

Application Service Providers

Where are the real profit zones?

The ASP marketplace is in the midst of explosive growth. But many firms have jumped in with little thought to strategy and business design, and thus dim their prospects for success. This Commentary serves as a road map to help executives and investors navigate the emerging landscape. Our research has uncovered at least nine business design archetypes for ASPs, each with a unique and promising approach to creating sustained value.

It's the morning after for the business-to-consumer dot-com boom. Now, executives and investors in communications, software, and computing are fixing their gaze on the next big thing: Application Service Providers (ASPs). Analysts predict explosive growth, with the most aggressive forecasters envisioning the global market rising to \$20 billion by 2003, up from virtually nothing in 1999. Wall Street values many of the ASP pure plays at multiples of 50 to 100 times revenues, and venture capitalists are placing huge bets in the sector. Already, more than 500 ASPs have emerged in the United States to stake their claim in this next Internet-driven gold rush.

Yet amid the hype, there has been scant attention paid to strategy and business design in this new marketplace. As currently applied, the ASP label is dangerously imprecise, lumping together an assortment of very diverse businesses, ranging from powerful incumbents to brash start-ups. Jostling for a share of the emerging market are traditional telecommunications operators, competitive local-exchange carriers, Web-hosting businesses offering applications infrastructure, start-ups featuring purpose-built remotely hosted software, traditional software houses redesigning their offers for remote hosting, and systems integrators extending their services to the remote environment.

Within this varied group of providers is an equally diverse array of business designs, each based on a different view of the market opportunities. Thus far, these business designs speak more to an incumbent's technological roots than to any deep understanding of customer priorities.

This bubble, like the dot-com fervor, will inevitably burst. The lion's share of value will migrate to those firms that understand that it is the customer value proposition, not the underlying technology, which determines success or failure.

A set of fundamental but largely unexamined business questions will define ASP success: What are the emerging customer priorities, and which value proposition best addresses those needs? Which business designs have the greatest potential for strategic control and, therefore, sustained profitability? What are the implications for the current array of players in the ASP space? Our research suggests that a set of sharply differentiated business designs with the potential to achieve sustained profit growth already exist. This Commentary serves as a roadmap for the emerging ASP landscape.

Behind the nascent ASP marketplace is a broad movement of software applications from individual desktop PCs or company mainframes to large servers connected to the Internet, an Intranet, or an Extranet. In this new, network-centric model, employees, customers, suppliers, and business partners can access various applications across a wide range of computing platforms, including PCs, cellular phones, and wireless PDAs.

We believe that network-centric computing is here to stay, and is changing the economics and operating assumptions of the software, communications, and computing industries. The key question is who will reap sustained profits in this new environment. Start-ups and incumbents alike view application service provision as fertile, but dangerous, territory. Many telecom operators, for example, view ASP offerings as an efficient way to promote valuable services while decreasing dependence on commodity connectivity. Systems integrators see a natural extension of their applications implementation, maintenance, and outsourcing businesses. Software developers, in turn, see a way to regain control of customer relationships

and to substitute stable annuity revenues for volatile transactions. And entrepreneurs and venture capitalists see a vast opportunity for economic insurgency, using the Web to redefine how software is bought and used throughout corporate America.

The early returns

Innovative start-up firms such as Corio and Exodus were first out of the gate, grabbing the attention of customers, investors, and incumbent players.

But certain incumbent firms, notably systems integrators and traditional technology outsourcers, are well positioned to move into the ASP space. Given their knowledge of applications and their traditional role of shaping how technology is deployed in the office environment, systems integrators can be powerful gatekeepers in the customers selection of applications, solutions, and infrastructure. This gatekeeper position is forcing telecom operators to increasingly consider the systems integrator as the *de facto* customer, ceding control of the end-buyer. Moreover, remote hosting and management of hosted applications have increased network complexity, making it hard to separate the application-selection process from the overall system design. This strengthens the prescriber role of network and systems integrators when it comes to choosing software applications that support core business processes.

In contrast, telecom operators and software makers appear very vulnerable to being disintermediated and relegated to a commodity-provider role. Responding to this threat requires a radical rethinking of their traditional scope. Communications infrastructure should be seen in the context of supporting higher value services, in particular applications provisioning. Similarly, software developers appear vulnerable. The dominance of Microsoft, SAP, Siebel, and a handful of other giants masks the presence of hundreds of smaller vendors who exert little control over the end-customer relationship. These vendors will be under increased margin pressure as their historical channels of distribution consolidate or are substituted by much larger organizations commanding much higher strategic control of the customer relationship.

In response, firms that want to compete are complementing existing skills with acquisitions or alliances to integrate new capabilities traditionally considered the domain of other businesses—witness Deutsche Telekom’s recent acquisition of Debis Systemhaus, NextLink’s play for Concentric, NTT’s bid for Verio, and Qwest’s partnerships with KPMG and IBM Global Services. These moves help position the incumbents to compete, but they are only a start.

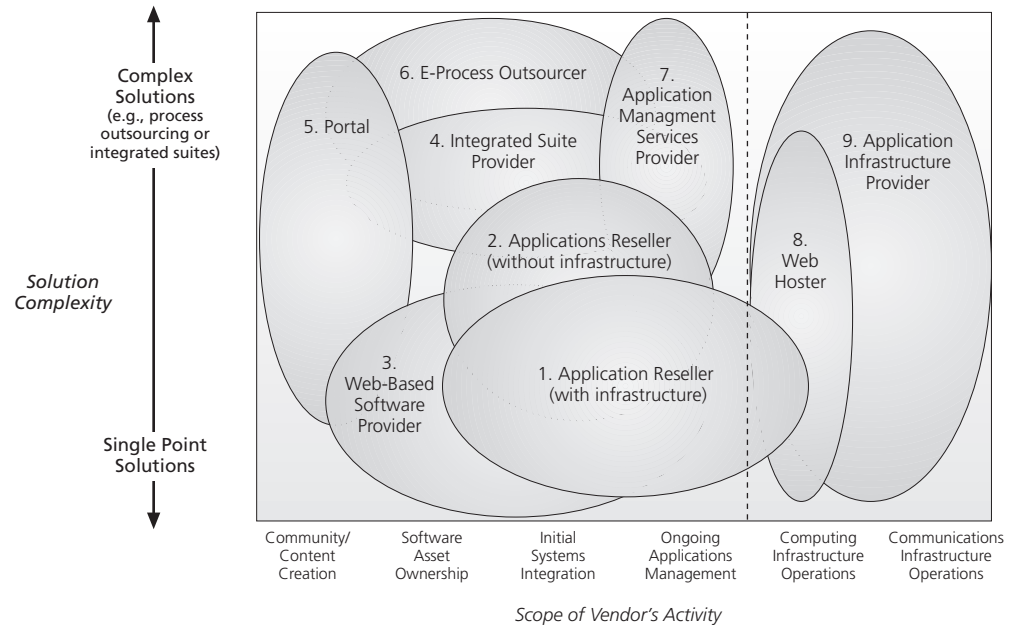
Business design archetypes

The shift to a network-centric computing model further blurs the distinction between software and services. Navigating this landscape can be risky. To help executives understand the lay of the land, our research has uncovered at least nine distinct business design archetypes within the ASP marketplace. Each represents a unique, highly selective mix of the activities that, taken together, make up this new marketplace (see Exhibit 1).

While traditional strategy approaches focus narrowly on one or two product-centric strategy elements, the discipline of business design thinking stresses the importance of making decisions across five broad and interrelated dimensions: customer selection and value proposition, value capture (or profit model), scope of activities, strategic control, and the organizational structure that delivers utility to customers and creates shareholder value.

Understanding each of these business-design archetypes—identifying how their component parts fit together to drive profitability, sustainability and shareholder value—is critical to unlocking the value-creation potential of the ASP marketplace. For executives deciding where to place bets, insight into the distinct competitive advantages of each business design helps avoid building or acquiring ASPs with inferior operating frameworks. Similarly, investors and analysts who continue to view ASPs through a monochrome lens will lack the ability to spot the leading indicators of winning plays.

Exhibit 1
ASP business designs



Thus it is useful to map business designs along two dimensions, one being the scope of activity and the other being the complexity of the solutions offered. The business design archetypes include:

- 1) Traditional, infrastructure-owning applications resellers such as US Internetworking and Interliant
- 2) Non-infrastructure resellers such as Corio and Applicast
- 3) Web-based independent software providers such as Sales.com and Portera
- 4) Integrated-suite providers such as Oracle Business Online
- 5) Portals such as Transportal and VerticalNet
- 6) E-process outsourcers such as EmployEase and CyberSource
- 7) Application-management providers such as IBM Global Services and Cap Gemini
- 8) Web hosters such as Exodus and Global Center
- 9) Application-infrastructure providers such as AT&T and Qwest

A quick assessment of customer selection, scope of activities and value capture further illustrates their distinctive characteristics (see Exhibit 2).

Exhibit 2
Business design archetypes

	1&2. Application Reseller	3. Web-Based Software 4. Integrated Suite Provider	5. Portal	6. E-Process Outsourcer	7. Applications Management Services	8. Web Host 9. Application Infrastructure Provider
Sample Companies	<ul style="list-style-type: none"> With infrastructure: USInternetworking Without: Corio, Applicast 	<ul style="list-style-type: none"> Web software: Portera, e-Room, Sales.com Suite: Oracle Business On-Line 	<ul style="list-style-type: none"> Transportal, VerticalNet, WebMD/Healthcon 	<ul style="list-style-type: none"> Employeease; Electron Economy; CyberSource 	<ul style="list-style-type: none"> IBM Global Services; Cap Gemini 	<ul style="list-style-type: none"> Hoster: Exodus, Global Center AIP: Qwest, AT&T
Customer Selection	<ul style="list-style-type: none"> Initially medium-sized companies and fast-growth start-ups Some moving to larger enterprises 	<ul style="list-style-type: none"> Varies by application Generally mid-sized firms, but many larger firms adopting for some solutions 	<ul style="list-style-type: none"> Vertical industry or specific customer segment 	<ul style="list-style-type: none"> Varies, but generally attract smaller to mid-sized firms 	<ul style="list-style-type: none"> Global 2000 with complex enterprise applications. Either legacy or packaged (e.g., SAP, Siebel) 	<ul style="list-style-type: none"> Other ASP models (#1-7) are their customers
Scope of Activities	<ul style="list-style-type: none"> Initial system integration Application management Application rental/financing 	<ul style="list-style-type: none"> Application development Application management 	<ul style="list-style-type: none"> Content and application packaging and customization Limited application management 	<ul style="list-style-type: none"> Generally own software assets Application management Business process outsourcing 	<ul style="list-style-type: none"> On-site and/or remote application management 	<ul style="list-style-type: none"> IT outsourcing Communications outsourcing Intelligent network services
In-house						
Partner Provides (but included in ASP's offering)	<ul style="list-style-type: none"> Type 1 provide IT outsourcing directly Type 2 use partners Communication outsourcing 	<ul style="list-style-type: none"> Initial system integration IT and communication outsourcing 	<ul style="list-style-type: none"> IT and communication outsourcing 	<ul style="list-style-type: none"> IT and communication outsourcing 	<ul style="list-style-type: none"> Initial SI either in-house or by third party IT and communication outsourcing (optional) 	<ul style="list-style-type: none"> N/A
Value Capture	<ul style="list-style-type: none"> Per month, per user contracts 	<ul style="list-style-type: none"> Generally per month, per user, but varies 	<ul style="list-style-type: none"> Advertising and/or subscription fees Sometimes per transaction charges 	<ul style="list-style-type: none"> Typically per transaction charges 	<ul style="list-style-type: none"> Multi-year, customized fixed-price contracts - often tied to per user fees 	<ul style="list-style-type: none"> Per square foot or per unit of processing power Sometimes a revenue sharing model

The ASP value proposition

While the early buzz has focused on the shift in pricing from a one-time license to a rental model, this is a minor development, as almost any customer can find financing options that emulate a rental scenario. More important ASP benefits include:

- *New application functionality:* This is the most important yet least discussed driver of value creation. A network-centric model enables functionality, such as intra- and inter-company collaboration, that is impossible within traditional IT frameworks. The announced launches of more than a thousand business-to-business exchanges, for example, would not be possible without Internet software from companies such as Xelus, i2, Ariba, and Commerce One.
- *More effective utilization of scarce IT resources:* In the United States alone, an estimated 1.6 million IT jobs will open up during 2000, and as many as half will go unfilled. Aggregating and remotely managing applications for dozens of companies enables service levels to improve and significant economies of scale to be achieved.
- *Broader access:* The corporate world's need to have more people access more information from disparate platforms is also driving the new model. New Internet and wireless standards such as XML and WAP will enable companies to provide such access.
- *Faster implementation and lower cost:* With speed-to-market pressures intensifying, the 18-to-24-month implementation cycles for enterprise applications have become obsolete. Implementation times can be greatly reduced through standardization.
- *Predictable costs:* A flat monthly fee model, which makes costs more predictable, is a more compelling value proposition than the "rental versus buy" argument.
- *Scalability and reliability:* E-business-architected applications have proven to be much more scalable than traditional models. Moreover, applications designed for a server (generally using UNIX or NT) are much more reliable than desktop systems.

At this writing, more than 500 ASPs are in operation worldwide, and we expect to see several thousand more develop over the next few years. Clearly, not all of these companies will win or even attain viability. Inevitably, as with the dot.com phenomenon, much enthusiasm, capital, and effort will be wasted on poor business designs.

What will separate winners and losers in the ASP space is strategic control. The ability to protect profit streams from being eroded by competitors and powerful customers is a sound measure of the magnitude and sustainability of an ASP's business design.

While the business design archetypes discussed here demonstrate varying degrees of strategic control potential (see Exhibit 3), any company competing in this space must be able to exert significant leverage over at least one strategic control point in order to achieve long-term success and superior profitability.

Exhibit 3
Strategic control

Potential Sources of Strategic Control

Major Strategic Control Points	Higher	De facto industry standard <ul style="list-style-type: none"> • Very unlikely in Reseller ASP, AIP, AMS or Hosting models given limited barriers to entry • Some potential in Web Software or Portal model. Network economics might encourage rise of a de facto standard Portal, and software industry proven over time to have one de facto standard gold-medalist per solution area (e.g. SAP in ERP and Siebel in CRM)
		Strong, ongoing customer relationships with switching costs <ul style="list-style-type: none"> • Varies widely <ul style="list-style-type: none"> – Low customer control/low switching costs if commodity applications with dozens of ASP licensees – Medium control if vendor provides multiple applications per customer and/or maintains a high percentage of total application functionality – High control with software asset ownership or business process outsourcing services
		Software/content asset ownership <ul style="list-style-type: none"> • High potential in Web-based Software and Portal models • Minimal potential in Reseller, AMS and AIP models unless they develop proprietary middleware or proprietary customization of third-party software
		Strong brand equity <ul style="list-style-type: none"> • Potential exists, but with over 500 companies in the industry, no one has established a dominant brand
		Time to market lead <ul style="list-style-type: none"> • Mixed – Some early leaders, but over 500 ASPs already exist, none with a dominant position • May be able to establish stronger brand equity with focus on certain industries or customer segments
	Lower	Sustainable cost/scale advantage <ul style="list-style-type: none"> • Some in Web Hosting/AIP businesses, but scale advantage is small to nonexistent in other archetypes

Indeed, two of the most potent strategic control points within the ASP market are fast becoming *de facto* standards: owning a software asset or creating a strong customer relationship with significant switching costs. These strategic control points are only attainable within one or two of the design archetypes detailed here.

By contrast, we see little promise in the reseller model currently embraced by the perceived industry leaders including USinternetworking and Interliant. The degree of strategic control exercised by these businesses is only moderately better than that of traditional systems integrators. While the global systems-integration market is huge, the switching costs are extremely low, as evidenced by the more than 100,000 companies in technology services worldwide, none with a market share exceeding 6 percent. Far more promising are archetypes that contain software asset ownership or develop customer stickiness through vertical portals or business-process outsourcing (see Exhibit 4).

Exhibit 4
Strategic control potential
by business design

	1&2. Application Reseller	3. Web Software Vendor 4. Suite Provider	5. Portal	6. E-Process Outsourcer	7. Applications Management Services	8. Web Host	9. Application Infrastructure Provider (AIP)
De facto standard							
Strong customer relationship							
Software/Content asset ownership							
Superior industry/process knowledge							
Strong brand equity							
Time to market lead							
Scale cost advantage							
Overall Assessment of Strategic Control	Low/Medium	Medium/High	Medium/High	Medium/High	Medium	Low/Medium	Medium

= not a control point
 = minor source of control
 = moderate source of control
 = major source of control

Market direction

While no one can predict each twist and turn of the Internet and network-centric computing, a few developments seem likely. Over the next six months, they will be played out at top speed, effectively squeezing a boom and bust cycle into a time frame much shorter than the lifespan of the B2C dot-com craze.

First, we anticipate significant consolidation, mirroring the growth and eventual consolidation of the Internet service provider (ISP) market, which began with thousands of small players serving local markets and rapidly consolidated into fewer, larger players offering a deeper mix of services. This concentration of ASP businesses could evolve in several directions:

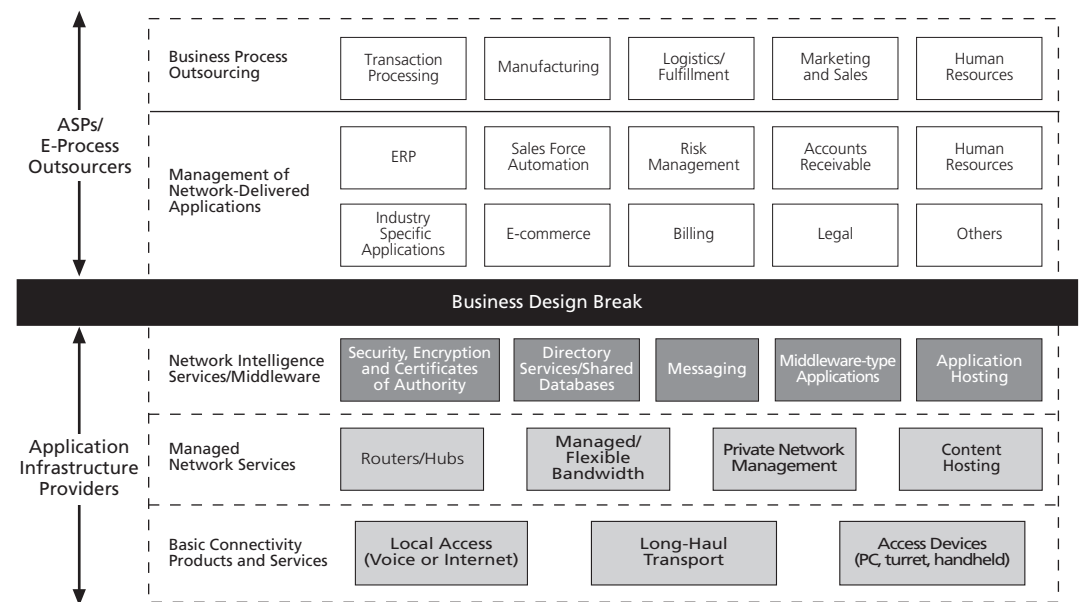
- *Emergence of vertical portal ASPs.* Thus far, the classic ASP businesses have not tried to exploit the collaboration and community-building power of the Internet. Many industries including financial services, professional services, media and entertainment, and health care may provide the opportunity for ASP firms to combine industry specific content and applications to create compelling vertical portal ASPs. This trend may accelerate as the business plans for most of the industry-specific B2B exchanges and community portals look to incorporate ASP-like functionality in their Web sites.
- *Rise of horizontal category killers.* An alternate path may be the emergence of companies that dominate particular solution areas, such as billing, e-mail, human resources administration, or sales force automation. Firms that aggressively assemble the best capabilities and functionality may be able to develop category-killer scale and brand, enabling them to cornerstone into a wide range of industries.
- *Aggregation and packaging.* Recently, firms such as Applicast and Jamcracker have been aggregating and packaging ASP offerings in order to offer best-in-breed suites of services to customers and reduce the number of operational and technologic provider interfaces that customers need to manage.

The second major development we foresee, even as customer offerings consolidate, is a “break” in business design between applications management and infrastructure

management (see Exhibit 5). The stakes are rising in the Web-hosting/applications infrastructure provider (AIP) space. At this point, a world-class provider must have, or plan to build out, 20 or more data centers globally with fully redundant communications and utility systems and leading-edge security solutions. These rising barriers to entry will force virtually all ASP archetypes to abandon the capital intensive data-center business; instead, many will choose to partner with AIPs, allowing them to focus on core application-management activities.

Additionally, the complexity of managing applications is too high a hurdle for Web hosters/AIPs to overcome, reinforcing this business design break. As Ellen Hancock, CEO of Exodus, was recently quoted as saying: “We are not going to know applications. We’re not in that business. We just support the ASP . . . We have no notion of competing with Oracle on e-commerce. We do not intend to ever understand HR apps. That’s a whole different skill base, and we don’t have it.”

Exhibit 5
The ASP/AIP “Break”



This business design break will likely breed another form of competition: the rise of intelligent network management services from AIPs and Web hosters. As basic Web hosting becomes commoditized, AIPs will look to add consulting and intelligence services (as shown in the third layer in Exhibit 5) into their infrastructure, allowing them to earn a premium on their services. We expect a major battle among ASPs, AIPs, and traditional telcos for this layer of intelligent network services.

Finally, while the sweet spot for ASP solutions currently consists of applications accessed from the desktop PC, as broadband wireless technologies evolve, we anticipate the rise of the mobile ASP service. The ASP market is poised to explode with the rise of PDAs, pagers, cell phones, and even smart wristwatches, providing wireless, broadband access to the Internet and the applications that ride on it. This development, in turn, will require a new surge in infrastructure development, from devices and operating systems to transmission networks.

Implications for incumbents

The convergence of the software, hardware, and communications industries is driving the proliferation of ASPs. Incumbents in each of these arenas have at least some of the capabilities required to capture value in this rapidly growing market. But simply calling oneself an ASP, issuing a press release, and choosing a catchy name will not be enough. Before placing their bets, incumbents should address some fundamental strategic issues:

Software companies must ask themselves: “Do I become an ASP—directly selling and supporting my applications via the Web—or do I license my applications to ASPs for resale?” Choosing to become a *bona fide* ASP requires a fundamentally different business model and major investments in new software-code development. Software incumbents must think through the implications of building or renting new infrastructure, taking on the layers of application customization that are currently performed by customers, value-added resellers, and system integrators, and delivering the service-level agreements required for outsourcing deals.

They must also think through the moves and countermoves that incorporate the economics of rental pricing and the loss of maintenance and upgrade revenue streams, as well as the potential impact of sharing value with a hosting or AIP partner. If a software firm decides to license products to a vertical or horizontal ASP specialist, its challenge will be to maintain some level of customer relationship, lest the firm become a *de facto* OEM.

Communications companies must address a basic question: “Can I focus on the hosting/AIP role, or do I need to move further up the value chain?” Many communications incumbents will leap at the chance to become a host or an AIP, in the belief that they cannot afford to let this opportunity pass by. But that move begs the question: What features, functionality, and other value-proposition elements do service providers need to build into their networks to become the carrier and host of choice for ASPs? Is it enough to build great operating infrastructure? Assuming all communication companies rush to reinvent themselves along the AIP business design, what happens to the margins of the hosting business? Which combination of network and managerial assets will separate the winners from the losers?

The competitive chessboard is growing more and more complex, the result of the merger of the office environment (LAN) with the wider area network (WAN) and public networks, enabled by the Internet and the proliferation of remote-access devices and the emergence of remote hosting. Telecommunications operators are being forced to build network and systems-integration capabilities that overlap those of traditional systems integrators. Billions of dollars of shareholder value will be won or lost according to how well these issues are addressed.

Systems integrators have the critical application-integration and management skills—and in many cases the customer relationships—to address these new challenges, but their project-based business designs translate poorly to an outsourcing-like ASP model. Moreover, they have been able to avoid taking over responsibility for managing infrastructure. In both of these areas, however, the competitive dynamics unleashed by the emergence of ASPs may force their hands.

Systems integrators thus are on a collision course with software and communications firms for control of the customer relationship. On the one hand, customers are asking technology service firms to take responsibility for selecting remote applications infrastructure, allowing the systems integrators to disintermediate, and potentially commoditize software and infrastructure providers. On the other hand, the growing dominance of open standards will undermine the gatekeeper power of systems integrators. In addition, in remotely hosted environments, systems solutions have more to do with networking architecture and middleware than they would in a desktop PC or captive mainframe environment. Systems integrators generally do not possess the required capabilities. Leading telecommunications operators either already have or are busily assembling the relevant capabilities on the back of their ASP and remote-hosting services. Systems integrators have to decide how to stay ahead and remain first in line for advising the customer.

Hardware and equipment companies would seem to have bright prospects as arms merchants in a new war between computing and communications. But today's customers have different priorities, with more complex and exacting requirements regarding bandwidth level, network integration, service creation, quality of service, and flexibility. Moreover, not all customers are created equal, and not all of them will survive. Hardware vendors need to determine which business models or companies they believe will be long-term winners, and thus which are high-priority customers. They will have to focus relentlessly on the distinctive product, feature, and support requirements of those firms. If they don't, they risk having another vendor become the *de facto* standard to which most hosts and ASPs will turn.

* * *

The value creation potential of the ASP revolution is real, but so are the risks. As incumbent players adapt to compete with the new insurgents, a new set of business designs is emerging. Executives already in or contemplating entering this market must develop a clear and internally consistent point of view regarding the customers they want to target; identify a sustainable source of strategic control to leverage; and learn to quickly rescope their business designs and retool their capabilities. Companies that rush to become ASPs at any cost—focusing on technology and internal capabilities rather than addressing their customer's critical priorities—will flame out like bottle rockets crashing quickly back to earth.

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