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## “2nd Generation ASPs”

### Spotlight Report

September 2000

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# “2nd Generation ASPs” Spotlight Report

This Spotlight Report is Cherry Tree & Co.’s third quarterly research report for 2000 and our second analysis of the Application Service Provider (ASP) segment of the outsourcing market. Please visit our Web site at [www.cherrytreeco.com](http://www.cherrytreeco.com) for previous research reports covering such topics as Business Intelligence, e-Business Development, Extended Enterprise Applications, and our original analysis of the ASP sector.

We have decided to revisit the topic of ASPs for three reasons: (1) we have received great interest in our previous report on the topic; (2) we continue to believe that there is a strong future for ASP related businesses; and (3) a great deal has changed on the ASP competitive landscape. Over the past nine months multiple variations on the basic ASP model have emerged which warrant review and analysis. In addition, the ASP business model is beginning to face serious challenges regarding its viability and broader market acceptance. This report will examine these trends, analyze emerging ASP related business models, and conclude with strategic recommendations for the owners of private software and IT services firms.

track.<sup>1</sup> Since the market correction earlier this year, IT services stocks have returned mixed results. Although stock performance has significantly improved among education and training firms and hosting and infrastructure providers, resellers, staffing firms, and project-based service providers continue to struggle. Web Development firms have been hit particularly hard amid reports of management turnover at *Razorfish* and negative financial news at *Viant* and *Cysive*.

## Revisiting the ASP Revolution

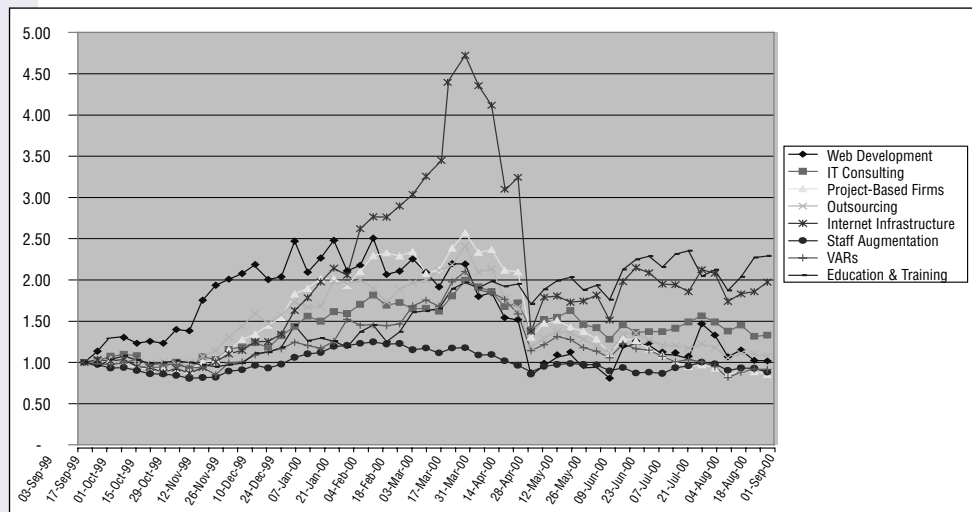
There are a number of reasons why we think it is appropriate to expand upon our previous research efforts in the ASP space. ASP research efforts in 1999 were often hampered by a lack of meaningful data regarding market size, customer demand, or actual application outsourcing revenues generated by companies positioning themselves as ASPs. Currently, with coverage of the ASP market moving beyond the “hype” stage and into more substantive analysis, we believe that we can now comment on some fundamental issues and moving pieces in the market that deserve further consideration.

Our purpose here will focus on clarifying the different ASP related companies that are currently emerging. We are witnessing a large number of variations on the basic ASP value proposition that, in our judgment, point to a promising future for companies that properly

### Stock Market Performance

As part of our quarterly research, Cherry Tree & Co. provides a brief review of the previous twelve months’ stock market performance for all of the different IT services sub-segments that we

IT Services Composite Stock Price Index



Source: Cherry Tree & Co.

<sup>1</sup> A listing of the Cherry Tree & Co. IT Services Research Universe and Sector Definitions are provided in the appendices to this report.

## “2nd Generation ASPs”

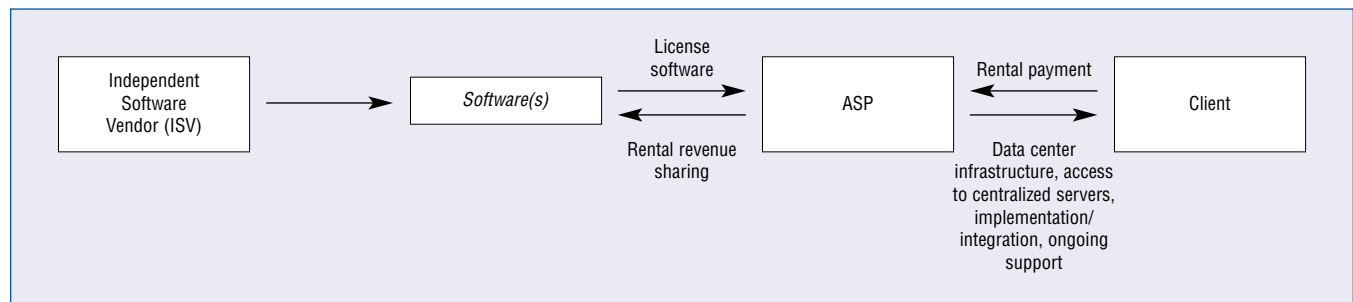
align their hosted solution offering. Before we launch into an extended analysis of these emerging trends we will first review some ASP fundamentals and market statistics that we covered in our previous white paper on the topic.

### ASP Definition

Cherry Tree & Co. defines an application service provider as a *3rd-party service firm which deploys, manages, and remotely hosts a software application through centrally-located servers in a “rental” or lease agreement.*

In its purest sense, the ASP model invokes the delivery of software as a service. In exchange for accessing the application, the client renders rental-like payments. As we articulated in our original report, an ASP facilitates a remote, centrally-managed “rent-an-application” service for the client. The emphasis is placed on the *use not the ownership* of the application. The client no longer owns the application or the responsibilities associated with initial and ongoing maintenance. The client, through an Internet browser, accesses remote, centralized computer servers hosting the application. Only the results from the application are managed locally by the client. **Figure 1** displays a basic depiction of the fundamental ASP relationship. It is important to note that there are multiple variations to this simplified illustration.

**Figure 1.**  
**Basic ASP Relationship**



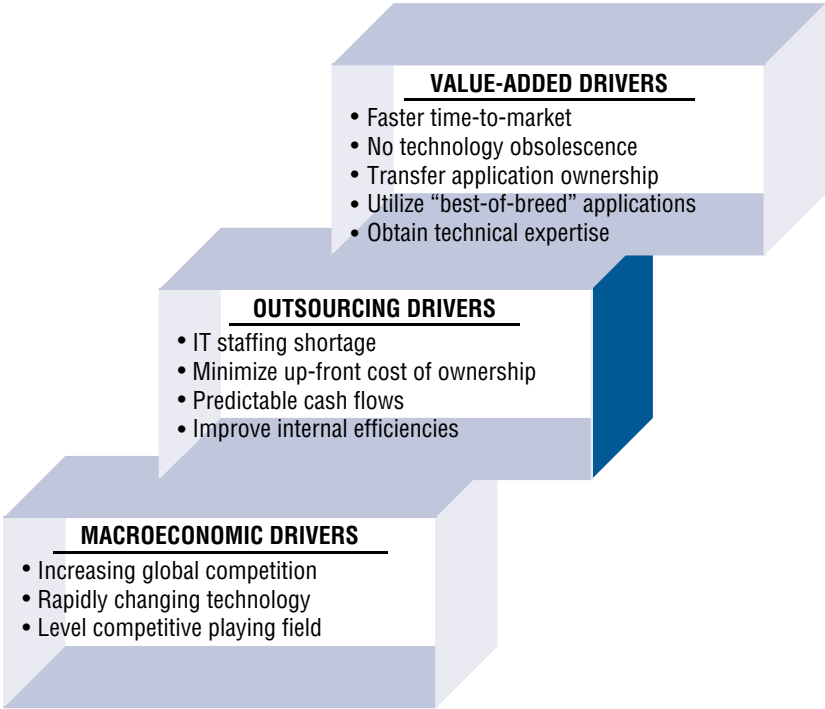
Source: Cherry Tree & Co.

ASPs challenge the current IT ecosystem, our definition of IT services and software businesses, and how we utilize the software that is central to business operations. The ASP model is based upon the notion of a “**one-to-many**” relationship between the ASP and its customers, whereby the ASP is able to leverage standardized solutions across multiple clients.

*ASP Market Drivers*

There are a number of factors that are frequently cited as fueling the growth of the ASP market. **Figure 2** below presents a summary of the primary drivers for the ASP model: for an individual discussion of these drivers, please refer to our first ASP report.

**Figure 2  
Market Drivers for the ASP Model**

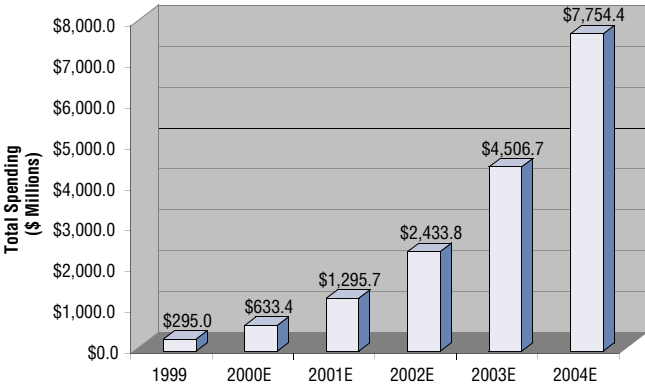


*Source: Cherry Tree & Co.*

*ASP Market Opportunity*

Estimates regarding the size of the ASP market vary widely, with some projections exceeding \$20 billion by 2003. Even more conservative estimates, such as the IDC forecast displayed in **Figure 3**, predict explosive growth in this nascent sector.

**Figure 3.  
Worldwide ASP Market Forecast**

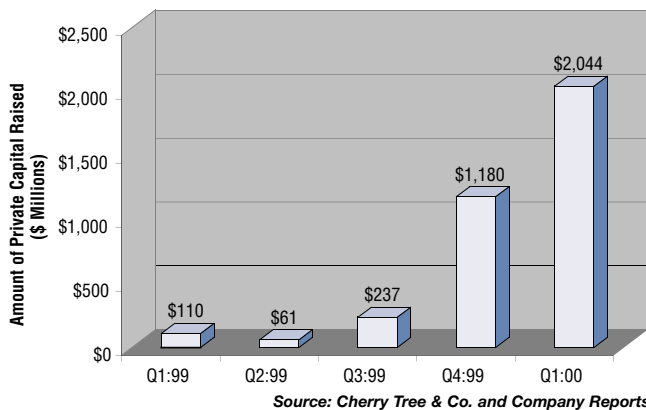


*Source: IDC*

Private Capital Investment

Despite conflicting points of view on the ASP concept, venture capital firms and a variety of other strategic investors have been directing large investments into the ASP space, funding both start-up pure-plays as well as more established software and service providers transitioning to an ASP business model. Cherry Tree & Co. estimates that during 1999 and through the first quarter of 2000, the total amount of private capital raised for ASP development exceeded \$3.6 billion. As depicted in Figure 4, the pace of investment in ASPs has accelerated in recent quarters.

Figure 4.  
Private Financing for ASPs & ASP  
Infrastructure Providers



While there are relatively few ASPs currently trading in the public markets, the high level of financial support currently being enjoyed by ASPs is laying the groundwork for the sector’s transition into a large public industry.

Status of the Industry

In many ways we are now sitting at the cross-roads in terms of the ultimate viability of the basic ASP concept. Despite the fact that IDC is forecasting a compounded annual growth rate for the ASP market in excess of 90%, there is an increasing groundswell of critics that are pointing to what they perceive to be an overall lack of client momentum in the space. Statistics and opinions regarding the adoption rate of hosted solutions are often contradictory and thus far, in our judgment, few of the major IT research organizations have truly been able to fully get their arms around all of the variations on the basic ASP business model.

We believe that much of the confusion in the market stems from the fact that many people think of the ASP business model as “hosted ERP.” In addition, a good number of businesses have attempted to shoehorn legacy applications into the ASP arena with Citrix front-

ends and other Web-enabling tools. This has confused buyers by raising questions about performance and scalability. In our estimation, wide variances in application performance have distracted attention away from many emerging ASPs that have properly developed Internet-based applications or have partnered with vendors whose applications have been designed from the ground up for delivery over the Web.

The Mission Critical Question

While we firmly believe that many ASPs are gaining momentum with early adopters, there is still an air of uncertainty as to whether companies that are hosting “mission-critical” applications are winning enough customers to validate the basic ASP delivery model for highly sophisticated enterprise software. This issue is particularly acute for those ASPs that are trying to host ERP applications akin to those offered by the major ERP vendors such as SAP, PeopleSoft, or JD Edwards. While many analysts have stated that customers will be unwilling to “rent” ERP due to concerns regarding performance, security, reliability, and the lack of customization, we believe there are other issues that are frequently overlooked.

Proprietary vs. Third-Party Applications

The ability of an ASP to sell “mission-critical” solutions to early ASP adopters hinges to a large degree on whether the application being hosted was designed specifically for delivery over the Internet. In point of fact, many of the “mission-critical” packages sold by highly respected vendors were *not* developed for a hosted/services delivery methodology. As a consequence, when commentators look at the hosted ERP market (SAP, JD Edwards, Oracle, PeopleSoft) as a bellwether for the status of the ASP industry, they are left with the impression that “mission-critical” solutions are not being adopted at the rate predicted by many commentators.

To a large degree, the ASPs that are most frequently *cited* as hosting mission-critical solutions are partners for *third-party ISVs*. ASPs that are hosting *third-party applications* are often (although not always) constrained by performance and scalability issues that result from the fact that their chosen ISV partner did not design its software with an ASP in mind. Client/server applications that have been Web-enabled with GUI front-ends often have serious performance issues. Customers have readily honed in on this reality and as a consequence have been less inclined to step forward as early adopters.

In contrast, we believe there is early evidence that ASPs that have organically developed *proprietary* software for delivery via a hosted/services methodology are gaining substantial customer

momentum. We use the word “proprietary” in this context to denote the fact that the ASP owns and controls the development of the application – not to describe any other characteristics of the software that are at times associated with the word – “proprietary.” We believe ASPs that are offering proprietary solutions are succeeding irrespective of how “critical” a given application is to the day-to-day affairs of the customer. Below we have set forth some good examples of ASPs that are winning customers for highly sophisticated solutions that have been built from the ground up for the Web.

While we are not suggesting that ASPs who do **not** offer proprietary solutions are incapable of managing highly sophisticated software on an outsourced basis, we do want to make the point right up front that the underlying architecture of the application is highly critical. At this stage in the evolution of the market, we believe that many of the companies that have organically developed proprietary solutions are better positioned from the standpoint of the ultimate performance and scalability of their technology.

#### Economic Considerations

ASPs that host third-party applications that were **not** built for the Web face some potential questions regarding the basic economics of their business models. Consider the fact that in many circumstances the breakout for the total cost of ownership (TCO) of a traditional client/server ERP package is roughly 1/5th for the up-front licensing fee and 4/5th for all of the implementation and on-going services involved with managing the application. The 4/5th for ongoing maintenance of the application is often incurred in the form of a large **internal** IT staff that monitors the application.

ASPs that host these applications seek to lower this 4/5th portion of the TCO by taking advantage of the “one-to-many” nature of the ASP concept. It is believed that once enough customers sign up for the service, the ASP will garner economies of scale that will enable it to provide the ongoing maintenance and management of these applications at a fraction of the cost it would take each enterprise to manage the application internally. In fact, many ASPs that are renting third-party ERP applications claim to reduce the TCO of these applications by 30-50% for their customers.

However, given some of the performance and scalability issues that have arisen, it is unclear when these ASPs will be able to achieve sufficient customer momentum needed to drive the economies of scale they require to become profitable. At least for the near term, it appears that the difficulties in Web-enabling client/server applications are slowing the speed of customer adoption. In addition, sporadic application performance makes it difficult for some ASPs to satisfy their service level agreements (SLAs) - which in turn potentially leads to higher costs on a customer by customer basis. Higher customer service costs disturb the basic “one-to-many” leverage that these ASPs need to succeed in the long haul.

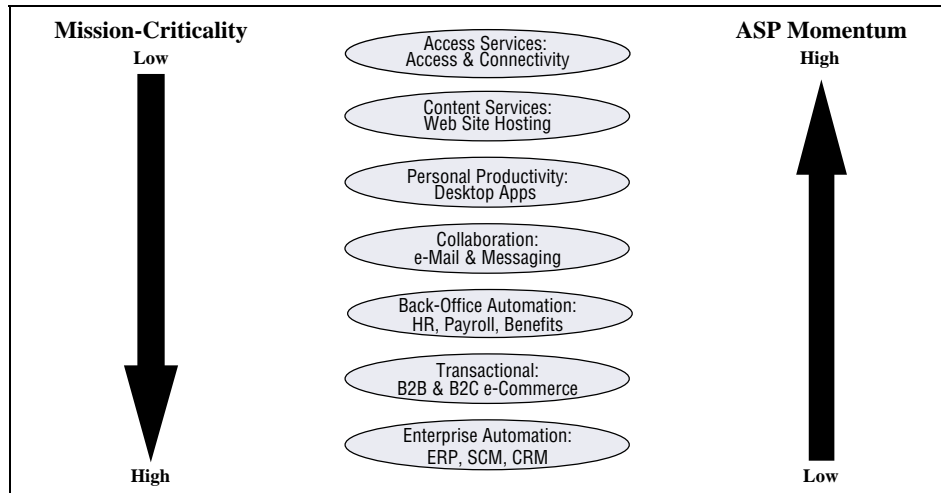
While we run the risk of oversimplifying, at the heart of all of these issues is the underlying architecture of the application being rented to the customer. Since ASPs offering third-party applications such as ERP cannot control the R&D associated with these applications, we believe they run the greatest near-term risk.

*It is too early in the game to make any definitive statements about the basic fundamentals of many of the name brand ASPs such as USInternetworking, Interliant, and Corio. If these companies continue to win customers they may very well achieve the economies of scale required to eventually become profitable. However, their reliance on third-party ISVs could potentially make it more difficult to resolve many of the underlying application performance issues that have been the subject of customer scrutiny.*

#### Early Adopters

Although we believe that properly architected mission-critical applications are well suited for the ASP delivery model, we shouldn't ignore the fact that during the last 12-18 months much of the momentum for ASPs has come from markets for **non-critical** applications. Many emerging ASPs have been successful signing customers up for personal and collaborative systems such as desktop applications and e-mail; as **Figure 5** illustrates, these non-critical applications seem to be emerging as a “proving ground” for hosted solutions.

Figure 5  
ASP Momentum Diagram



Source: Cherry Tree & Co.

There are a number of factors that have influenced the decision of many companies to test-drive the ASP concept with *non-mission critical* applications before signing with an ASP to host large-scale enterprise systems:

- Foremost among these are concerns regarding network security, performance and reliability when relinquishing control of core enterprise data and application functionality to an external provider.
- In addition, major systems such as ERP and e-commerce applications have longer sales cycles and require more validation and customer references.
- As many of the enterprise applications offered by ASPs are client/server applications that have been Web-enabled via a graphical user interface (as opposed to Internet-based applications actually designed for deployment via the Web), performance issues may arise in the context of an ASP delivery model. As alluded to earlier, old applications that have been shoe-horned into the ASP space with GUI front-ends have created considerable confusion among buyers.
- Finally, we believe certain ASPs have encountered the “chicken or the egg” dilemma, as ASPs need to have proven hosting capabilities with mission-critical applications before companies will readily accept these applications in a hosted delivery model.

*Despite these early objections, we believe there is ample evidence that customers are beginning to rent applications that can be deemed “critical” to the daily operations of the enterprise. We believe that the analysis and examples we set forth below clearly point to the steady adoption of hosted software across a wide spectrum of applications.*

## The Evolution of the ASP Business Model

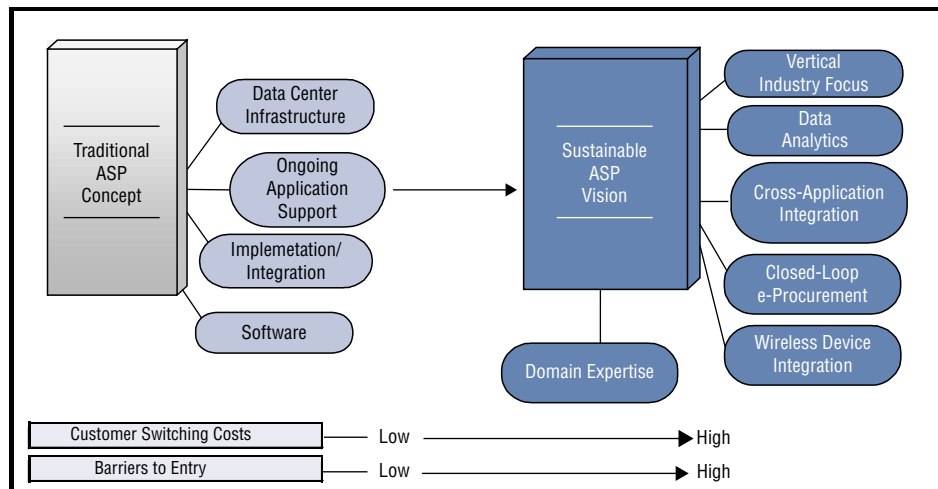
If we stretch our memories and think way back to 18-24 months ago when we first started hearing the ASP buzz, the concept was originally popularized as a service offering purely dedicated to remote application outsourcing. Among many IT professionals, the ASP concept became synonymous with the value proposition of *USinternetworking* and other ASPs who were offering hosted ERP or other similar applications. In the beginning, comparatively little attention was paid to vertical or domain expertise, analytic capabilities, or any other value-added component of the basic offering presented to customers.

Today, the proposition of merely offering hosted applications to customers does not pull much weight with customers, analysts or investors. The competitive landscape has changed dramatically and the companies that are building sustainable ASP related business models are offering far more than hosted 3rd party applications.

### Commoditization of the Traditional ASP Offering

There are numerous potential problems with building a business that does not move beyond the basic proposition of hosting and managing software that has been developed by a 3rd party ISV. Barriers to entry are limited both from the standpoint of competing with other ASPs, and from the standpoint of the ISV itself moving into the ASP business. Today it is commonly recognized, both among emerging new ASPs and investors, that in order to build a sustainable company, additional value-added components need to be offered in order to build long-term, strategic relationships with customers.

**Figure 6**  
**Evolution of ASP Value Proposition**



Source: Cherry Tree & Co.

**Figure 6** illustrates the trend away from the basic ASP offering towards a series of potential value-added services or characteristics that result in higher customer switching costs and higher barriers to entry. The bottom line for the ASP is a more profitable and sustainable business model. Although it is very difficult to illustrate all of the feasible value added components, Figure 6 sets forth some of key differentiators that we believe are gaining the most traction in the market today.

## Differentiation Strategies

We believe that the ultimate litmus test for ASPs hinges on the basic value proposition that they provide to customers. While this is not a revolutionary idea in the world of business, our basic point here is that merely hosting and managing an application will not suffice on a going forward basis. ***Instead, companies that ultimately build sustainable ASP related businesses will also offer a value-added component(s) to their service that is simultaneously difficult for competitors to replicate and customers to replace.***

In the end, it will be the proprietary nature of the value-added component(s) that will distance the winners from the losers in the space. We are currently witnessing a long list of variations on this basic theme that we have attempted to capture in a number of categories as set forth below. In each circumstance, the nature of the value-added component(s) that are bundled together with the hosted application(s) is somewhat different. However, the goal in each circumstance is identical – the creation of proprietary and sustainable customer relationships.

### Value Creation Strategies

The following is a summary of several of the major variations on the ASP concept that are currently being implemented by early to middle stage companies that are seeking to build differentiated value creation scenarios:

1. **Domain Expertise Emphasis:** In contrast to “one-stop shop” ASPs offering a wide range of applications, a number of ASPs are focusing on developing deep expertise in delivering applications within a given functional area, such as human resources, facilities management, or procurement. By domain expertise, we are referring to a specific business function or distinct area of IT functionality which is substantially similar between customers and across multiple horizontal industries. Companies that are able to develop deep expertise within a given domain are able to leverage this expertise across industries with enterprise and middle market customers.

The value added component that these companies typically bring to the table is three-fold:

- They generally either own the software or have developed proprietary integration methodologies for the software and therefore benefit from their ability to develop functionality that is highly specialized for the particular domain they have selected;

- Their expertise within the domain creates substantial consulting services opportunities because the knowledge they bring to customers is highly valued; and
- Their knowledge within the domain is difficult for other companies to replicate thereby creating natural barriers to entry.

Some of the best examples of domain focused ASPs have arisen to serve the human resources function. **Peopleclick.com**, a former Cherry Tree & Co. client, is one such company. Peopleclick.com delivers e-recruiting software that provides hiring process management and applicant tracking functionality to HR professionals who are managing high volume hiring campaigns. Peopleclick.com has raised approximately \$23 million in venture capital during the last nine months and currently has over 100 customers including Ericsson, Morgan Stanley, PricewaterhouseCoopers, ADC Telecommunications, Glaxxo Welcome and a whole slew of other Fortune 1000 companies.

**Employease** is another firm pursuing the domain specialization strategy. Its principal service offering is the Employease Network, a business-to-business network offering access to human resources, benefits, and payroll applications via the Web. This network connects employees, employers, insurance companies, managed care organizations, and other relevant service providers and currently serves approximately 1,000 clients.

We’d like to reemphasize that both of these companies have tremendous customer momentum. ***Notably, these firms have also proven that they are able to generate profits on a customer-by-customer basis and therefore are quickly growing into a viable and sustainable economic model.*** In addition, both companies have serious ASP competitors who also have strong customer momentum.

The success of the firms that have gone after the HR market has stemmed from the fact that their proprietary applications have been built for the web and for a very specific function that resides separate from the core ERP systems of their enterprise customers. They are also able, in large part, to provide software on economic terms that were not even feasible for their client/server predecessors. As a consequence, virtually every HR department in the world is fair game since the vast majority of sales opportunities are first time sales - not replacement sales pitched against incumbent vendors. Unfortunately, the critics who have questioned the viability of the ASP business model have largely overlooked the companies that are operating in this space.

2. **Vertical Industry Emphasis:** Vertically focused ASPs (sometimes called Vertical Service Providers, or VSPs) offering industry-specific applications are also emerging. The basic premise behind these firms is that each industry (financial services, healthcare, telecommunications, professional services, etc.) has its own unique set of characteristics that can best be served by companies that focus exclusively on the given industry. The value added component of the vertical specialist’s offering generally falls along three lines:

- VSPs have typically developed vertically-oriented, templated methodologies that they are able to easily deploy across multiple clients within the same industry;
- They have generally cultivated a great deal of expertise with industry-specific business processes and functional requirements, enabling them, where appropriate, to rapidly build more tailored solutions on top of their templated solutions;
- Their deep industry knowledge allows them to take on the most complex issues faced by organizations within a particular vertical, rather than providing more generic, easily replicable applications that are typically not flexible enough to serve the unique requirements of the given industry.

*Scheduling.com* is an excellent example of a VSP that offers complex patient scheduling systems for the healthcare industry that eliminate conflicts between different departments within healthcare facilities. Although this sounds on the surface like a relatively simple application, the quandary of patient scheduling conflicts is a huge administrative problem for many healthcare providers that has not been adequately solved by the traditional HIS vendors such as HBOC or SMS. In fact, enterprise scheduling applications are among the most highly complex applications offered to healthcare organizations.

Our conversations with Scheduling.com CEO, John Holton, have led us to believe that hospitals are ready to buy into the ASP delivery model as the company has moved from beta testing to 18 customers over the last 10-15 weeks. In fact, Scheduling.com has been able to convert a traditional *legacy* sales cycle of 12-16 *months* into a current *VSP* sales cycle that is currently averaging between 4-6 *weeks*. Why has Scheduling.com been so successful? The answers lie in company management’s deep knowledge of healthcare patient scheduling and in the fact that its software was organically developed from the ground up for performance over the Internet. *Simply put, Scheduling.com combines strong credibility with customers in its chosen vertical and deep scheduling (i.e. domain) expertise within a best-of-breed solution*

*that is properly built for the Internet.* These are the key ingredients that will permit 2nd generation ASPs to succeed in offering *mission-critical* applications as a service.

Scheduling.com is also an excellent example of a *best-of-breed* solution that is offered as a replacement to the scheduling module that is part of a larger suite of products offered by some of the larger HIS vendors. We believe that within certain verticals, such as healthcare, we will witness a gradual evolution away from one-stop shops in favor of new best-of-breed solutions. As the incumbent vendors struggle to transition their entire *suite* of software to the Internet, a window of opportunity will exist for emerging VSPs that are able to demonstrate more compelling ROI and deeper functionality than the incumbents. The emerging companies may eventually be consolidated but over the short-term we will witness some upstarts that will compete very effectively.

*Portera* is another example of a VSP, focused on the professional services industry. The company provides professional services automation (PSA) and back-office services to professional services organizations such as accounting firms, law firms, investment banks, and consultancies. Portera offers two main hosted solutions. ServicePort is a proprietary PSA suite automating such processes as pricing and proposal generation, revenue and resource forecasting, training, resource allocation, knowledge management, collaboration, and invoicing. The company also offers hosted access to Oracle human resources, finance and accounting, and Internet procurement applications. Portera’s 130 customers include technology industry mainstays such as Microsoft and Hewlett-Packard as well as newer firms like Viant, Commerce One, and Tanning Technology.

A third vertically-oriented application hosting firm is San Jose-based *AristaSoft*, a VSP targeting the high-tech equipment manufacturing industry. In addition to hosting an integrated portfolio of enterprise applications from ISVs such as Agile, J.D. Edwards, and Clarify (now a subsidiary of Nortel), the company is able to offer industry-specific business process expertise and has cut implementation times to around 60 days. AristaSoft, which eventually plans to host around 30 applications of varying levels of complexity, has thus far signed 16 customers in the high-tech industry and has raised over \$100 million in venture funding. AristaSoft is a good example of a VSP that is having some success hosting applications developed by third-party ISVs.

As with the domain specialists, the companies we have mentioned here also have strong customer momentum. In our view, the ability of these vertically focused upstarts to compete with some of the incumbent software firms within their

*“2nd Generation ASPs”*

respective verticals is quite noteworthy. In many respects, we believe that the ASP delivery model has provided a compelling value proposition for these firms who have positioned themselves as *best-of-breed* vendors. They are able to compete with their larger competitors because they can bring best-in-class functionality while typically driving tremendous ROI for their customers. Most of these companies have caught their competitors in the awkward position of needing to reinvent their product suites. Often times the larger competitors are caught between steps and cannot offer a competitive ASP offering of their own without risking a dramatic change in the cash flows they have grown accustomed to collecting with the sale of software licenses.

3. **Infrastructure Emphasis:** An emerging class of services firms has opted to approach the ASP market by providing infrastructure management and outsourcing services to ASPs, freeing up their resources to focus more directly on application management issues. These infrastructure players, which variously term themselves “Managed Service Providers” or “Infrastructure Management Providers,” provide an additional layer of network and data center management software between ASPs and their Web hosting partners. Key areas of infrastructure management functionality include:

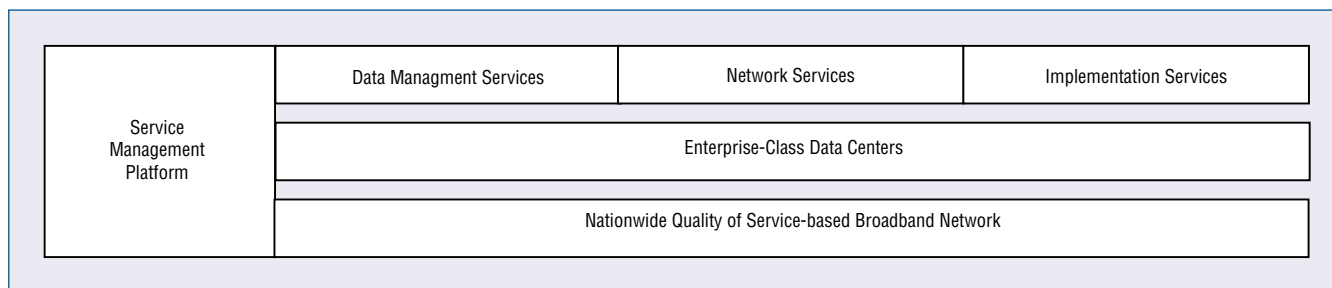
- Network and application monitoring, testing, and maintenance;
- Database architecture and management;
- Systems and network management;
- Network and application performance assessment;
- Capacity scaling and load balancing; and
- Security.

The predominant value added components that these companies offer include:

- By providing systems management services, infrastructure firms enhance the ability of ASPs to fulfill the stringent requirements of their service level agreements (SLAs), thereby contributing to strong customer relationships;
- Managed service providers help to alleviate client concerns regarding network reliability and security; and
- They permit ASPs to focus on the application management components of the overall offering.

Figure 7 illustrates some of the core value added elements of the infrastructure play.

**Figure 7  
MSP Service Platform Diagram**



Source: Adopted from Intira Corporation white paper

The infrastructure strategy is gaining a fair amount of momentum with a number of key players such as *Relera* and *Intira* raising large amounts of venture funding. Another early mover in this space is *Loudcloud*, founded by former Netscape executive Marc Andreessen. The company provides application hosting firms with a proprietary, highly-automated software environment for managing complex internet-worked systems, encompassing such functions as network management, application server capacity, load balancing, stress testing, and application and database monitoring and management. To date, Loudcloud has raised approximately \$200 million in venture funding, has signed over a dozen customers, and has established partnerships with firms such as BEA Systems, Sun Microsystems, Microsoft, Oracle, Proxicom, and Lante.

4. **Vertical Exchange Emphasis:** A number of companies that are hosting various types of e-procurement and supply-chain solutions are beginning to pose a basic threat to the vertical exchanges that have popped up in most industries. Examples of such vertical exchanges include Ventro, Neoforma, Chemconnect, e-Steel, and PlasticNet. The long-term strategy of many of these vertical exchanges obviously hinges on their ability to control the majority of the transactions within a specific industry. Once accomplished, they would likely be viewed as the *de facto* solutions provider for the industry.

Although the vertical exchange concept has been very popular, some of the manufacturers and distributors within certain industries are currently putting together strategies of their own that will permit them to bypass these portals altogether. Some commentators are already suggesting that within certain verticals, only spot requirements representing 5%-10% of total inventory will be purchased through vertical exchanges - the remainder will continue to be purchased through long-standing relationships with distributors. As a consequence, instead of selling goods through a portal, suppliers are beginning to opt for direct relationships with customers that are

supported by hosted e-procurement, supply-chain, inventory management, and business intelligence solutions.

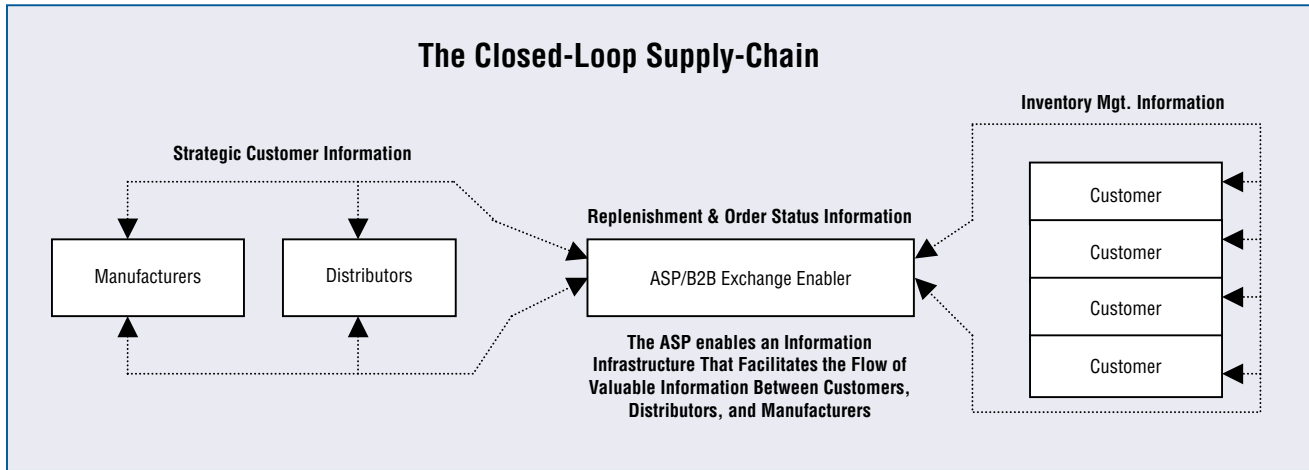
In this context, the hosted supply-chain solutions often provide a common data platform that enables the two-way flow of information among all of the respective stakeholders in the supply-chain. This common information infrastructure rationalizes the flow of goods between trading partners, reduces transaction costs, and provides very meaningful marketing information to suppliers who gain a direct view into the par levels of customer inventory.

The value-added components of an ASP that is providing a B2B exchange typically include:

- Deep knowledge of supply-chain participants within the given vertical industry;
- Enable direct or “closed-loop” supplier/customer relationships that avoid the margin stacking sometimes associated with vertical portals;
- Automatic replenishment of majority of supplies enabled by direct supplier/customer relationship;
- Expertise with industry-specific business processes and functional requirements enable service providers, where appropriate, to build more tailored solutions on top of their templated solutions;
- Typically offer solutions that go beyond mere e-procurement to include sophisticated inventory management and business intelligence functionality;
- Enable a common data platform that facilitates two-way flow of information between suppliers and customers;
- Reduce tremendous waste in the procurement process.

Figure 8 depicts the positioning of the ASP within a generic supply-chain:

Figure 8  
Positioning of ASP as Hosted B2B Exchange



Source: Cherry Tree & Co.

Perhaps the most critical aspect of this approach to the supply-chain is the building of a common information infrastructure that enables the two-way flow of valuable information between customers and their *primary* suppliers. We are too early in the development cycle to ascertain whether companies will use vertical exchanges, such as *Ventro* or *e-Steel*, for the majority of their materials procurement or whether they will seek to build direct relationships with their most important suppliers. However, there is growing evidence that many companies are pursuing a direct approach that will accelerate the success of ASPs that are hosting supply-chain oriented solutions.

Some of the best examples of this are occurring in healthcare where Group Purchasing Organizations (GPOs) have already aggregated much of the supply and demand between suppliers and buyers of medical products. Examples include *Mediclick.com*, *MedCenterDirect.com*, and *MedChannel*. Each of these companies have carved out a separate segment of the healthcare market and are providing hosted supply-chain solutions that are intended to reduce the current \$23 billion in waste in the healthcare supply-chain while also providing valuable business intelligence features to the distributors, manufacturers, and healthcare providers who participate in the solution.

5. **“Riding the Hot App” Emphasis:** We admittedly struggled somewhat with our title for this category. The chosen title, however, is descriptive of the strategy some emerging companies are utilizing to act as the hosting and services provider for software companies that are offering the hottest applications in their area of focus.

This strategy is perhaps best explained by example. Minneapolis-based *Interelate* is a start-up ASP focused solely on business intelligence and customer analytics applications. Interelate hosts and manages business intelligence applications that have been developed by E.Piphany and Net Perceptions. Interelate’s offering includes sales forecasting, reporting, and analysis, customer behavior and profitability analysis, channel analysis, cross-sell and up-sell analysis, and campaign management. The company also provides pre-built data marts for financial services and e-commerce clients, and has signed such customers as McKinsey & Co., Goldman Sachs, Nissan, and Medtronic.

E.Piphany and Net Perceptions both market “hot apps” *directly* to very large customers but, like many other software companies, have found that their central core-competence is in R&D and software development - not in managing large sales forces that broadly proliferate product to companies of all sizes. Similar to the basic manufacturer/distributor relationship, the developers of these “hot applications” find that they need partners who have a core-competence in distributing the product.

Interelate takes advantage of this reality by developing a deep, and *proprietary*, core competence in implementing and managing these applications on a hosted basis for customers that would not fall within the general purview of direct sales efforts of the software vendor. By mastering the intricacies of implementing, customizing, integrating, and hosting these applications - both at the application layer and at the network/systems layer - Interelate has carved out a niche for itself with customers who already have a strong interest in these applications.

To summarize, the value added component of this ASP business model stems from:

- deep knowledge and services capability that permits the ASP to tweak the *applications* to ensure that they deliver the highest potential value to end users;
- deep knowledge of how to manage the *systems layer* in a manner which is specific for the chosen application and for a given customer to assure the highest level of application performance possible; and
- ultimate access to the customer based on the consulting/services approach to growing the business.

The potential long-term risk with this strategy depends on how long it takes for the software vendor's sales force to run out of prospects and dip down into the markets previously reserved for companies like Interelate. The thought is that in the worst case scenario the software provider would be faced with a decision of either building or buying this distribution and services capability. Depending on the time frame, one could question which company would have the higher valuation in such a scenario - the company that owns the code/hot application, or the company that owns the customers. Either way, it would seem that the scales would tip heavily in favor of acquiring the distribution and services capability rather than building it.

6. **Full Service Provider Emphasis:** An increasing number of IT services firms are forgoing pure application hosting in favor of providing an end-to-end solution encompassing IT consulting, application development, systems integration, and application hosting. Since consulting firms and project-based service providers often enjoy strategic, long-term relationships with their clients, they are often in an enhanced position to offer hosted solutions.

The value proposition of the full service provider (FSP) model is two-fold:

- For services firms that are building or integrating *customized* applications and e-commerce systems for their clients, their extensive knowledge of these applications makes them ideal hosting and maintenance partners. Adding an application hosting offering may be a natural extension of their core business, particularly for firms utilizing an offsite development model.
- Firms in this space are also more likely to be familiar with architecting Internet-based applications (as opposed to Internet-enabled client/server systems with GUI front ends), translating into superior system performance in the context of an ASP delivery model.

Several of the public Web development firms have added an application hosting component to their e-business services offering, including *AppNet*, *marchFIRST*, and *Viant*, and this trend is beginning to manifest itself among more traditional project-based firms like *BrightStar* and *Intelligroup*. In addition, *PSINet* announced an FSP initiative in conjunction with its acquisition of *Metamor Worldwide*.

However, *Breakaway Solutions* is still the leading example of a highly successful FSP. An early proponent of this model, Breakaway generates just over 15% of its revenues from application hosting and the remainder from high-end consulting and e-business services. Rather than treating hosting as an afterthought, however, Breakaway provides a number of value-added services within its application hosting unit. This offering includes custom application hosting, packaged CRM application hosting, application testing and monitoring, architecture consulting, and security services.

7. **Security Infrastructure Emphasis:** A recent study conducted by the US Defense Information Systems Agency revealed a 65 percent success rate for attempted security breaches, with 96 percent of these breaches going undetected. As enterprises move a larger proportion of their operations online, these types of security issues are becoming increasingly critical to Old and New Economy firms alike. As a result, security is now being viewed less as a one-time firewall installation than as a continuously evolving utility service.

Taking advantage of this trend, a new class of services firm providing an outsourced security infrastructure has emerged within the application hosting market. These service providers integrate distributed, multi-layer security applications into an enterprise's e-business systems to ensure the integrity of data transfers, financial transactions, Web site

hosting servers, and e-mail communications. Security infrastructure firms also include 24/7 monitoring in their offerings and are able to update and scale their systems comparatively quickly.

Some of the basic value propositions of the hosted security provider include:

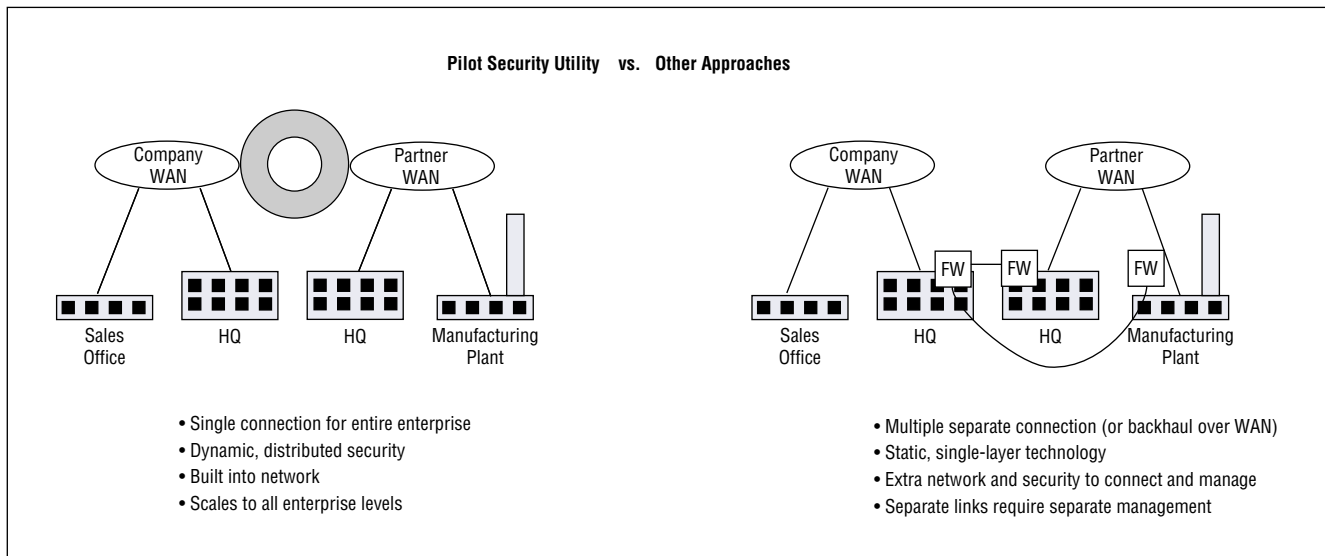
- 24/7 monitoring of security services to ensure detection of unwanted entry into systems;
- Continual management and updating of critical security initiatives including PKI infrastructures and certificate authorities, which often require human intervention despite the sophistication of the underlying e-security technology; and
- Continual updates of underlying e-security systems that evolve with the requirements of the enterprise.

Although several of the traditional security software vendors, such as *Baltimore Technologies*, are moving to offer their solutions via a utility model, *Pilot Network Services* remains the predominant pure-play in this area. At the core of Pilot’s offering is its Heuristic Defense Infrastructure (HDI), a platform that combines an internally developed layer of security technology with monitoring services and defense processes and methodologies that are continually being tested and refined by the company’s technologists. The HDI serves as the underpinning for Pilot’s core services, which include:

- Enterprise network perimeter security (inbound and outbound network traffic filtering),
- Secure Web site and e-commerce application hosting services,
- Intra-enterprise WAN connectivity,
- Extranet and virtual private network (VPN) connections to supply chain partners, and
- Remote access and secure e-mail communication

Pilot’s value proposition is largely predicated on its ability to continually update the security functions required by customers. It operates as an e-security utility that actively manages the evolution of the security functions required by its customers.

**Figure 9**  
**Illustration of Pilot’s Value Proposition**



Source: Pilot Network Services

Pilot delivers these services through six security centers in the US and the UK and has partnered with AT&T and PRIMUS Telecommunications to expand its international operations.

8. **Aggregator Emphasis:** The ASP aggregator model is based on the premise that the rapid proliferation of firms offering ASP services has created an overly complex market for medium-sized enterprises to deal with when investigating application outsourcing options. In addition to the difficulties involved in evaluating potential service providers, enterprises that require several best-of-breed solutions are faced with the complexities of managing relationships with multiple ASP partners.

The value added component provided by ASP aggregators is premised on their serving as a single point of contact for the customer, with the following benefits:

- Aggregators consolidate the services offered by multiple ASPs into a single menu of best-of-breed applications, allowing clients to sample, order, and utilize disparate ASP offerings while avoiding the need to manage multiple hosting contracts and systems;
- They also provide improved flexibility, consolidated billing, fully integrated applications, and a single contact for technical support issues.

While the aggregator model seems to reconcile the “best-of-breed” vs. “one-stop shop” dichotomy, there are a number of drawbacks to this model. Aggregators are obviously dependent on partnering with ASPs, who may be reluctant to introduce a middleman between themselves and the customer. In addition, this business model may not begin to gain momentum until aggregators follow the example set by specialist ASPs who have aligned themselves within areas of vertical and domain expertise.

Two first movers in the ASP aggregator space are *Jamcracker* and *ePanacea*. Jamcracker, co-founded in July 1999 by *Exodus* co-founder K.B. Chandrasekhar, aggregates, integrates, and supports front-office, back-office, and collaborative applications provided by approximately 20 ASP partners, including *Critical Path* and *Employease*. End-users access these applications via a secure, personalized portal on a per seat, per month pricing model. Underpinning the company’s integrated offering is a scalable platform based on the Information Technology Markup Language, an extension of XML.

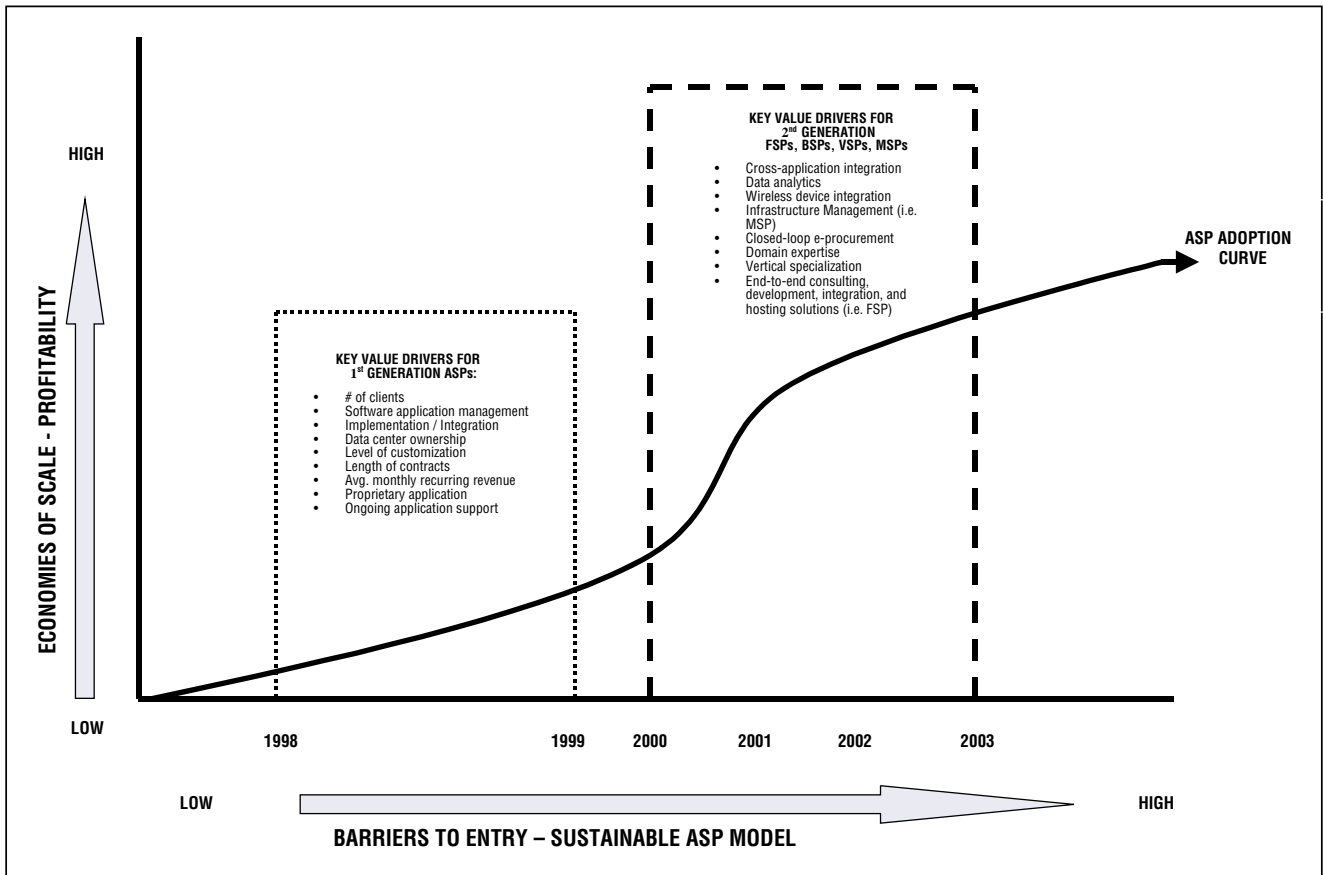
*ePanacea* offers a similar service, although rather than selling directly to enterprises, the company markets to high-speed DSL and broadband Internet access providers. These ISPs then act as channel resellers, bundling application packages together for their business customers. ePanacea recently augmented its peripheral services by merging with *iTrain*, a provider of online support and training services.

#### Evolution from 1st Generation ASPs to 2nd Generation BSPs, FSPs, VSPs

Although we have walked through eight examples of some of the different variations on the basic ASP business model, there are no doubt other variations that we have not captured within the context of this report. Our major point, however, is that we are now well into the evolution from the 1st generation ASP concept towards 2nd generation ASP related business models. Although there are many variations of 2nd generation ASPs, the common thread that runs through all of the businesses is the creation of a value-added services component to the hosted software that erects barriers of entry for competitors and creates sustainable relationships with customers. In fact, in an effort to distinguish themselves from their other ASP competitors, many of these 2nd generation businesses now refer to themselves as Business Service Providers (BSPs), Full Service Providers (FSPs), and Vertical Service Providers (VSPs).

Figure 10 illustrates this evolution towards 2nd generation, higher value-added BSPs, FSPs, and VSPs:

**Figure 10**  
**Evolution to 2nd Generation BSP, FSP, VSP Business Models**



Source: Cherry Tree & Co.

## ASP Cost Components

We are frequently asked to comment on the various drivers that make up the mix of costs for most ASPs. Most people tend to think of a bundled ASP pricing structure that is stated in terms of a specified monthly fee per seat. In reality there are a number of different cost factors that must be considered by an ASP in setting their monthly fee. The following table summarizes these major cost components:

**Table 1.  
ASP Cost Components**

Cost Components	
<b>Software Components</b>	License Fee to 3rd Party ISV
	Development Costs for Proprietary Software
	Upgrades/Additional Modules
<b>Consulting/Services Components</b>	Implementation/Integration Services
	Software Customization Services
	Data Changes Mgt Services
	Network/Systems Mgt Services
<b>Hosting Components</b>	Web Server
	Database Server
	Application Server
	Data Storage
	Communications/Bandwidth

Source: Cherry Tree & Co.

The actual cost for each of these components is highly dependent on the complexity of the application as well as the architecture of the application that is being hosted. Perhaps the most difficult cost components to determine are those related to hosting since these vary widely depending on the application as well as the nature of the network being utilized. This is also one of the primary reasons that many ASPs are choosing to partner with hosting data centers such as *Exodus*.

The number of variables that can factor into the cost of hosting a software solution make it very difficult to provide any general rules of thumb that would be applicable across multiple ASP businesses. However, for *ASP's that are hosting 3rd party applications*, the targeted range for gross margins is typically in the 30%-50% range in a mature operating environment. Unfortunately, at the present time most ASPs that are hosting 3rd party applications are experiencing gross margins that fall short of these targets. One primary reason for this stems from the fact that many of these ASPs are discounting the service to entice early adopters to sign up. At the present time, the gross margins these firms are experiencing are not high enough to cover relatively large fixed expenses that are being spread across a small revenue base.

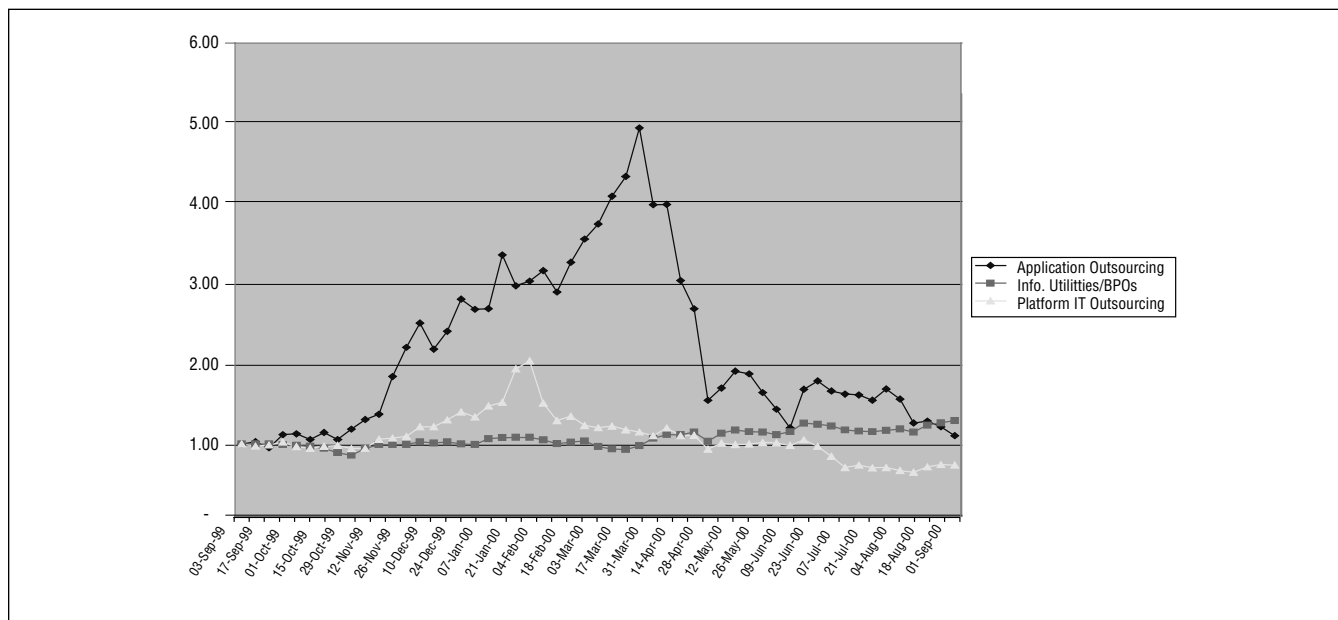
The analysis for ASPs offering a *proprietary* solution is different. These firms experience very high gross margins similar to traditional software vendors since they own the application. The software development cost incurred by these firms, however, is very large. In addition, since these firms cannot leverage a name-brand partnership with an ISV such as PeopleSoft or Oracle, they often have very large sales and marketing expenses required to educate the market about their services.

## Financial Metrics & Valuation Analysis

### Stock Market Performance

As illustrated in **Figure 11**, application outsourcing firms have experienced a sharp decline in their market values since the March market correction and are currently trading at price ranges more consistent with their business process outsourcing and platform IT outsourcing counterparts. The drop in application outsourcing stocks may be attributed to both the disproportionate effects of the correction on high-flying technology stocks as well as mounting market concern regarding the long-term viability of the application outsourcing model.

**Figure 11**  
**Outsourcing Sector Stock Performance**



Source: Cherry Tree & Co.

### Valuation Metrics

Despite the recent drop in their stock prices, application outsourcing firms are still trading at significantly higher price-to-revenue multiples than most of the traditional outsourcing companies and are among the highest in the IT services industry. Clearly the market still recognizes the higher growth and potential value-added elements embedded within the ASP concept, even if application service providers are not being assigned the same high multiples they enjoyed a year ago – most firms in this sector are trading 50% or more off their highs. This recognition is reinforced by the five-year EPS growth estimates that firms in the application outsourcing sector have been assigned, which are 35% - 40% higher than those forecasted for the business process and platform outsourcing providers.

**Figure 12**  
**Outsourcing Sector Valuation Metrics**

	Average Price / Earnings	Average Price / Revenue	5 Year EPS Growth	P/E : Growth Rate
Application Outsourcing	N/A	17.x	58.6%	N/A
Info. Utilities / BPO	29.x	3.5x	17.6%	165.4
Platform IT Outsourcing	20.3x	1.1x	21.1%	116.2

Source: Cherry Tree & Co.

Financial & Operational Metrics

For illustrative purposes, we have compiled financial and operational data from several of the major public ASPs, as presented in **Figure 13**.

**Figure 13**  
**Public ASP Financial & Operational Metrics**

Comparable ASP Financial & Operational Metrics (as of Q2 2000)						
	USinternetworking	Corio	Breakaway	FutureLink	Interliant	TriZetto
<b>FINANCIAL METRICS</b>						
1999 ASP Revenue (in millions)	\$21.7	\$0.7	\$2.0	\$0.7	\$11.3	\$19.4
TTM ASP Revenue (in millions)	\$52.8	\$4.6	\$10.0	\$41.9	N/A	\$37.6
Q1:00 / Q4:99 ASP Revenue Growth	25%	113%	113%	114.4%	80%	57%
Q2:00 / Q1:00 ASP Revenue Growth	36%	146%	86%	86.6%	44%	4%
% of ASP Revenue to Total Revenue	83%	24%	15%	3%	28%	59%
<b># of ASP Clients</b>	<b>187</b>	<b>72</b>	<b>49</b>	<b>68</b>	<b>900</b>	<b>97</b>
<b>Avg. Monthly Recurring Revenue per Client</b>	<b>\$42,800</b>	<b>approx. \$5,000</b>	<b>\$34,000</b>	<b>\$6,800</b>	<b>N/A</b>	<b>\$12,000</b>
<b>Total ASP Contract Backlog (in millions)</b>	<b>\$262.0</b>	<b>\$9.0</b>	<b>\$50.0</b>	<b>\$10.0</b>	<b>\$37.0</b>	<b>\$42.0</b>
Avg. Length of Contract	3 years	3 years	2.5 years	3 years	3 years	3+ years
<b>OPERATIONAL METRICS</b>						
# of Application Hosting Technical Consultants	300	230	104	N/A	305	200
Avg. Length Time to Deploy Application	90 days	30 - 90 days	120 - 150 days	N/A	30 - 90 days	90+ days
Days Sales Outstanding	91	70	64	76	65	66

Source: Company Reports and Cherry Tree & Co. Estimates

*1st Generation ASP Value Drivers*

It should be noted that the two key drivers of financial value currently being identified in the public markets are the number of application hosting clients and the average monthly recurring revenue per client. We tend to believe that the **backlog** should be the primary driver of value since it takes into account both of these factors as well as the **duration** of the service agreements the ASPs have with their customers. The backlog can be thought of as an annuity that is payable to the ASP. If the current set of publicly traded ASPs can create a predictable backlog/annuity, determining their valuations should be a simple matter of discounted cash flow analysis if and when they become profitable.

Notably, the vast majority of the **2nd generation ASPs (VSPs, FSPs, BSPs)** are still privately held and therefore we can only assume that their future public valuations will also be predicated on average monthly rental fees and customer backlog once they make it to the public markets.

### The “Land Grab Approach”

In contrast to firms such as *USinternetworking*, which has been concentrating on improvements in the key value drivers discussed above, many application hosting providers are making increased market share their top priority and are focusing on signing as many clients as possible even at the expense of profitability. Often this approach is quite costly; a number of ASPs employing this “land grab” strategy have essentially been giving away their hosted services in an effort to gain market share and achieve brand recognition and market dominance. For this reason, increases in average revenue per client metrics have sometimes lagged behind increases in the number of clients signed, a trend which may be appropriate at this point in the industry’s development but not over the long term.

## Significant News & Events

Firms from across the software and IT services spectrum have been converging on the ASP opportunity, entering into strategic alliances, building hosted application offerings, and acquiring the required technology and expertise. In the following section we explore some of the major trends that have emerged as a result of the market’s embrace of the ASP concept.

### 2Convergence of e-Business, IT Services, and Consulting Firms on the ASP Model

A number of IT services firms with a heritage in project-based services have developed or acquired ASP-related competencies. *Breakaway Solutions* was a first mover in this regard, adding Web and application hosting expertise to its existing consulting and integration services through the acquisition of *Applica* in June 1999 and *WebYes* in August 1998. Among pure-play e-solutions firms, *marchFIRST* and *AppNet* have been early movers in adding e-commerce application hosting to their services offering, and customer relationship management specialist *eLoyalty* launched a hosted eCRM service in April 2000.

This trend is prevalent among other project-based services firms as well. *CIBER* and *Verio* have formed a joint venture ASP, *Agilera.com*, which hosts applications from Lawson, PeopleSoft, and JD Edwards, while systems integrator *BrightStar* has partnered with *Exodus* to host several ERP applications. In addition, *Intelligroup* spun off its Internet solutions unit (now doing business as *SeraNova*) in order to realign the company as an application outsourcing firm.

Most recently, global consulting and integration firms have started converging on the ASP opportunity. As an example, *EYT*, formerly *Ernst & Young Technologies*, has been spun out from *Cap Gemini Ernst & Young US LLC*. EYT operates as an application service provider and integrator offering financial management, CRM, and messaging and collaboration applications from Lawson Software, Oracle, Great Plains, and Siebel.

### Emergence of the Full Service Provider

A related trend is the emergence of the full service provider model within the ASP market. Increasing numbers of firms are developing a service offering encompassing IT consulting, systems development and integration, and hosted services. This trend was reinforced by *Breakaway*’s January 2000 acquisition of *Eggrock Partners*, a services firm with a mix of integration, consulting, and application outsourcing skills similar to Breakaway. In addition, *PSINet*, in conjunction with its recent acquisition of *Metamor Worldwide*, has announced that it is launching an application outsourcing initiative wrapped within a full service provider model.

Many pure-play ASPs are opting to add these skills by acquiring small, specialized IT services firms. In particular, companies with domain expertise in implementing ERP and e-commerce applications have been targeted by ASPs. For example, *USinternetworking* augmented its ERP competencies by acquiring *Conklin & Conklin*, a systems integration firms specializing in Lawson implementations, while *Interliant* pursued a similar strategy with the acquisition of PeopleSoft integrator *Soft Link*. In related transactions, *netASPx* acquired two Lawson implementation and integration specialists, while eOnline acquired Ariba integrator *Chicago Consulting Partners*.

Firms with e-business development competencies have also made attractive acquisition candidates. *Interliant* has been particularly active in this regard, acquiring UK-based CRM specialist *Sales Technology Ltd.* and e-business consulting and security specialist *Triumph Technologies* late last year. In a transaction designed to augment its Web-based professional services expertise, *TeleComputing* acquired *Electronic Business, Inc.*, an e-commerce systems developer, while *netASPx* enhanced its Web integration capabilities through the acquisition of *Total Solutions Group*’s e-business consulting practice.

### Reaction of Major Enterprise Software Vendors

The ERP software companies have launched a number of initiatives designed to capitalize upon the application outsourcing model. These ISVs have responded with both direct and indirect hosting offerings. For example, **PeopleSoft** currently offers HR, financial management, and sell-side e-procurement applications to over 100 customers via its PeopleSoft eCenter direct hosting initiative, and through its ASP partners, which include **Corio**, **USinternetworking**, and **Qwest CyberSolutions**.

In a similar vein, **JD Edwards** launched its JDe.sourcing direct hosting initiative in January 2000, and has also partnered with **AristaSoft**, **World Technology Services**, and **IBM Global Services** to offer outsourced ERP applications. **SAP** has also opted to offer both direct and indirect hosting for mySAP.com applications, while **Lawson Software** has chosen to focus on ASP partnerships to facilitate its hosted offering.

In a major shift in its approach to the ASP market, **Oracle** recently announced partnerships with 3rd-party service providers to host its software. This is a dramatic departure from the software giant’s previously announced intention to offer hosted access to its products solely through its internal application hosting service, Oracle Business OnLine. To this end, Oracle had established partnerships with Web hosting providers **British Telecom**, **Exodus**, and **Bell Canada** in order to develop a direct hosting package. To date, this initiative has signed over 100 customers. However, with its application hosting unit facing high demand for customization and integration, Oracle required a more extensive delivery channel, leading the vendor to partner with such ASPs as **Agilera**, **Interliant**, **BlueMeteor**, and **Center 7**.

### Reaction of Major Extended Enterprise and Middleware Software Vendors

While the major ERP vendors have developed both direct and indirect hosting initiatives, extended enterprise software and e-commerce software vendors have thus far primarily relied on partnerships with ASPs rather than launching internal application hosting services. Front-end applications such as **Siebel’s** CRM offering and **BroadVision’s** e-commerce software have so far elicited the highest level of interest from ASPs, although supply chain management vendor **Agile Software** recently established hosting partnerships with **Applicast**, **AristaSoft**, and **Oracle Business OnLine**.

Another segment of the enterprise software market that has responded positively to the ASP concept includes the enterprise application integration (EAI) and middleware companies. Because the rapid time-to-market demanded by ASP customers necessitates rapid application integration, middleware vendors and ASPs are nat-

ural strategic partners, and a number of alliances have been announced in this space. **Active Software**, for example, launched a marketing initiative targeted at the ASP market and has established partnerships with **Corio**, **AristaSoft**, **Asera**, **Hewlett-Packard Outsource Division**, and **QOS Labs**. **Mercator Software** has partnered with **Exodus** to provide EAI software and services to ASPs and B2B Internet exchanges, and **Vitria Technology** has partnered with **Applicast** to offer a hosted version of Vitria’s businessware platform.

## Implications For Privately Held Companies

It is very difficult to offer definitive advice on how private IT services and software firms should react to the threats and opportunities posed by the 2nd generation ASPs (otherwise known as BSPs, VSPs, FSPs, & MSPs). We believe it is probably more constructive to simply invoke some thinking around some of the key factors that might influence individual companies as they sort through the implications of navigating towards an outsourced model.

### Consulting / Services Firms

Given the consultative relationships that IT services companies have with their customers, they are potentially in a favorable position to consider adding an outsourced applications practice to their services arsenal. Whether this is a winning strategy is highly dependent on the characteristics of the individual company. The following is a list of potential characteristics that might be beneficial for firms considering a transition into the hosted applications market:

- **Central Delivery Model** – companies that have developed off-site application development and pre-integration capabilities are potentially in a natural position to continue hosting and managing these applications on a rental fee basis once the applications have been completed;
- **Narrow & Deep Expertise** – whether within a vertical industry or a given domain, deep & narrow expertise often results in highly customized software and templated implementation methodologies that permit rapid deployment of applications across a large customer base;
- **Partnerships with Hot ISVs** – companies that already have strong relationships with high profile ISVs can potentially combine some of the strategies discussed in the “full service provider (FSP)” and “Riding the Hot Apps” analysis presented above;
- **Ability to Absorb Financial Transition** – companies considering an outsourced applications offering will need to be able to

## “2nd Generation ASPs”

absorb the financial investment required to truly make a meaningful run at the market. Unlike a traditional consulting practice that can be financed through cash flow, most ASP related business plans have an interim period in which the dollars invested typically outweigh the dollars returned.

Perhaps the primary consideration is the ability to leverage a replicable solution across a large percentage of existing customers and prospects. Whatever the source of commonality between customers, a sufficient level of redundancy between implementations is required in order to establish meaningful economies of scale.

### Software Companies

Software companies that are considering a move into the ASP business face many of the same considerations as IT services firms. For starters, it is absolutely critical that the software is engineered specifically for the Internet to assure high performance. Without this basic underpinning, it is nearly impossible to raise capital or win customers in today’s climate.

In addition, narrow and deep vertical or domain expertise will enable certain software companies to enter markets with *best-of-breed* solutions. As with their IT services counterparts, software firms will have a higher likelihood of succeeding with a hosted solution if they are able to template implementation methodologies that will permit rapid expansion of their customer base.

Emerging companies that are able to “productize” their sales efforts have been the most successful at winning early adopters. ASPs offering proprietary solutions often offer tremendous ROI to their prospective customers that is difficult to conceptualize. These firms often present a cost-effective means of solving problems and streamlining business processes that were not conceivable for their client/server predecessors. As a consequence, potential customers often require a different sales approach. We have witnessed several firms that have been able to creatively demonstrate the ROI and other benefits of their solution “on-the-fly” as part of a standard sales approach. The idea is to fully leverage the company’s deep experience and focus by building a templated sales methodology

that effectively captures all of the vertical or domain expertise of the company.

For software companies that already have a large revenue and customer base, perhaps the hardest issue is tackling the prospect of moving from a substantial up-front software license fee to a monthly rental fee. Most customers of ASPs offering proprietary solutions do *not* become profitable until 12-18 months into the client commitment. This is quite a departure from the standard software company’s economic model that results in a very difficult transitional period.

We believe the companies best positioned to make this transition are what we refer to as “the relatively unencumbered.” These firms are established enough to have credibility in their chosen market, but are not so large that they cannot alter their strategy without incurring unacceptable risk.

### Concluding Remarks

The Gartner Group recently released a report that states that 60% of ASPs will be acquired or go out of business over the next 15 months – yet the Gartner Group and other research firms continue to project tremendous growth for the market. How can these two propositions be reconciled?

The simple answer is that the *old things still matter*. The 2nd generation of ASPs, whether you refer to them as BSPs, VSPs, FSPs, or MSPs, are not betting the farm merely on their ability to host and manage software for customers. There is a broad and fundamental realization that the standard rules of business apply to the Internet and in the context of ASPs there is a clear need for differentiated strategies. Although the Gartner Group and others are predicting a major shakeout in the ASP market, the underlying fundamentals of offering software as a service are still compelling when the necessary value-added components are brought to bear on the broader service offering. While we anticipate a tumultuous period of competition lies ahead for emerging ASPs, we believe the industry will flourish as the 2nd generation of ASPs begin to offer highly differentiated solutions and services to their respective markets.

## Cherry Tree Research — IT Services Universe by Subsectors

### **IT Consulting**

<b>Company</b>	<b>Ticker</b>
CACI International	CACI
Diamond Tech. Partners	DTPI
META Group	METG
Superior Consultant Holdings	SUPC
American Management Systems	AMSY
First Consulting Group	FCGI

### **Outsourcing**

<b>Company</b>	<b>Ticker</b>
<b>(1) Application Outsourcing</b>	
USinternetworking	USIX
Syntel	SYNT
Critical Path	CPTH
FutureLink	FTRL
Interliant	INIT
Breakaway Solutions	BWAY
The TriZetto Group	TZIX
Corio*	CRIO

### **(2) Utilities / Business Process Outsourcing**

Automatic Data Processing	AUD
BISYS Group	BSYS
Ceridian	CEN
Equifax	EFX
First Data	FDC
Fiserv	FISV
Sungard Data Systems	SDS

### **(3) Platform IT Outsourcing**

Computer Sciences	CSC
Electronic Data Systems	EDS
Perot Systems	PER
Sykes Enterprises	SYKE
CGI Group	GIB

### **Internet Infrastructure Providers**

<b>Company</b>	<b>Ticker</b>
Digex	DIGX
PSINet	PSIX
Exodus Communications	EXDS
Globix	GBIX
Verio	VRIO
Navisite	NAVI
Applied Theory	ATHY

### **Staff Augmentation**

<b>Company</b>	<b>Ticker</b>
<b>(1) Pure IT Staffing</b>	
Analysts International	ANLY
Metro Information Services	MISI
Hall Kinion	HAKI
Technisource	TSRC
Alternative Resources	ALRC

### **(2) Transitioning Firms**

Computer Horizons	CHRZ
Modis Professional Services	MPS
Cotelligent	CGZ

### **(3) General Staffing**

<b>Company</b>	<b>Ticker</b>
kforce.com	KFRC
EdgeWater	EDGW
CDI Corp.	CDI
Comforce	CFS
Personnel Group America	PGA
Volt Information Sciences	VOL
RCM Technologies	RCMT
Spherion	SFN

### **Project-Based Service Providers**

<b>Company</b>	<b>Ticker</b>
<b>(1) App. &amp; Systems Development</b>	
Complete Business Solutions	CBSI
Affiliated Computer Services	ACS
iGate	IGTE
Tier Technologies	TIER
Concero	CERO
Cambridge Technology Partners	CATP
Cognizant Tech. Solutions Corp.	CTSH
Intelligroup	ITIG
Tenfold	TENF
Keane	KEA
CIBER	CBR
IMRglobal	IMRS

### **(2) Implementation/Integration**

AnswerThink	ANSR
BrightStar	BTSR
Computer Task Group	TSK
Renaissance Worldwide	REGI
Technology Solutions Corp.	TSCC

### **(3) Web Development**

Sapient	SAPE
marchFIRST	MRCH
Proxicom	PXCM
Razorfish	RAZF
AppNet	APNT
Scient	SCNT
iXL Enterprises	IIXL
Viant	VIAN
Modem Media.Poppe Tyson	MMPT
Braun Consulting	BRNC
C-bridge Internet Solutions	CBIS
Cysive	CYSV
Tanning Technology	TANN
Agency.com	ACOM
Luminant Worldwide	LUMT
US Interactive	USIT
Xpedior	XPDR
Organic*	OGNC
Lante*	LNTE
Inforte*	INFT

### **Value Added Resellers**

<b>Company</b>	<b>Ticker</b>
Merisel Inc.	MSEL
Acxicom Corp	ACXM
Alphanet Solutions	ALPH
Viasoft Inc.	VIAS
Compucom Systems	CMPC
Aztec Technology Partners	AZTC
Black Box Corp.	BBOX

### **Education & Training**

<b>Company</b>	<b>Ticker</b>
SmartForce	SMTF
Wave Technology International	WAVT
Computer Learning Centers	CLCX
Learning Tree International	LTRF

\*Indicates companies tracked by Cherry Tree & Co. but not yet included in stock indices due to insufficient trading history.

## IT Services – Structural Perspective

While it is extremely difficult to place IT Services companies in specific subsectors, Cherry Tree & Co. has developed the following set of working definitions and categorizations for the purpose of analyzing key trends and developments in the industry. We recognize that readers often have their own mental categorizations that may be slightly different than what we are suggesting. Although pure-play examples are hard to find, we have found the following structural perspective to be very useful in depicting critical developments within the IT Services industry:

- ◆ ***Professional Consulting:*** Firms that focus on corporate level business and strategic engagements; further divided into three subsectors:
  - ***IT Consulting.*** Firms that predominantly focus on high level consulting projects that are directed at strategic information technology engagements. Project scope often entails company-wide evaluation of client business needs and essential processes, existing platforms, available technologies, and solutions design. The effort to structure an IT initiative as an integral component of a strategic or business process design oriented endeavor is what separates these companies from their Project-Based service provider counterparts.
  - ***Strategic Management Consulting.*** Firms that provide advice centering upon a client's overall corporate objectives and competitive position. Strategy should be thought of as the creation of a unique and valuable position for an enterprise that affords it a sustainable competitive advantage. Project scope involves such topics as market trend analysis, business and customer mix, marketing efforts, and capital structure.
  - ***Business Process Consulting.*** Firms that provide consulting expertise relative to the maximization of the operational effectiveness at either the functional or business unit level. Operational effectiveness includes practices and processes that allow a company to better utilize its resources to generate the highest level of output at a minimized cost.
- ◆ ***Project-Based Service Providers:*** Client projects within this sector have comparatively well defined tangible deliverables and scope. Contract designs range from a billable hours approach to fixed-price engagements for components and even entire projects. Companies typically focus around some type of vertical industry expertise, either in specific technologies or industry applications.
  - ***Application and Systems Development.*** Companies that specialize in custom software development aimed at serving the specific needs of their clients, typically in proprietary systems settings. Deliverables can include targeted modules or components, upgrades to existing systems, as well as original application development.
  - ***Implementation/Integration.*** Firms that specialize in the deployment of complex enterprise-wide (ERP) software packages. As part of this implementation, these companies integrate the new software by ensuring that diverse hardware, network, and software components work together. Companies may also specialize primarily in integration technologies, interface development, database management, and other enabling technologies that allow disparate systems to share information.
  - ***Web Development.*** Segment of the Project-Based sector exclusively focused on Internet-based services and technologies. Projects may entail front-end interactive marketing, e-business application development and implementation, e-commerce transaction system development, strategic consulting, and/or back-end Web-to-legacy integration.
- ◆ ***Outsourcing:*** Companies providing process automation services and facilities management and operations for clients desiring a variety of technical outsourcing solutions; divided into three subsectors:
  - ***Platform IT Outsourcing.*** Firms offering a range of data center services, including hardware facilities management, onsite and offsite support services, server-vaults and data security, and disaster recovery capabilities. These relationships typically involve the transfer of IT facilities, staff, or hardware.
  - ***Utilities or Business Process Outsourcing.*** Firms focus on economic and efficient outsourcing solutions for complex but repetitive daily business processes. These processes could be as sophisticated as finance and accounting or be more repetitive processes, such as disbursements and payroll. The provider assumes all responsibilities associated with the entire business process or function.

- ***Application Outsourcing.*** Firms manage and maintain software applications, with the provider assuming the responsibilities associated with the application. There are two subdivisions of the AO sector: Application Maintenance Outsourcing providers manage a proprietary or package application from either the client's or the provider's site. The Application Service Provider remotely hosts and delivers a packaged application to the client from an off-site location.
- ♦ ***Staff Augmentation:*** Companies that specialize in providing qualified IT professional staff on a temporary or long-term contract basis to clients in need of specific skill sets and project support for internal systems development projects.
  - ***Pure IT Staff Augmentation.*** Firms that derive the vast majority of their revenues from their core IT staffing business. Company strategies are often defined by geographic concentrations, vertical expertise, or technology focus.
  - ***Transitioning Firms.*** Companies that have traditionally been viewed as being in the IT staffing business but have recently attempted to redirect their growth towards higher value added and higher margin project-based services. For a staffing firm to be classified as Transitioning, revenues from project-based services are generally growing at a significantly higher rate than staffing revenues and/or comprise over 60% of revenues. Various combinations of merger and acquisition, divestiture, and internal growth facilitate this migration.
  - ***General Staffing with IT.*** Firms that provide professionals with a wide array of skills including finance, accounting, etc., which also have an IT staffing division with significant revenues. Several companies in this category are rapidly building IT services divisions, through both internal growth and by acquisition, which may eventually reposition their business mix.
- ♦ ***Education and Training:*** Companies that provide training and help desk consulting for firms that have adopted custom designed or packaged software products. Engagements can include onsite or training center programs following new installations or for skills development and certain technical applications.
- ♦ ***Internet Infrastructure Providers:*** Firms with a background in providing data center hosting services and corporate Internet access that also offer higher value-added services including Web and application hosting and other data solutions.
- ♦ ***Value Added Resellers:*** Solutions-oriented vendors providing integrated hardware and software systems, often including consulting, design, and implementation services. These companies have historically operated under specialty hardware and software distributor arrangements, though trends are towards broader vendor representation and increased consulting services.

Appendix 3: Outsourcing Sector Valuation Data

	Price as of 01/SEP/00	Shares Out. (in millions)	Market Cap. (in millions)	Fiscal Year	Consensus EPS Estimates 2000 Est.	Consensus EPS Estimates 2001 Est.	Revenue (TTM)	EBITDA (TTM)	Net Income (Loss) (TTM)	Price/ Earnings	Price/ EBITDA	Price/ Revenue	5 Year EPS Growth	P/E : Growth Rate
<b>Application Outsourcing</b>														
BREAKAWAY SOLUTIONS INC	\$13.00	45.0	585.2	Dec.	(\$0.06)	\$0.18	71.2	(11.0)	(28.0)	N/A	N/A	8.2	60.0%	N/A
SYNTEL INC	\$9.41	38.4	360.8	Dec.	\$0.55	\$0.64	166.3	9.3	7.5	48.2	38.7	2.2	26.0%	185.5
CRITICAL PATH INC	\$74.88	63.9	4,756.3	Dec.	(\$0.77)	\$0.39	71.1	(124.2)	(290.0)	N/A	N/A	66.8	55.0%	N/A
INTERLIANT INC	\$12.88	47.8	615.5	Dec.	(\$3.28)	(\$3.54)	96.5	(53.5)	(99.6)	N/A	N/A	6.4	80.0%	N/A
USINTERNETWORKING INC	\$9.72	96.9	941.3	Dec.	(\$1.83)	(\$1.83)	68.4	(102.3)	(143.7)	N/A	N/A	13.8	75.0%	N/A
TRIZETTO GROUP INC	\$10.63	21.5	227.9	Dec.	(\$0.97)	(\$0.02)	55.7	(23.0)	(23.7)	N/A	N/A	4.1	40.0%	N/A
FUTURELINK CORP	\$5.41	63.6	343.8	Dec.	(\$1.01)	(\$1.11)	66.4	(34.1)	(73.1)	N/A	N/A	5.2	67.5%	N/A
CORIO INC	\$11.88	48.5	639.6	Dec.	(\$2.52)	(\$1.99)	19.4	(72.9)	(92.1)	N/A	N/A	32.9	65.0%	N/A
Group Average:										N/A	N/A	17.4	58.6%	N/A
Group Median:										N/A	N/A	7.3	62.5%	N/A
<b>Information Utilities / BPO</b>														
AUTOMATIC DATA PROCESSING	\$60.31	627.2	37,828.8	June	\$1.52	\$1.78	6,287.5	Not Reported	840.8	45.0	N/A	6.0	15.0%	299.9
BISYS GROUP INC	\$73.13	27.8	2,026.2	June	\$2.94	\$3.54	571.4	Not Reported	70.2	28.9	N/A	3.5	20.0%	144.3
CERIDIAN CORP	\$24.56	145.2	3,566.4	Dec.	\$1.01	\$1.23	1,404.3	321.7	120.4	29.6	11.1	2.5	18.0%	164.6
EQUIFAX INC	\$25.06	141.2	3,361.7	Dec.	\$1.70	\$2.00	1,857.9	564.3	215.2	15.6	6.0	1.8	16.0%	97.6
FIRST DATA CORP	\$46.00	405.4	18,855.4	Dec.	\$2.07	\$2.40	5,554.1	2,620.0	1,246.8	15.1	7.2	3.4	14.0%	108.0
FISERV INC	\$53.63	123.2	6,607.7	Dec.	\$1.35	\$1.60	1,540.0	395.4	158.3	41.7	16.7	4.3	20.0%	208.7
SUNGARD DATA SYSTEMS INC	\$36.38	132.0	4,799.7	Dec.	\$1.61	\$1.92	1,525.7	421.5	177.9	27.0	11.4	3.1	20.0%	134.9
Group Average:										29.0	10.5	3.5	17.6%	165.4
Group Median:										28.9	11.1	3.4	18.0%	144.3
<b>Platform IT Outsourcing</b>														
COMPUTER SCIENCES CORP	\$75.88	168.1	12,752.7	March	\$2.99	\$3.57	9,630.6	1,260.0	414.3	30.8	10.1	1.3	17.0%	181.1
ELECTRONIC DATA SYSTEMS CORP	\$50.00	466.5	23,314.3	Dec.	\$2.26	\$2.63	18,738.9	1,030.0	744.1	31.3	22.6	1.2	15.0%	208.9
PEROT SYSTEMS CORP	\$10.25	96.7	996.7	Dec.	\$0.56	\$0.67	1,138.0	105.7	93.6	10.6	9.4	0.9	23.5%	45.3
SYKES ENTERPRISES INC	\$14.25	41.4	599.0	Dec.	\$0.88	\$1.14	622.7	61.5	70.2	8.5	9.7	1.0	29.0%	29.4
Group Average:										20.3	13.0	1.1	21.1%	116.2
Group Median:										20.7	9.9	1.1	20.3%	113.2

## Merger & Acquisition Review

### 4th Quarter 1999

- ◆ **Critical Path (CPTH)** announced four acquisitions this quarter. The first such announcement concerned Critical Path's definitive agreement to acquire **ISOCOR (ICOR)**, a provider of Internet messaging, directory, and meta-directory software solutions. The transaction was valued at approximately \$287 million in stock, 9.2x ISOCOR's trailing twelve-month revenues of \$31.2 million. In November **Critical Path** announced three additional applications designed to further enhance the firm's messaging capabilities. The first transaction was the acquisition of Los Altos, CA-based **XETI, Inc.**, a developer of standards-based Public Key Infrastructure (PKI) solutions. XETI's PKI technology provides end-to-end message content and file attachment encryption and security. In addition to the XETI transaction, Critical Path entered into definitive agreements to acquire **The DocSpace Company**, an Internet File Service Provider (IFSP) based in Menlo Park, CA and **FaxNet**, Boston-based provider of Internet fax and integrated messaging solutions.
- ◆ **The TriZetto Group (TZIX)** announced two acquisitions this quarter. The company first announced its acquisition of Novalis, an ASP focused on providing solutions to managed-care and provider-based healthcare organizations. In December TriZetto acquired **Finserv Health Care Systems**, a developer of transactional services applications that enable outsourced billing and financial management.
- ◆ **FutureLink (FTRL)** also announced multiple acquisitions during the fourth quarter of 1999. In November the company extended its reach overseas, announcing the acquisition of UK-based **KNS Distribution Limited** for \$44.3 million in cash and stock. KNS is the largest distributor of Citrix products outside of the US, with more than 360 resellers. FutureLink also announced a definitive agreement to acquire **VSI Technology Solutions**, a provider of application hosting platforms, for \$26.5 million in cash and stock. VSI, a Citrix solutions partner, employs 75 professionals and reported annualized revenues of approximately \$12.4 million.
- ◆ **Interliant (INIT)** announced the acquisition of **Triumph Technologies, Inc.**, an IT consulting and e-business security provider based in Woburn, MA. The transaction was composed of \$15.6 million in cash and stock, 0.8x Triumph's revenues of \$20 million.
- ◆ **TeleComputing** acquired **Electronic Business, Inc.**, a provider of B2B Internet solutions related to Web-based sales force automation, corporate purchasing, and customer service and support. Electronic Business is a Microsoft partner and also offers business consulting, systems integration, and customization services related to Microsoft's SiteServer e-commerce platform.

### 1st Quarter, 2000

- ◆ **Critical Path (CPTH)** continued to build out its messaging capabilities as it announced a definitive agreement to acquire **RemarQ**, a provider of Internet collaboration and messaging services for businesses, portals, and ISPs. RemarQ specializes in the development of brandable message board services designed to enhance project team collaboration and communication throughout the extended enterprise. Headquartered in San Jose, CA, RemarQ brings over 900 customers to Critical Path, including **Cisco**, **British Communications**, **Novell**, and **Siebel**. The all-stock transaction was valued at \$253 million.
- ◆ **Breakaway Solutions (BWAY)** made two acquisitions this quarter. The first announcement concerned Breakaway's definitive agreement to acquire **Eggrock Partners** in an all-stock deal valued at approximately \$250 million. Privately held and headquartered in Concord, MA, Eggrock is an IT consulting and systems integration firm with a growing application hosting practice. With estimated revenues of approximately \$12 million in 1999, a figure forecasted to double in 2000, Eggrock increases Breakaway's billable headcount by 516 professionals and adds two new solutions centers in Boca Raton and Minneapolis. In February **Breakaway** announced the acquisition of **DataCyr Corporation**. Privately held and based in Reston, VA, DataCyr provides a data integration and delivery platform that enables businesses to rapidly integrate information from a variety of data sources. The transaction was valued at \$6 million.
- ◆ **Interliant (INIT)** added to its application outsourcing practice with the acquisition of **The Jacobson Group**, a privately held services firm with expertise in the development and implementation of groupware and collaborative tools using Lotus Notes and Domino. The Jacobson Group specializes in solutions for distributed learning and online publishing. The cash and stock transaction was valued at \$7 million, over 2x The Jacobson Group's revenue run rate. **Interliant** also announced the acquisitions of **reSOURCE PARTNER, Inc. (RPI)** and **Soft Link, Inc.**, both specialists in PeopleSoft ERP applications. RPI is a PeopleSoft partner and provides hosting services for outsourced HR and finance applications, while Soft Link provides implementation services and management support for PeopleSoft applications.
- ◆ **The TriZetto Group (TZIX)** acquired **Healthcare Media Enterprises, Inc. (HME)**, an Internet development firm focused on the health-care industry. HME has expertise in developing messaging tools, portals, integration tools, and enterprise applications.
- ◆ **FutureLink (FTRL)** announced two acquisitions this quarter. The first concerned the acquisition of **MicroLAN Systems** (doing business as **Madison Technology Group**) and sister companies **Madison Consulting Resources, Inc.** and **Madison Consulting Resources of New Jersey**, collectively referred to as "**Madison.**" This acquisition expands FutureLink's Citrix-based offering and extends it into the financial services industry. The transaction consisted of \$57.5 million in cash, stock, and short-term notes. Madison generated revenues of \$16.6 million for the nine months ended September 30, 1999.

*FutureLink* also announced a definitive agreement to acquire *Charon Systems*, a Toronto-based provider of systems integration and Citrix-based services. The cash and stock transaction was valued at approximately \$31.3 million.

- ◆ *Netopia* completed its acquisition of *WebOrder*, an ASP and e-business development firm based in Los Altos, CA. The transaction was valued at \$21.5 million in cash and stock.

#### 2nd Quarter, 2000

- ◆ *The TriZetto Group (TZIX)* terminated its merger agreement with *IMS Health (RX)*, originally entered into in March 2000, after the stock prices of both companies dropped sharply following the merger announcement. That agreement was replaced by a strategic alliance under which TriZetto will acquire IMS subsidiary *Erisco Managed Care Technologies* for \$255 million in stock.
- ◆ *Critical Path (CPTH)* announced that it has entered into a definitive agreement to acquire *Netmosphere* for approximately \$40 million in stock. Based in Palo Alto, CA, Netmosphere is a provider of project collaboration and communication solutions.
- ◆ *Interliant (INIT)* acquired *Knowledge Systems, Inc. (KSI)*, a provider of virtual trade shows and Web outsourcing services. Based in Virginia, KSI will be integrated into Interliant's newly-formed Association Solutions unit to provide Web hosting and development services to vertically-segmented associations.
- ◆ ASP aggregator *ePanacea* announced that it is merging with *iTrain*, a provider of a real-time online software training development and delivery.
- ◆ *netASPx* announced the acquisitions of *Balrae Associates* and *United Systems Consultants*, two services firms specializing in Lawson implementations, systems integration, and business needs consulting.

#### 3rd Quarter, 2000

- ◆ *Critical Path (CPTH)* signed a definitive agreement to acquire *PeerLogic, Inc.*, a provider of e-business infrastructure and directory services. PeerLogic's solution provides messaging, security, public key infrastructure (PKI), and corporate information functionality; the company also provides certain enterprise application integration (EAI) products and services. The stock transaction was valued at \$416 million and adds 230 employees to Critical Path's roster.
- ◆ *Interliant (INIT)* announced the acquisition of two privately held, Dallas-based firms specializing in Oracle-related services. *Interactive Software, Inc.* and *Milestone Services, Inc.* were acquired for combined consideration of \$11 million plus a \$6.5 million earn-out. The two companies generated a combined revenue run rate of approximately \$7 million. Interactive Software combines Oracle consulting, implementation, training, and support services to not-for-profit and public sector organizations, while Milestone provides private-sector firms with Oracle consulting services.
- ◆ *Breakaway Solutions (BWAY)* also announced two acquisitions this quarter. In July Breakaway acquired *Zartis Limited*, a Dublin-based Web development firm, for \$18 million in cash and stock. Privately held, Zartis' 40 consultants have developed strong competencies in Web-based business-to-business systems, as well as the emerging wireless market. In August Breakaway announced the acquisition of *norSEC*, an outsourced network security provider headquartered in Norwood, MA. The norSEC acquisition is expected to augment Breakaway's firewall and intrusion detection services.
- ◆ *eOnline* announced the acquisition of privately held *Chicago Consulting Partners*, an IT services firm specializing in providing systems integration and related services for Ariba e-commerce applications.
- ◆ *Interpath* acquired *Alta Internet Business Centres*, an Australian ASP providing hosting services for e-commerce systems, commercial Web sites, enterprise software, and various custom solutions.
- ◆ *netASPx* announced the acquisition of *Business Systems Development Corporation (BSD)*, a Portland-based provider of Lawson implementation services. BSD is netASPx's ninth acquisition in the last seven months.
- ◆ *USinternetworking* extended its ERP implementation expertise with the acquisition of *EnableVision*, a systems integration firm specializing in Lawson implementation and integration services.





## About Cherry Tree & Co.

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Cherry Tree & Co. specializes in mergers & acquisitions, private placements and advisory services with an exclusive industry focus on Information Technology (IT) services.

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As a result of our customized approach and dedication to the IT services industry, our clients receive the most comprehensive and personalized investment banking service available.

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*“If we had to choose investment bankers all over again,  
we would definitely choose Cherry Tree & Co.”*

David Teckman, President  
Disc Systems

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