



# The Role of e-business Services as a Differentiator for ISP's

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*IBM Communications Sector Consulting Services*

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## Management Summary

### Traditional Structure and Transformation

Traditional ISP's were primarily involved in the provision of basic Internet services such as dial-up access and email. Consequently, they generated most of their revenue from access and subscription fees. Over the last three years, customer demand for both basic access and a wide range of value added Internet services has expanded rapidly. The phenomenal growth of the market, combined with relatively low barriers to entry has attracted an influx of new entrants. First Generation ISP's have now been joined by a large number of companies, including online service providers (e.g., AOL), phone companies (e.g., AT&T and France Telecom), cable operators (e.g., @home) and content providers (e.g., Bertelsmann and Time Warner). These companies have different strategic objectives and bring with them new business models and competencies. These new entrants and a conflicting set of driving forces are transforming the Internet value chain. Forces such as declining barriers to entry, new technology and expanding customer needs are fragmenting the value chain. While globalization, competition and commoditization are driving industry consolidation. These conflicting forces make it difficult to predict the ultimate structure of the market. However, it is clear that continued competition and consolidation will shakeout incumbent firms that lack the resources to successfully compete. ISP's that survive the shakeout as independent entities will need to position themselves to benefit from future shifts in the value chain. As the market continues to evolve, incumbent ISPs and new entrants alike will need to innovate in order to survive.

### Leveraging e-business

e-business, that is, the use of Internet technologies, such as intranets and extranets to conduct commerce, improve customer relationships and manage supply chains, is becoming the fundamental driver of demand for IT services. Companies in all sectors of the economy are seeking to leverage e-business to transform their value creation and delivery systems. Web-based technologies are being rapidly deployed to streamline and improve mission critical processes and systems. However, the blurring pace of technological innovation and mounting complexity are straining the internal IT resources of even the biggest companies. These business and technical challenges are creating new opportunities for ISP's. e-business is increasing opportunities for ISPs to diversify their revenue streams and boost margins by expanding their service portfolios with value-added services. Web technology is also providing ISPs with new applications to improve their mission critical support systems and infrastructure to achieve unprecedented efficiencies.

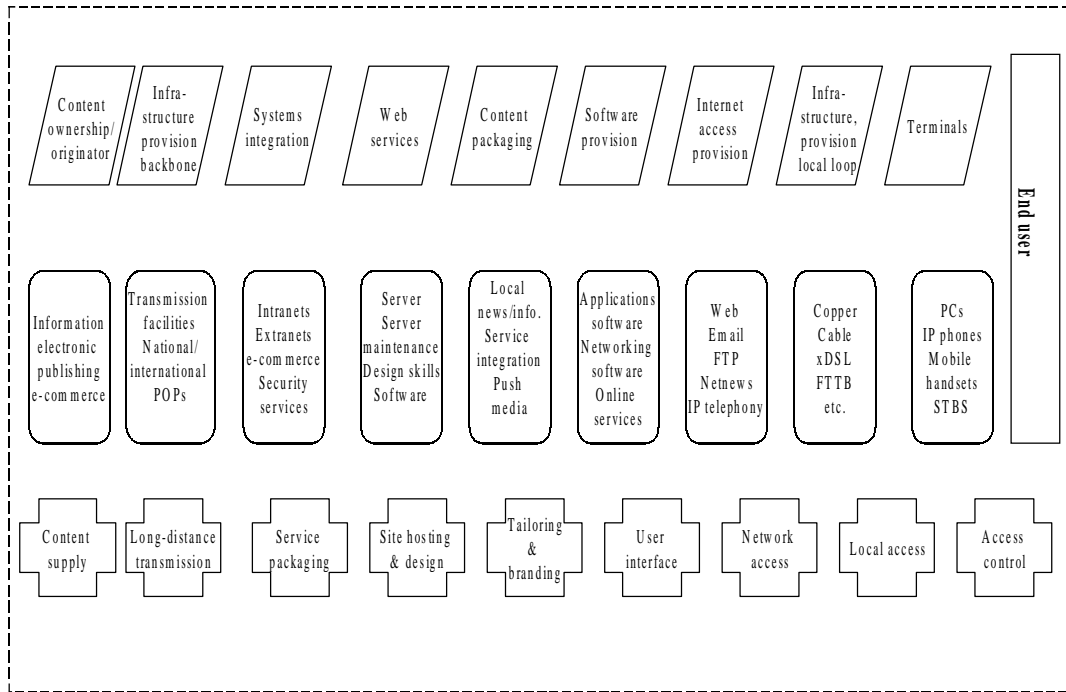
### The Value of a Relationship

Many ISPs, however, currently lack the e-business expertise and resources to take full advantage of rapidly expanding e-business opportunities. These companies will need to forge strategic relationships with an e-business specialist such as IBM, in order to acquire the skills and resources necessary to take full advantage of their burgeoning opportunities. IBM's end-to-end e-business capabilities make us ideally suited to help ISPs leverage e-business to meet the needs of their customers, develop new sources of competitive advantage and enhance shareholder value.

## Industry Structure

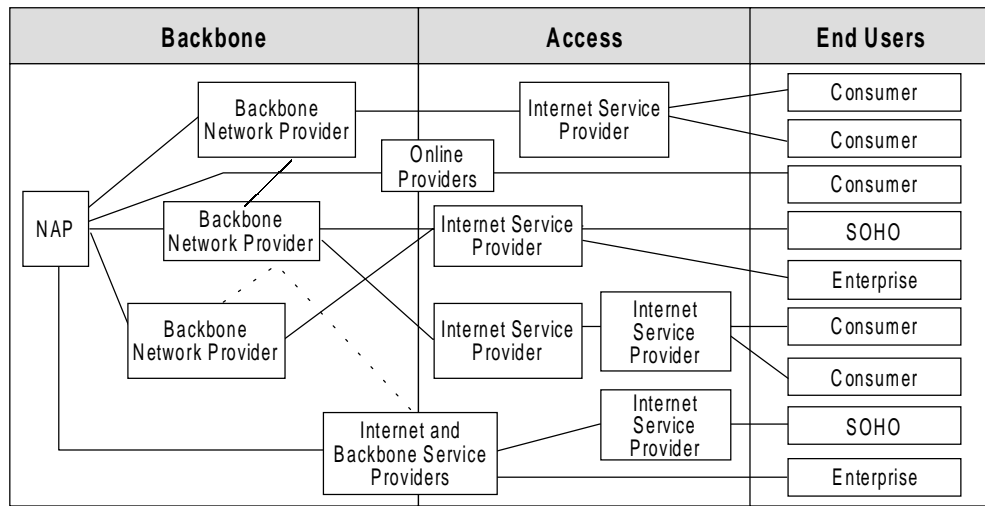
An Internet Service Provider is essentially a communications provider whose core revenue stream is generated by the billable use of the Internet network facility. Figure 1 provides a high-level illustration of the generic Internet value chain.

**Figure 1: Internet Value Chain (source: Analysis)**



A multi-tier delivery model exists today (see Figure 2), with a high concentration of ISP's at the backbone level and basic access level.

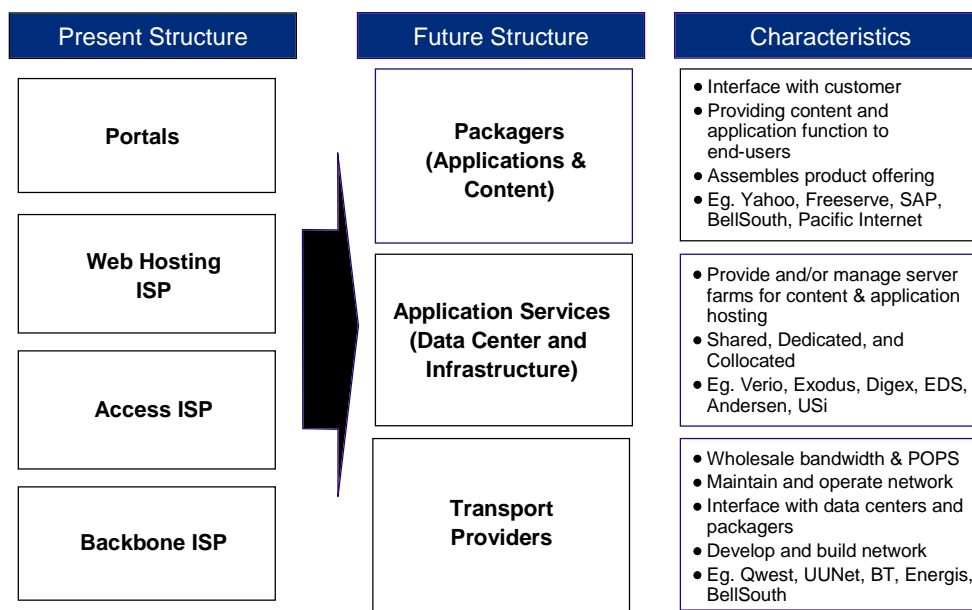
**Figure 2: Multi-tier Internet Delivery Structure (source: IBM Consulting)**



## Segmentation

Currently, a range of companies is providing Internet services. The first commercial providers were independent ISP's and telcos. Today these companies have been joined by a large number of new entrants including cable operators, media companies and content providers. Current segmentation models look at the market based on services offered: Access ISP's, Backbone ISP's, Web Hosting ISP's, and Portals. This segmentation was designed to capture the shift towards value-added services and the split between wholesale and retail services. However, increased competition and an accelerated shift to complex, e-business services continue to alter the basic structure of the market. The market seems to be transitioning towards a new competitive structure with new segments emerging. Figure 3 depicts the emerging structure.

**Figure 3: ISP Segment Transformation (source: IBM Consulting)**



The emerging segments are distinct in their competitive focus. Packagers are customer-focused ISP's that interface directly with the consumer, providing content, application function and Internet access. Application Services Providers (Data Center and Infrastructure Operators) provide for and/or manage server farms for content and application hosting. Transport Providers are ISPs that focus on selling wholesale bandwidth and point of presence (POPS) to other ISP's and large businesses. These ISP's own large backbone network facilities, which they develop, build, maintain and operate.

## Competition and Consolidation

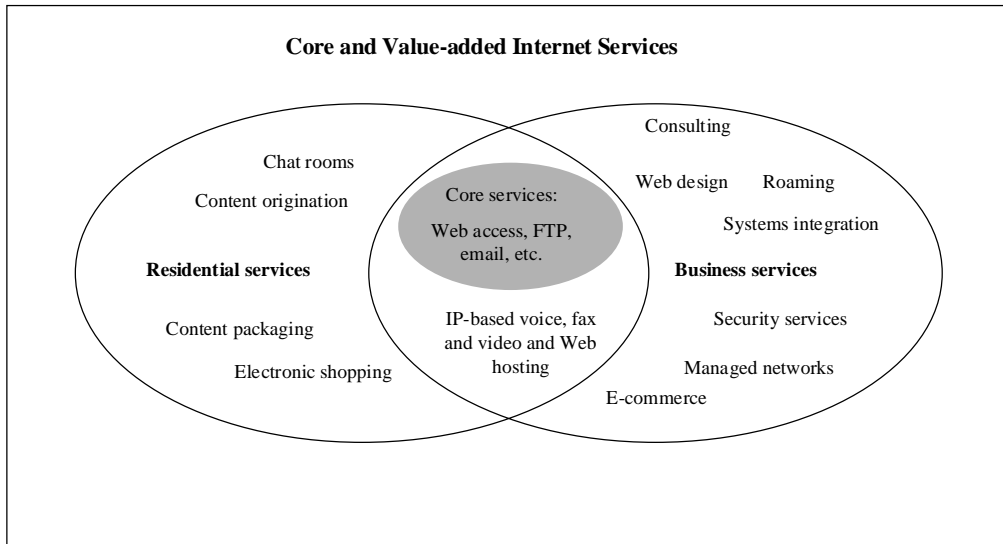
The Internet market has attracted a large number of new entrants because it is a high growth market with relatively low barriers to entry. There are over 4,000 ISP's in the U.S. alone<sup>1</sup>. Although the worldwide market is highly fragmented, there is a distinct group that accounts for the vast majority of the total revenue and is thus very influential in the overall market. This group includes AT&T, MCI/WorldCom and AOL. Driven by the need to gain cost advantages, these large players are aggressively seeking economies of scale and market share. As a result, the industry is beginning to experience significant consolidation.

<sup>1</sup> The McKenna Group, 1999

## Service Offerings

ISP's are offering a wide range of services, from basic access to complex value-added services. Figure 4 shows the major service elements being offered by ISP's.

**Figure 4: Core and Value Added Internet Services (source: Analysys)**



At present, most ISP's are focused on the basic services that generally have low margins and are becoming commoditized. Figure 5 shows the current percentage of ISP's offering the top five Internet services.

**Figure 5: Revenue contribution of the Top Five Internet Services**

Service	Percent of ISP's Offering
Access (Dial-up & Dedicated)	75%
Web Hosting	70%
Other Connectivity services	49%
e-commerce enablement	37%
Other Professional/Value-added services	34%

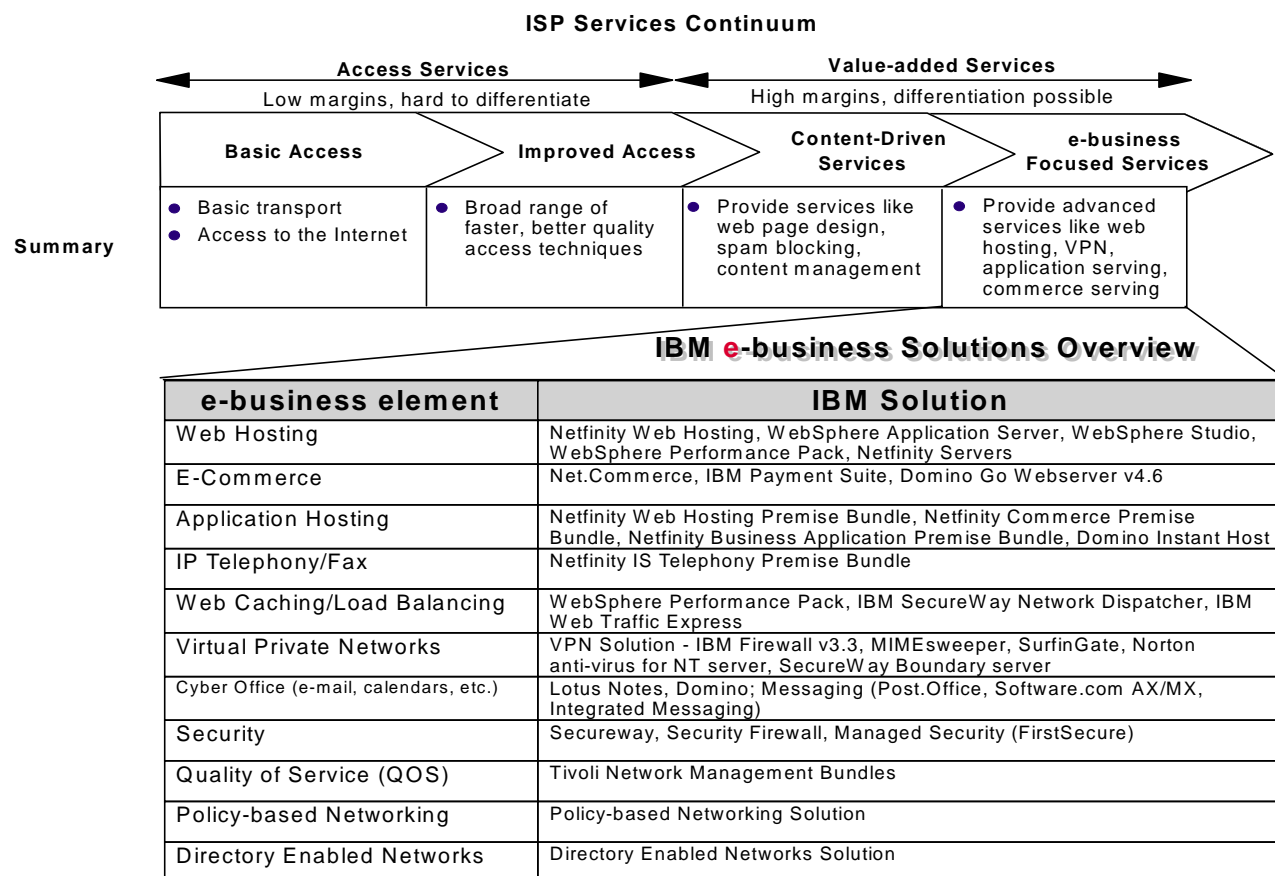
Source: The McKenna Group

Although there is still strong growth in basic access, margins have declined significantly due to competitive pressures. Many ISP's have begun to price this service at cost in order to "buy" market share. Web hosting margins have also been squeezed by the proliferation of small shops designing very inexpensive web pages for customers. As a result, ISP's are looking to diversify their revenue streams with higher margin, value-added services. e-business specialists such as IBM understand the complex technology that will help ISP's develop and market value-added, Internet services (see Appendix 1).

The IBM e-business portfolio is the summary of key IBM products and services that can be combined with each other to create value-added services (see Figure 6).

**Figure 6 – IBM e-business Solutions for ISP**

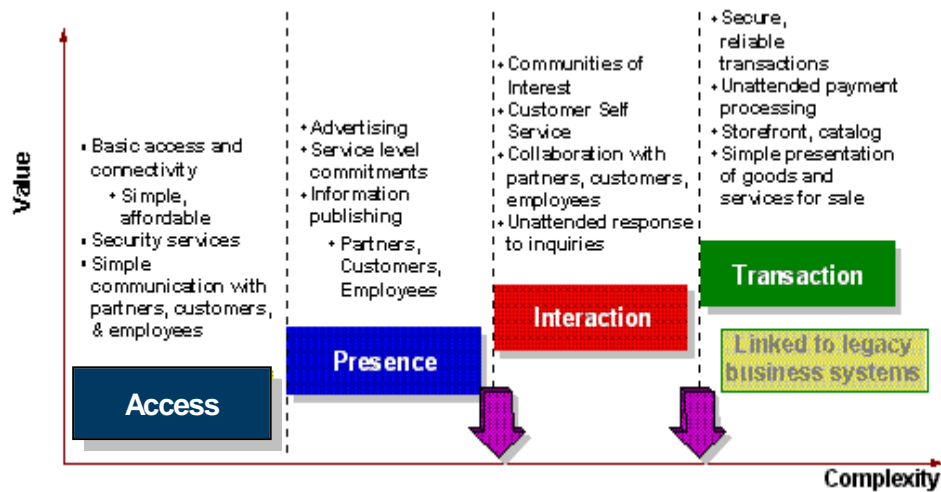
Source: The McKenna Group interviews and analysis



## e-business will be the Primary Driver of Demand for Internet Services

Companies in all sectors of the economy are making the transition to a networked, global economy. Recognizing that Web-based technologies are becoming key enablers to their mission critical business processes, many companies are moving beyond basic Internet services to more complex e-business services (see Figure 7).

**Figure 7: e-business Value to Complexity Stages (source: IBM Consulting)**



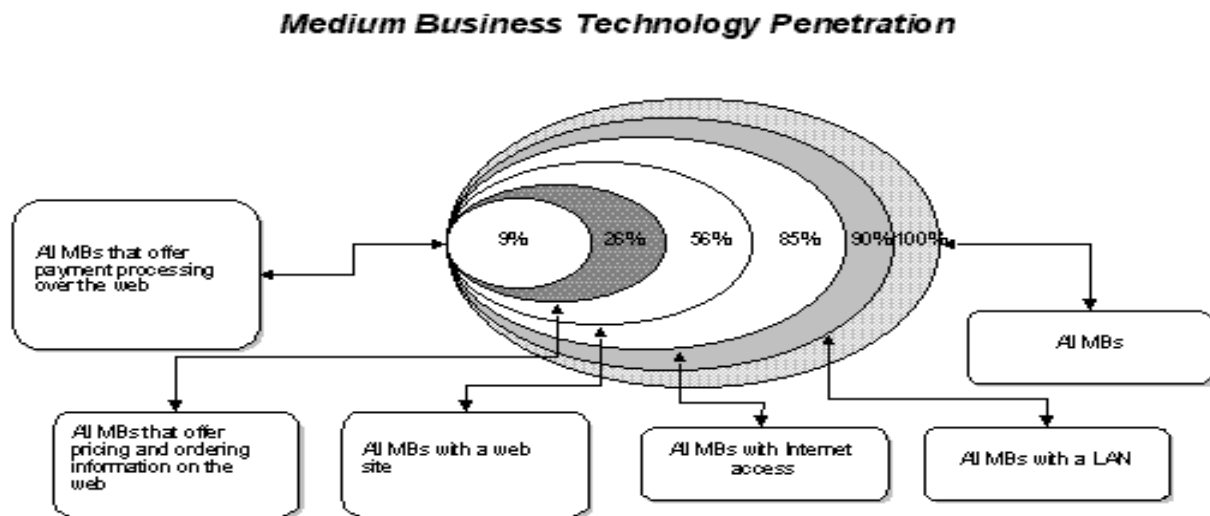
Companies seeking to leverage e-business to streamline and optimize their business face a new set of challenges for which they are not well prepared. These challenges include the following:

- ❑ **Economics:** e-business is fundamentally altering the underlying economics of business. Web-based technologies are providing new opportunities for companies to increase their efficiency by eliminating significant cost elements from their business models, while expanding the scope and scale of their operations.
- ❑ **Competition:** The Web is intensifying competition. Internet-based products, services and channels increase competition by lowering barriers to entry and blurring traditional industry distinctions. In addition, as early adopters start to reap the benefits of their Internet investments, competitors are coming under intense pressure to initiate some kind of response.
- ❑ **Customer Value:** Web technology has created a new, direct channel to the consumer. The penetration of the Internet has increased the opportunity to effectively channel marketing efforts.

## Small and Medium Business are a Growing Opportunity

Although businesses in all sectors of the economy are making the transition to e-business enabled processes, the rate of adoption of Web-based technologies differs between large businesses and small and medium businesses (SMB's) as well as across industries. While the demand for e-business services will grow strongly in aggregate terms, current levels of e-business technology penetration and mounting competitive pressures in the SMB marketplace indicate that SMB demand for e-business offerings will grow rapidly in the future. Figure 8 depicts current penetration rates of Internet technologies for medium businesses (businesses with 500 –1000 employees).

**Figure 8: Medium Business Technology Penetration (source: IDC)**



Currently, the SMB market constitutes 45 percent of the total IT market, and is growing at 13 percent (compared with a total IT market growth of 10 percent). The growth of SMB spending on e-business solutions and services is even more aggressive. According to IDC, SMB spending on e-business offerings and services is currently valued at \$36B, and is growing at 48% (CAGR)<sup>2</sup>. Although there is significant overlap, SMB e-business wants and needs differ by segment. Driven by mounting competitive and economic pressure, the following sectors will invest heavily in value-added e-business services to address their specific business issues over the next three years:

- **Retail:** Retailers are trying to figure out how to expand revenue and profitability. Hence, their main business goal is to build customer loyalty and translate that loyalty into profits. The Internet presents retailers with a new channel that fits their customers' evolving lifestyle. Driven by these business imperatives, retailers will continue to seek assistance from third-party providers in areas such as web hosting, e-commerce, integration services and security applications. Retailers will also seek consulting services in all phases of the e-commerce life cycle, from web site design to a full-fledged e-commerce operation.
- **Financial Services:** Banking, insurance, credit card holding, investment and brokerage, has shown consistent commitment to Internet spending. Driven by consolidation, financial services firms are facing intense pressures to increase efficiency. e-business solutions and services are seen as a means

<sup>2</sup> Telechoice, October, 1998

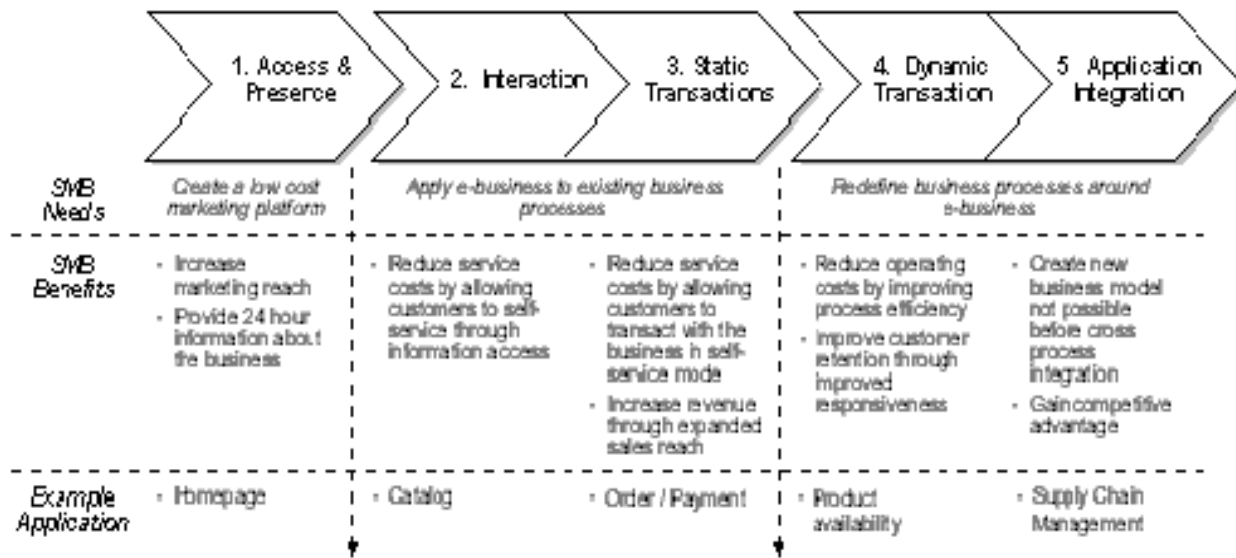


to streamline operations and cut costs, while increasing revenue-generating opportunities. Internet spending will likely revolve around maintenance and operational functions, security applications, database related products and services and outsourcing services. The opportunities for ISP's will continue to be abundant.

- ❑ **Manufacturing:** Web-based applications provide opportunities for manufacturers to drive significant costs out of their supply chain. Optimizing business relationships via e-business is returning big paybacks for manufactures. Manufacturers will require scaleable e-commerce solutions and reliable operation management services. They will also continue to invest in integration services and security applications.
- ❑ **Health care:** Health care has significantly increased its spending on e-business services. Driven by industry reform that has required them to operate as for-profit organizations, health care providers are making investments in Web-based technology to trim operational expenses and improve customer experience.
- ❑ **Other:** Many other industries are beginning to use e-business services, including hospitality, travel and tourism, and real estate.

SMB's in these sectors will rapidly follow their larger counterparts along the e-business life cycle, thereby driving a second round of demand for value-added e-business offerings and services (see figure 9).

Figure 9: The e-business Service Continuum (source: IBM Consulting)



## ISP Opportunities and Challenges

As businesses mature along the e-business life cycle, from basic access and presence, to complex interaction and transaction, they are facing several constraints. Executive level decision makers are still trying to figure out their strategies for leveraging e-business as a means of transforming the fundamental structure of their value creation and delivery systems. At a more tactical level, corporate Information Technology (IT) departments are struggling to keep pace with the rapid pace of technology change including deploying Web-based technologies in mission critical processes and hiring people with the needed skills to run and upgrade their Web-enabled systems. Furthermore, as e-business applications become more mission critical, business are finding it increasingly challenging to manage the complexity while focusing on creating value. These business and technical challenges are creating new opportunities and challenges for ISP's. These opportunities and challenges can be grouped into three broad categories:

- ❑ **Customer Acquisition:** ISP's will need to acquire and support fewer, larger and more demanding customers. ISP's, particularly those seeking to move away from the consumer market, need to be able to sell to business executives in corporations, who have very different purchase criteria. ISP's will therefore need to develop a more sophisticated understanding of customer needs.
- ❑ **Technology Infrastructure and Operations:** Corporate users require higher speed and performance services. This requires a different set of technologies and skills. ISP's will need to upgrade their technical capabilities to keep pace with the technical sophistication of their value-added service offerings.
- ❑ **Customer Care and Support:** ISP's will need to provide more personalized and dedicated support in order to differentiate themselves as they shift their focus to business customers. Reliability and quality of service will become critical in acquiring and retaining a base of profitable customers.

## The Value of Partnership

e-business specialists such as IBM are well positioned to provide ISP's with end-to-end assistance in meeting these challenges. ISP's that forge alliances will gain assistance in three related areas:

- ❑ **Thought Leadership:** At the strategic level, e-business specialists help ISP's understand how e-business is changing their environment, and can assist them in developing appropriate responses.
- ❑ **Business Growth:** e-business providers can assist ISP's in rapidly transitioning from basic access provisioning services to the value-added segment of the ISP Services Continuum. IBM can provide a complete e-business portfolio, which ISP's will be able to leverage to develop value-added e-business offerings.
- ❑ **Transformation and Business Performance:** e-business providers can help ISP's to improve their core capabilities by assisting them in implementing integrated solutions of hardware, software and services.

Over time, ISP's that successfully leverage their strategic partner relationships will realize significant benefits such as the following:

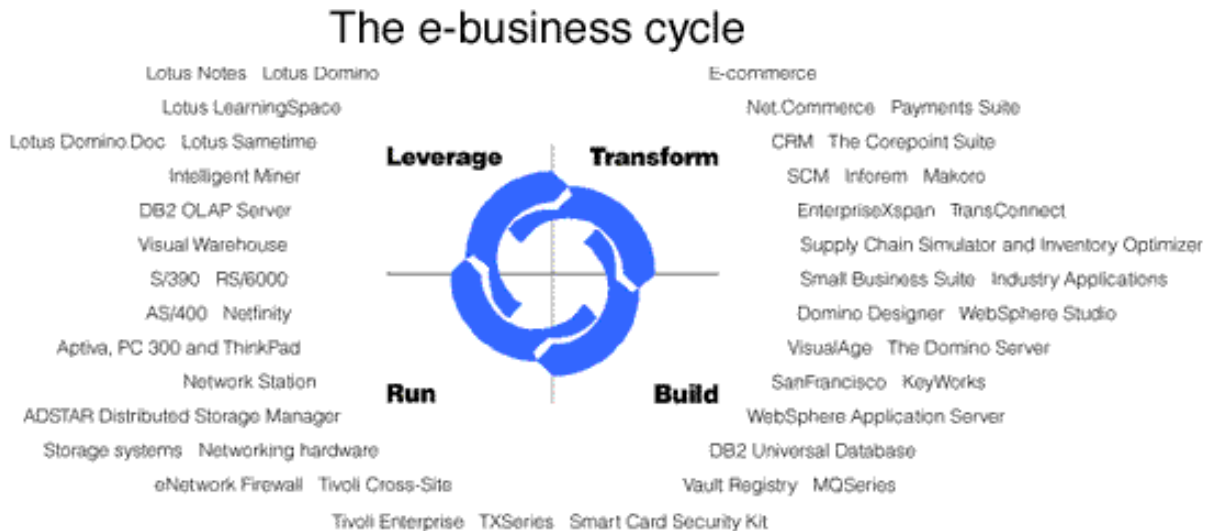
- ❑ **Differentiate and/or Compete on Value.** Value-added e-business solutions and services will become a key differentiator for ISP's. Companies will increasingly look to e-business as a means of differentiating themselves. Successful differentiation will require tough choices. Competitors will need to determine which e-business offerings best meet the needs of their target customer groups and

develop strategies to deliver those offerings. Companies that implement focused strategies and execute them well will survive over the long term.

- **Attract and Retain a Loyal base of Profitable Customers.** ISP's that leverage e-business to configure their value proposition will attract valuable customers. Over the long term, the accumulated knowledge of the customers' environment can be leveraged as a defense against competitive attacks, thereby reducing churn.
- **Achieve Profitable Growth.** Basic Internet services, such as access, are becoming commodities. This is increasing the need for ISP's to market high margin, value-added offerings. e-business solutions enable ISP's to successfully diversify their revenue streams and earn higher margins.

Over time, strategic partnerships will become a key source of competitive advantage for ISP's delivering value-added services to their SMB customers. ISP's that successfully leverage the full potential of these alliances will develop sound e-business strategies, highly differentiated offerings and efficient operations. They will experience higher margins and greater levels of customer loyalty.

## Appendix 1 - The IBM e-business cycle



The e-business cycle describes IBM's approach to helping small and medium business become and grow as e-businesses. e-business will allow ISP's to expand their business opportunities by helping small and medium businesses migrate to the web. IBM will assist ISP's and their SMB customers across the entire e-business service spectrum through the use of the e-business cycle. ISP's will be able to assist their customers with basic tasks such as establishing a Web presence, to more challenging offerings such as hosted or value-added services. The cycle consists of four major areas:

- ❑ **Transform core business processes:** IBM will assist ISP's in creating maximum value by applying Internet technologies. We help create the vision, and supply the solutions and services that will help companies achieve maximum value.
- ❑ **Build new applications:** Transforming core business processes requires a new generation of applications. They run on servers, leverage existing applications and data and scale to meet user demands. Our e-business application framework is designed to help companies build and deploy a new generation of applications that are open, flexible and easy to change.
- ❑ **Run a scalable, available, safe environment:** Businesses are looking for a better return on investment. Users want systems that are easy to use, yet always responsive. Our solution is to provide an environment with scalable servers, flexible clients and advanced storage devices -- all handled in a secure, manageable way.
- ❑ **Leverage knowledge and information:** It is about creating a responsive organization that makes intelligent use of all types of data and organizational knowledge. e-business allows companies to use data as a weapon (profiling, personalization). IBM has the expertise to create faster, smarter organizations.