balance Customers" has finished processing. Displaying 93 of 93 rows.



## **Appendix P: Salesfroce.com awards**

Salesforce.com has received considerable recognition in the industry, including:

- Technology of the Year (InfoWorld, 2004, 2005, 2006)
- Editors' Choice Award (PC Magazine, 2002, 2003, 2004)
- Visionary Award (SDForum, 2004)
- Best of the Web (Forbes, 2003)
- CRM Excellence Award (Customer Interaction Solutions, 2003, 2004, 2005, 2006)
- Top 100 Innovators Award (Business Week, 2006)
- Innovation Award (AMR Research, 2005)
- CODIE Award for Best CRM (2002, 2003, 2004, 2005, 2006)

## Appendix Q: Salesforce.com financials

View: **Annual Data** | Quarterly Data<sup>17</sup>

All numbers in thousands

PERIOD ENDING	31-Jan-06	31-Jan-05	31-Jan-04
<b>Total Revenue</b>	<b>309,857</b>	<b>176,375</b>	<b>96,023</b>
Cost of Revenue	69,126	33,454	17,273
<b>Gross Profit</b>	<b>240,731</b>	<b>142,921</b>	<b>78,750</b>
Operating Expenses			
Research Development	23,330	9,822	6,962
Selling General and Administrative	197,299	126,579	71,515
Non Recurring	-	-	(3,445)
Others	-	-	-
Total Operating Expenses	-	-	-
<b>Operating Income or Loss</b>	<b>20,102</b>	<b>6,520</b>	<b>3,718</b>
Income from Continuing Operations			
Total Other Income/Expenses Net	8,165	2,670	543
Earnings Before Interest And Taxes	28,267	9,190	4,261
Interest Expense	69	37	22
Income Before Tax	28,198	9,153	4,239
Income Tax Expense	(1,310)	1,217	541
Minority Interest	(1,034)	(590)	(184)
Net Income From Continuing Ops	28,474	7,346	3,514
Non-recurring Events			
Discontinued Operations	-	-	-
Extraordinary Items	-	-	-
Effect Of Accounting Changes	-	-	-
Other Items	-	-	-

<sup>17</sup> <http://finance.yahoo.com/q/is?s=CRM&annual>

<b>Net Income</b>	<b>28,474</b>	<b>7,346</b>	<b>3,514</b>
Preferred Stock And Other Adjustments	-	-	-
<b>Net Income Applicable To Common Shares</b>	<b>\$28,474</b>	<b>\$7,346</b>	<b>\$3,514</b>

### **Financials<sup>18</sup>**

(In millions of USD)

#### Balance Sheet

Total Current Assets	355.93	303.22	178.72
Total Assets	555.69	434.75	280.50
Total Current Liabilities	294.29	234.62	131.67
Total Liabilities	299.31	238.38	135.37
Total Equity	256.38	196.37	145.13

#### Cash Flow

Net Income/Starting Line	0.34	28.47	7.35
Cash from Operating	30.63	95.89	55.87
Cash from Investing	-125.29	-47.80	-149.20
Cash from Financing	14.87	15.82	118.85
Net Change in Cash	-79.67	64.11	25.27

#### **Key Stats & Ratios**

	Quarterly (Oct '06)	Annual (2006)	Annual (TTM)
Net Profit Margin	0.69%	9.52%	1.73%
Operating Margin	-0.10%	6.49%	0.84%
EBITD Margin	-	8.43%	3.40%
Return on Average Assets	0.68%	8.25%	1.68%
Return on Average Equity	0.56%	16.68%	2.70%
Employees	1,304	-	-

<sup>18</sup> <http://finance.google.com/finance?q=CRM> – Accessed on January 2, 2007

# Appendix R: Salesforce.com: Ecosystem

## **Partners:** Expanding Possibilities

Creating unique solutions that expand the possibilities for Salesforce CRM customers is what our partners do best. They represent a dynamic network of expert resources in a wide range of categories:

### AppExchange Partners

Salesforce.com offers a platform and marketplace for independent software vendors (ISVs) to develop and distribute applications to the largest audience of on-demand subscribers in the world. Over 200 developers have already built applications on salesforce.com's on-demand Apex platform and successfully brought them to market on the AppExchange.

### Consulting Partners

Salesforce.com partners with highly qualified consulting partners to help ensure your complex CRM implementations are successful from Day One. Our partners in [APAC](#), [EMEA](#) and the [U.S.](#) provide business process redesign, training, industry solutions experience, consultancy, and management services.

### Referral Partners

Partners who generate leads and customer referrals with intent of closing business through salesforce.com direct sales force. Partners who identify and refer net-new opportunities earn referral fees once the business has closed.

### Strategic Partners

Global strategic partners represent a select group of partners who offer coverage in multiple countries, have extensive internal capabilities and resources, and are identified by salesforce.com as ideal providers for its customers who are expanding their on-demand operations and investments.

<a href="#">Accenture</a>	<a href="#">Satyam</a>
<a href="#">Cisco</a>	<a href="#">Skype</a>
<a href="#">Deloitte</a>	<a href="#">TCS</a>
<a href="#">Intel Corporation</a>	<a href="#">Wipro</a>

### Technology Partners

Salesforce.com technology partners include major device manufacturers and security, integration, and computer telephony integration (CTI) companies with whom salesforce.com is able to develop perfect-fit solutions for specific customer needs.

### Value-added Resellers

Value-added Resellers (VARs) are partners who build, extend, customize, sell, and deliver Salesforce CRM solutions for vertical markets.

## Appendix R: Excerpts from salesfoce.com presentation

