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Soaring High: A Strategic Framework for IP Services from a Service Provider Perspective

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Introduction

The rapid evolution of Internet business has driven telecommunications carriers and Internet service providers (ISPs) to take a fresh look at this emerging global market opportunity. These "service providers" are positioning themselves to take advantage of this opportunity by investing in new Internet Protocol (IP) technology to build a high-bandwidth, high-speed fiber transmission infrastructure composed of the latest core switches and high-performance routers. The challenge the service providers are facing is how to develop and deploy competitive IP products and services quickly with limited resources, while leveraging their infrastructure investment and driving revenues and profitability.

The objective of this paper is to identify the business drivers shaping "new world" service providers, and structure these forces into a business model framework. This exercise will enable service providers to analyze the impact of these issues on their strategies and provide them with a direction to navigate towards their business goals.

The Market Drivers

Since the advent of the Internet, the world has become a virtual village. Geographic and political boundaries have become less significant in a global electronic commerce environment. This has created an enormous market opportunity for suppliers and consumers worldwide.

This "new world" order has created tremendous business opportunities for established telecommunications carriers and a new generation of service providers, who provide broadband access, and transmission facilities to ensure connectivity, and are increasingly packaging the transaction applications necessary to facilitate electronic commerce across their networks.

The following drivers have fueled this rapidly growing marketplace:

- Technology: New generation of IP-specific network equipment, protocols and standards
- Personal computer: Distributed computing power and its proliferation commercially and among consumers
- Applications: Powerful enterprise application engines and other e-commerce tools
- Deregulation: Government policies encouraging new competition and economic prosperity

Technology: The Internet is revolutionizing the way we think, live, and work. The exponential growth of the Internet has put tremendous pressure on public and private network resources. Pioneers of the Internet are coming up with new methodologies, standards, protocols, technologies and other mechanisms to address this issue. A variety of standards committees are working to ensure that the latest breed of network infrastructure technologies provide superior performance, capacity and scalability to cope with present and future bandwidth requirements. If their efforts are successful, it will encourage a new generation of IP products and services.

Personal Computer: The ubiquitous presence of the personal computer in almost every household in developed countries, and its expanding acceptance in developing countries, has created a market beyond comprehension. The cheap availability of processing power, memory and other accessories has unleashed a powerful device into the hands of the consumers. Furthermore, the ability to connect to the Internet from anywhere with a computer and a modem has created new ways to transact business.

Applications: The open standard and global acceptance of IP have enabled application developers to generate innovative and commercially viable electronic commerce applications that can be quickly adopted worldwide. This has produced cost-effective applications that are user friendly and that can achieve complex tasks that were unthinkable in the recent past. Applications with simple user interfaces have also brought new life to legacy systems. Powerful enterprise application engines as well as application protocols and languages like HTML and Java, with plug and play modules, have created new functional tools and multimedia capabilities. New security standards and data encryption technologies have made e-commerce safer. All of these have created an ideal environment for Internet business.

Deregulation: These trends are challenging government regulatory bodies, national and international, to re-evaluate their policies. The U.S. Telecommunications Act of 1996 set the standard for deregulation worldwide. This deregulation has created a rapidly changing market that is attracting innovative data networking systems and new access services to consumers and enterprises. Similar deregulation elsewhere has resulted in a significant increase in competitive carriers and competing services and will create an open market environment for new IP products and services.

The "Soaring High" Framework

While the opportunities created by these forces are attractive, the challenges posed by the IP services market are enormous. Developing the right services, investing in the right technologies, and delivering the right level of quality is no easy task.

The broadband Internet access marketplace can be categorized into two groups: providers and consumers. The provider can be either an access provider or a content provider. Access providers set up broadband network infrastructures and connect users, while content providers develop and deliver applications to customers. Consumers can be classified into three categories: 1) consumer to enterprise 2) inter-enterprise and 3) intra-enterprise.

Many service providers have invested significant capital in their network infrastructures and are trying to develop innovative services to ensure a return on investment (ROI) without a solid business model in place.

The "Soaring High" framework described in the following pages identifies key components and drivers for building the "new world" service provider business model. This framework is depicted in Figure 1, resembling a bird flying high with agility and strength to steer towards its goal. This analogy is used to help service providers evaluate their strategic initiatives and fly high above their competition with a sharp eye on the market. The following is a description of the critical components of the framework.

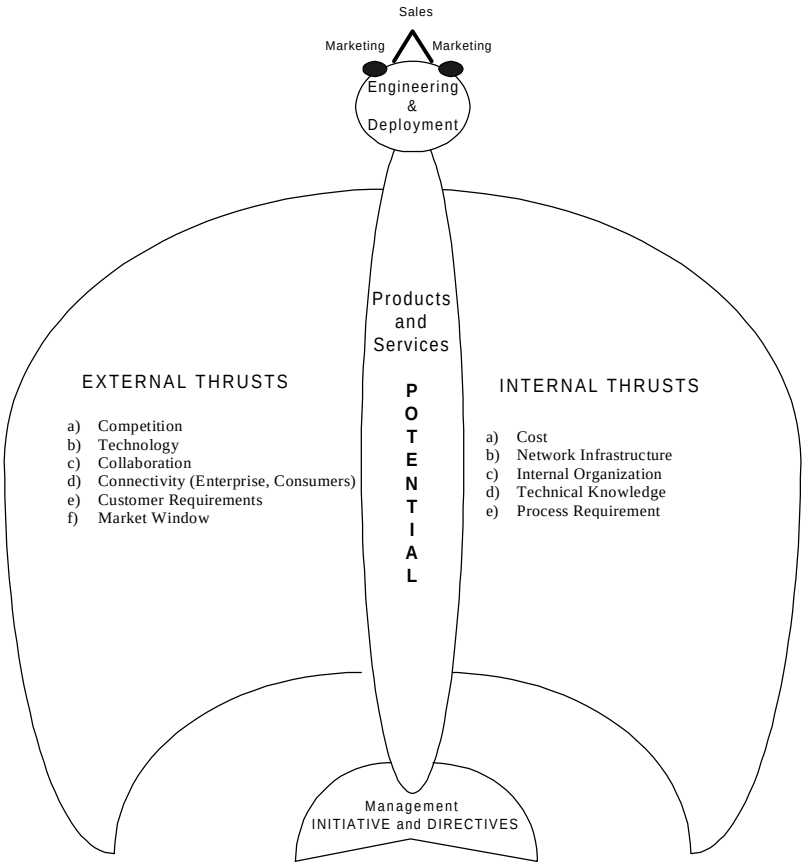

Figure 1: Soaring High Framework

1. *External Thrusts*: These are the external drivers that represent one wing, which provide critical thrust and need careful evaluation. They are:

   - Competition: Since this market place is *virtually* global and dynamic, the challenge is very high. Competition will be very complex. Cost-effective and efficient products, which meet enterprise and customer requirements, will be essential to penetrate the market. Customized support of these products and other value-added services will help the service provider rise above its competition.

   - Technology: Selection and implementation of the right technology will be crucial to success. Assessing the technology risks and addressing them successfully will distinguish the service provider from the competition.

   - Collaboration: Building working relationships with key players in the market that complement the service provider's core capabilities will strengthen its position in the market.

   - Connectivity: Reaching new customers and enterprises by providing connectivity with value-added services is the first step in establishing a market presence. In order to grow that base, the supporting network infrastructure and staffing model must be efficient, easy to maintain, and scalable to cope with escalating demand.

   - Customer Requirements: Enterprise and consumer requirements need to be identified and continuously reassessed. Building feedback mechanisms into the service delivery model is essential to stay abreast of rapidly changing requirements.

- Market Window: Internet time is unlike any other measure of business opportunity. Therefore, service providers must act quickly and leverage internal and external resources to accelerate their rollout efforts and reduce their time to market.

2. *Internal Thrusts*: The internal drivers constitute another wing of INS' analytical framework. The following are the key internal components:

   - Cost: Technology, staffing, and marketing investments must be properly allocated and controlled. These costs can be streamlined given the right technologies, processes, and skills.

   - Network Infrastructure: Matching hardware and software requirements with the business objectives of the service provider is essential, at both the transmission services and centralized operations center levels.

   - Internal Organization: Coordination between the service provider's key internal departments is vital to success. The Strategic Marketing, Operations, Services, Implementation, and Maintenance and Sales organizations need to exchange information and establish proper communication channels to stay on course.

   - Technical Knowledge and Skill Set: The technical knowledge and skilled resources of the internal staff are indispensable to the service provider's success. These will provide the energy to run the business engine. Attracting and sustaining them and in a highly competitive market should be one of the key priorities. Ongoing training and education should be provided to keep the technical staff in the forefront of technology changes.

   - Process Requirements: Internal policy and procedure requirements that would impact the business directives must be evaluated. If necessary, internal business processes may need to be re-engineered to meet the new market requirements.

3. *Management Initiatives and Directives*: Management initiatives and directives are positioned in the tail section of the reference model because they act as rudder, elevator and ailerons to provide the maneuvering capabilities to successfully execute the strategic vision of the company. Management should consider adopting the "Judo Strategy" described by Michael A. Cusumano and David B. Yoffie in their book, "Competing on Internet Time: Lessons from Netscape and Its Battle with Microsoft." In this book, they state that a company's strategy should be constructed to enable rapid movement into the marketplace, and it should provide the flexibility to maneuver into new areas when threatened.

4. *IP Products and Services*: The main body of this framework is centered on the IP technologies and solutions offerings that the service provider intends to launch into the marketplace. This core component can be divided into two parts: 1) existing services, and 2) the IP product and services potential. Figure 2 depicts a model that can be used to explore new IP products and services. For example, we can examine a specific market segment and derive possible IP products and services to appeal to that segment.

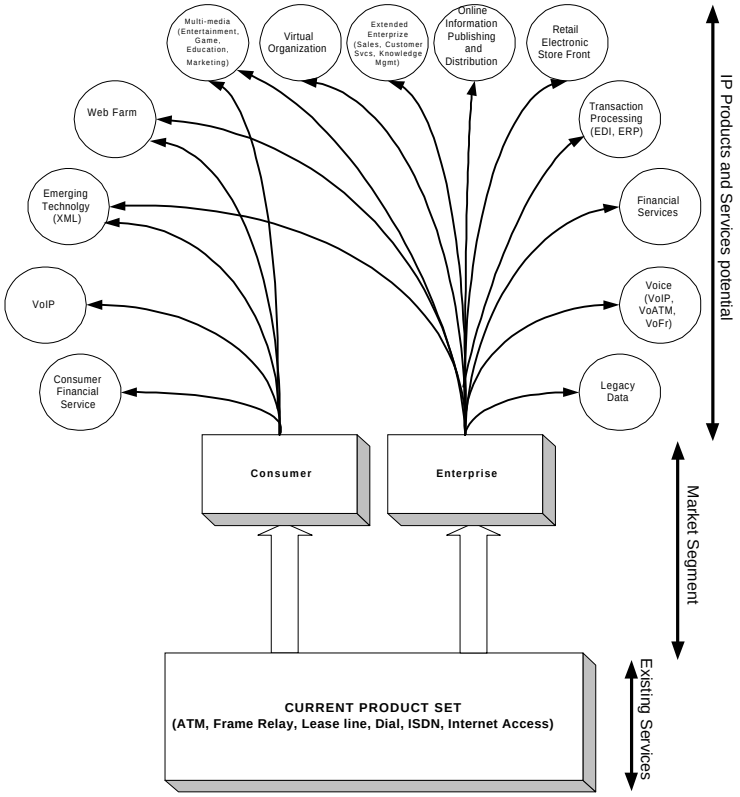

Figure 2: New IP Products and Services Generation Model

5. *Engineering and Deployment*: The new product design, development and deployment activities constitute the "head" in the INS framework. Market intelligence will be required to identify and launch new products and services with faster cycles. The "head" has to be up and alert to keep the initiative flying. Efficient products and services need to be developed very quickly by transforming existing technologies and capabilities, adopting new technologies, and leveraging third-party capabilities. The user's confidence, acceptance and price sensitivity of new products and services have to be validated through proper testing.
6. *Marketing and Sales*: The marketing function serves as the "eye" and sales as the "beak" in the model. It is essential that the eyes should be focused on the market always. This will provide information to management to adjust the service offerings and marketing efforts. Sales will use the "beak" to penetrate the market.

Conclusion

Organizations should consider migrating to new world IP products and services based on the following criteria:

- Business Case: Examining the business drivers from e-commerce, extranet and other emerging IP-based applications that will force enterprises to adopt new market strategies.
- Cost and Risk: Analyzing the cost and complexity of the business critical applications that will drive enterprises away from traditional IP-based solutions.

- Network Complexity: Understanding the complex topology requirements, broadband Internet access issues, and network management challenges that will be critical to operational success.

The "Soaring High" framework can be used as a reference model for analyzing these issues or making strategic decisions about business objectives and IP product and service offerings. The bird analogy has been used to model the strategic initiatives for new world service providers. The vital elements of the strategic initiative have been identified and functionally mapped to symbolize different body parts of a bird. The wings provide the main thrust to fly high and to recognize issues associated with the external and internal drivers of the organization. The management initiative is the main championing component that provides direction and flexibility to maneuver in the marketplace. IP products and services form the main body and focus of the activity. A versatile model is provided to simulate different IP products and services scenarios. Faster development cycles with innovative products and services will keep the service provider's head up and flying. If implemented properly, these components in concert will provide the service provider organization with greater lift to fly high above the competition with strength and agility, driving them towards greater profitability.

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