

Foreword

For the modern Web-enabled community to grow and prosper, we need to create and deploy communication solutions that can collate an assorted collection of data and applications, while incorporating legacy solutions still in use and allowing for painless migration to future technologies.

For the Application Service Provider (ASP) to grow and prosper they must provide reliable access and integration of independent information, applications, and data stores into dynamic, interactive solutions that delight their customers.

The Web of Change

Technology historian James Burke refers to events that lead to technological advancement as the “Web of Change.” In his numerous books, including *Connections*, *The Day the Universe Changed* (both of which were fantastic series on BBC and The Discovery Channel), and *The Pinball Effect*, Burke brought together disparate and apparently unconnected advancements in engineering, chemistry, and technology to show how these developments lead to unforeseen and unpredictable consequences.

When linking these events together, Burke always brought a sense of logical advancement to technology, while highlighting the haphazard nature of efforts to produce breakthrough results.

As an example of this, Burke explains that there was a need for early American rail systems to coordinate trains. The need was desperate because only a one-track line connected one point to another. As a result, there were numerous accidents from trains traveling in both directions on a single track, as it’s really difficult for two trains speeding along a single set of rails in opposite directions to pass each other (something about two objects cannot occupy the same space at the same time).

To prevent these accidents, railroad companies began deploying telegraphs and creating schedules, which helped to delegate authority for the management of day-to-day business. This created divisions and departments that were far removed from central headquarters and were able to handle things in a geographically closer area. The railroads were able to handle the delivery of goods and products, by ensuring timely delivery. In many cases, different products had different priorities. Perishable products had to be delivered in shorter times than dry goods, for example.

The ability to coordinate the delivery of goods, Burke hypothesized, allowed for the creation of the department store. These new stores were able to offer an array of goods to customers, and the products were now available from far and wide, as geographic constraints were removed. These stores started to use the communications and management techniques that were pioneered by the railroads for managing this increasingly complex inventory of products. Since inventory was likely to include items that had a certain level of timeliness attached to them, department stores sought to manage delivery schedules and set priorities for the arrival of particular items. They did this so that they had competitive advantage by being able to deliver popular items before rival stores could. This led to guaranteed delivery that created strong loyalties among big-spending but impatient customers.

As you can see, there is a close parallel between the events that led to the arrival of the department store and the future of internet service providers (ISPs) and ASPs.

Like the railroad companies, ISPs control the means of transportation; the access to the network, if you will. The railroads could only offer access onto the network of rail lines that they had constructed across the country. With the arrival of more finely tuned services (such as express rail, more reliable schedules, high levels of “uptime,” etc.), railroad customers saw limited benefits.

Today’s ISPs also have to deal with a limited set of goods to offer customers. Initially, bandwidth alone was their stock in trade, and that was the norm because no competitors were offering anything but bandwidth, and no customer was demanding more than that. However, as things progress, companies are requiring a larger array of offerings from their ISP.

Changing the Business

As we look into the deployment of new technologies and how they impact traditional ISPs, it is essential to stress that the Web itself is constantly changing. The future manifestations of the World Wide Web will drive the demand for new ISP businesses such as the ASP model. These new models will drive the changes of the

Web from within. The Web is becoming increasingly frictionless. The Internet is able to spread information to clients that is personalized to meet their specific needs and interests.

In the early use of the Internet as a viable business model, there were no differentiated classes of service to applications. Applications that made money for the company were given the same priority as lesser or nonrevenue-generating applications. In order to counteract this flawed model, the application that generates revenue should have “always on” high-availability status that allows it to meet customer demands. This also allows for the prioritization of different classes for customers, so the businesses that are willing to spend more will gain more robust access than the window shopper.

The Electronic Economy

The electronic economy has provided ISPs with a challenging and demanding Web environment. In 1994, the Internet was mainly used for the publishing of information and related marketing activities of a company. Now, people routinely use the Internet for information gathering on any and all topics. Many companies (even most nontechnical companies) established a presence on the World Wide Web. It was almost like a validation for their existence in a market that was too vast to understand.

Information in these Web sites about offerings and prices of goods and services allowed for a modicum of stickiness. People started to e-mail each other about various sites, and these spikes in attention created traffic, and so on.

In 1997, a new technology was incorporated into the Web. The ability to perform transactions was introduced and configured to work with vendors' Enterprise Resource Planning (ERP) systems, which provided seamless integration with backend systems. End-users were able to buy products and services through their Web browsers. This was a boon and a pariah at the same time.

In this day and age, very few Web sites occupy markets without some form of competition. This is fairly understandable as there is very little barring multiple sites from inhabiting the same markets. Price points and services are the differentiators for these sites. Online vendors are always looking for ways to draw users to their sites, and keep them there. For the most part, goods were sold from fixed-price lists, which is part of the reason that many of the brick and mortar companies were unable to jump directly into the Web economy. As an example, you may go to a store that is part of a nationwide chain. Depending on where you are, the price for an item may be higher or lower. There are several factors as to why this works, such as geograph-

ical economics and relative need in an area. Most Web-enabled vendors have distribution points that are located throughout a region, which allows them to charge a standard rate for the items that are purchased.

The most recent wave of the electronic economy is the movement to the hosted and managed application model. In these models, the issues of scale and reach are less dependent on location and more dependent on the ability to access business applications in a timely manner.

The electronic economy allowed for greater flexibility in the implementation and monitoring of hosted Web servers and gave ISPs the ability to offer a range of services to their customers. This has a ripple effect in that it will in turn create newer business models, which will spawn even more ripples. The intersection of customer demand and new technologies in the electronic economy will allow for more flexible hosting options that will create the same type of explosion in economic activity that consistent, predictable rail service had on dry-good merchants in the nineteenth century.

New Opportunities for Service Providers

Internet service providers are finding new opportunities in the hosting of online transaction sites. These hosting opportunities allow ISPs to offer a full suite of online sales and services, by connecting online commerce databases to their clients' core business software applications.

As it stands now, the simple transfer of applications from the intranet to an ISP as an outsourced service is not the only business model for ISPs to pursue. There is also a trend toward a more granular and complex price-for-service matrix that can extend beyond hardware, software, and access packages that are currently offered by ISPs. The ASP will look for more sophisticated prospects in the form of processing power and transaction-per-second service level agreements (SLAs) for their clients. This book will help ASPs to focus their attention on the optimization of their application environment, while competing on a price for performance matrix with other ASPs.

In conclusion, the future of a well-managed and maintained ASP is bright. The ASPs' best days may yet be ahead of them. ASPs will be able to offer better services, retain and grow their customer base, and generate higher margins and profits.

One of the key elements in creating this next-generation ASP will be the ability to extend its offerings in the uncontrollably changing environment of the World Wide Web. The ASP that can react quickly and efficiently to customers' needs will be the ASP that thrives in the coming years.