

## For Cloud, Age and Size Do Matter (Yankee Group)

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**THE BOTTOM LINE:** Newer enterprises are twice as likely to use cloud computing as are older firms. And while small and midsize businesses (SMBs) are often closely associated with the cloud, older SMBs are not as ripe for cloud as assumed. Using data from our enterprise surveys, we show cloud vendors and communications service providers in particular how best to target enterprise customers.

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### EXECUTIVE SUMMARY

Cloud customers are a finicky bunch; the types of services they're willing to consume vary widely, as do the issues and preferences they have for vendor attributes. Key factors indicating a company's level of interest in cloud services are its size and age, and segmenting companies based on these metrics helps us understand enterprise adoption trends and attitudes regarding the cloud. Yankee Group segments businesses into four sectors (see Exhibit 1). These include:

- **Startups:** Consisting of SMBs (sub-500 employee firms) founded in the last 10 years, this segment includes Web 2.0 companies such as Foursquare, Twitter, etc.
- **Mom and Pops (M&Ps):** Consisting of SMBs older than 10 years, this segment includes neighborhood banks, small accounting firms, single-site dentist and doctor offices, etc.
- **Strivers:** Consisting of enterprises (500-plus employee firms) founded in the last 10 years, this segment includes quick-growing, technology-focused enterprises such as Zappos and Facebook.
- **Legacies:** This segment includes the traditional Fortune 1,000, including companies like General Electric, Wal-Mart, Procter & Gamble and Exxon Mobil.

Generally, newer enterprises—those founded within the last 10 years—are twice as likely to use the cloud as are older firms. They are optimistic that the cloud will evolve into a primary IT platform over the next several years and are willing to buy services from newer cloud companies coming from outside the traditional IT market, such as Amazon, Google or Terremark.

Meanwhile, cloud usage is significantly rarer among older enterprises, which hold a conservative view of the technology, according to Yankee Group's Anywhere Enterprise—SMB and Large: 2009 U.S. Transforming Infrastructure and Transforming Applications Survey, Wave 1-12. Such firms are often entrenched in legacy IT architectures, applications and platforms, and are more likely to choose more established names for their cloud needs—service providers and vendors such as AT&T, IBM and Microsoft—than newer cloud upstarts.



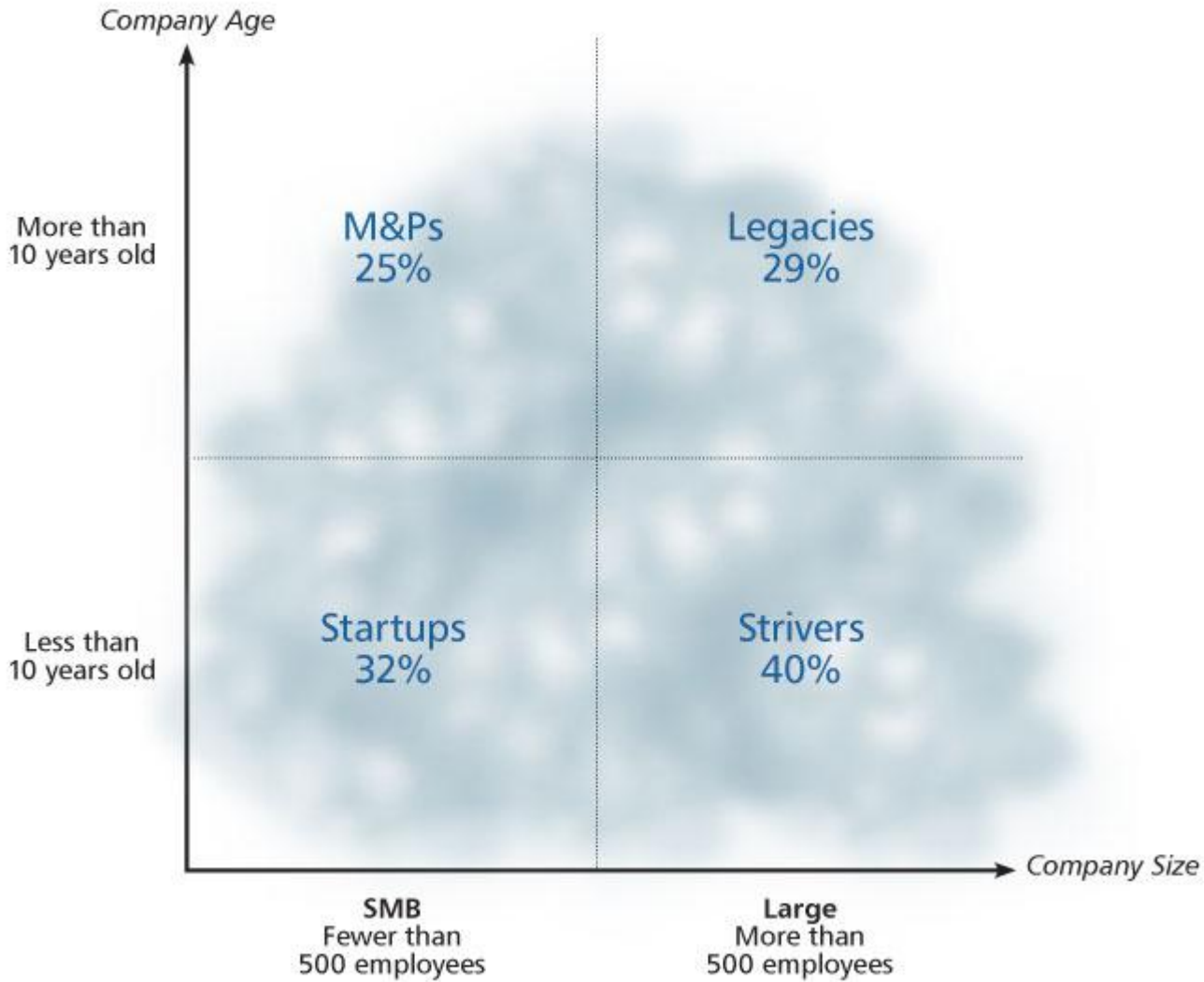
Interestingly, some SMBs—companies smaller than 500 employees and long thought of as a sweet spot for cloud purveyors—are not as ripe a target for so-called “as-a-service” offerings as their larger enterprise cousins. Here, age plays a considerable role: Older SMBs (founded more than 10 years ago) often resemble older enterprises in their cloud outlook; while not necessarily tied to the sprawling IT infrastructures of larger firms, such companies can become bogged down in boxed IT solutions or bundles that “just work” and are hard to discard.

By understanding who is using the cloud now, and who is likely to use it in the future—as well as the motivations and inhibitors affecting these plans—communications service providers (CSPs) can more strategically target what types of cloud services they build, and how these offerings are marketed and positioned toward various customer types. Yankee Group recommends CSPs looking to entice older enterprises to cloud services should focus on those firms’ key pain points and offer services with guarantees around security, availability and service levels. They should also consider partnering with newer “as-a-service” vendors in an effort to gain credibility with the younger Startup and Striver segments.

#### **EXHIBIT 1: CLOUD COMPUTING IS A YOUNG COMPANY’S GAME**

SOURCE: YANKEE GROUP ANYWHERE ENTERPRISE—SMB AND LARGE: 2009 U.S. TRANSFORMING INFRASTRUCTURE AND TRANSFORMING APPLICATIONS SURVEY, WAVE 1-12

**Companies that plan to deploy cloud computing for the first time in the next 12-24 months, by company size/age segmentation**



**I. METHODOLOGY**

This report examines two distinctive cloud platforms: infrastructure as a service (IaaS) and platform as a service (PaaS). IaaS is defined as an on-demand, elastic cloud service for provisioning physical servers, storage and other hardware-centric IT assets as an Internet-based service. Amazon’s EC2 and S3, as well as AT&T Synaptic Hosting, are examples of IaaS. PaaS, a more narrowly focused offering, is a combination of an underlying IaaS offering with a specific application stack, application programming interfaces (APIs) and other tools, all offered as a service, for developing and deploying enterprise servers and applications in a cloud.



For this report, Yankee Group analyzes the IaaS and PaaS adoption trends among SMBs (firms with fewer than 500 employees) and large enterprises (which have more than 500 workers), based on Yankee Group's Anywhere Enterprise—Large and SMB: 2009 U.S. Transforming Infrastructure and Transforming Applications Survey, Wave 1-12. We also consider company age, be it young (founded in the last 10 years) or old (incorporated more than 10 years ago). Four interviews with businesses considering and implementing cloud computing of all kinds were also conducted in the second quarter of 2010 to supplement the data findings.

## II. CLOUD CUSTOMERS FALL INTO FOUR CLEAR CATEGORIES

Our analysis finds distinct attributes, plans and overall philosophies about cloud computing falling into four main segments:

- **Startups** (SMBs founded within the last 10 years) are fast movers into the cloud. They see it as a way to cut costs and run a lean operation while they concentrate on developing their core business.
- **M&Ps** (SMBs founded more than 10 years ago) are much more averse to cloud computing than might be expected; they tend to have much in common with Legacies.
- **Strivers** (large enterprises founded less than 10 years ago) are the most aggressive cloud adopters. They view the technology as a productivity engine as well as a cost-reducer.
- **Legacies** (large enterprises older than 10 years) are predictably the slowest adopters of cloud computing. They are encumbered by entrenched, sprawling IT systems and face more complexity than smaller or younger firms.

Clear divisions emerge from our analysis along lines that may seem familiar: new and old, large and small. Generally, younger SMBs and large enterprises (Startups and Strivers) have much more ambitious plans around cloud computing than older organizations do. These firms are not afraid to rely on new entrants in the IT/services market, and they see cloud computing as primarily an enabling technology. Older firms—both large and SMB—take a more conservative approach to cloud services and are likely to stick with the traditional vendors they know. However, there are many levels of nuance to be explored regarding these customer segments' expectations, challenges, needs and issues with IaaS and PaaS technology.

## III. A CLOSER LOOK AT CLOUD ADOPTERS

### STRIVERS: RAPID GROWTH PUSHES CLOUD ADOPTION

Often, companies dealing with rapid growth must adopt new, if not radical, ideas and processes. Newer firms that have thousands of employees, such as shoe retailer Zappos (acquired by Amazon last year) and Facebook, are well-known for jumping on cloud technology early to run lean internal IT infrastructures, lower overhead costs and provide a flexibly dynamic environment for growth.

Strivers' general approach to the cloud is often more of a tactical necessity and less of a strategic technology choice. Maybe these firms did not start out with cloud platforms at inception, but rapid growth—often adding

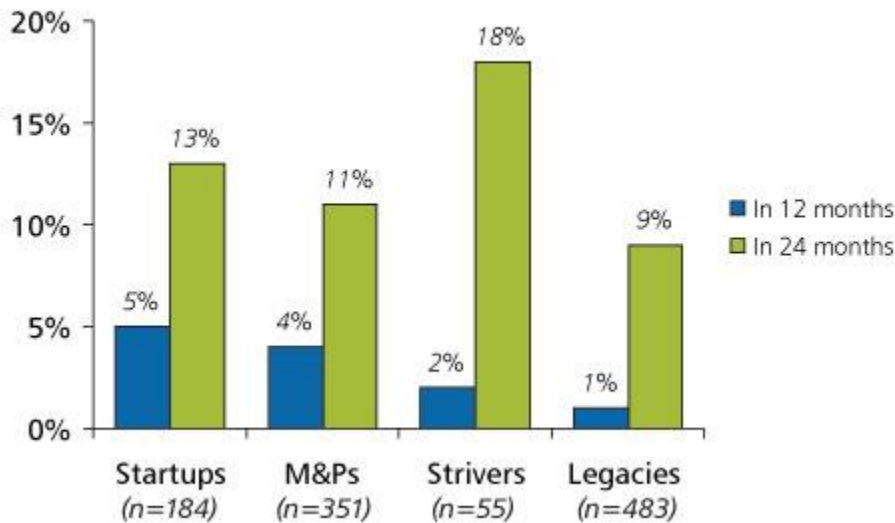
thousands of employees, applications, storage and infrastructure in a short time—forced them to find quick remedies to serious IT growing pains.

Interestingly, Strivers, though larger than SMBs, have more aggressive IaaS plans than do smaller firms, both young and old. Over 80 percent of Strivers say they are either using cloud computing now or will adopt some level of cloud computing within the next 12 months. The level of cloud adoption is also much higher among Strivers: 47 percent of these firms say they will have more than 40 percent of their total IT infrastructure on cloud platforms in the next 12 to 24 months; this is double the level (20 percent) at which our other large enterprise segment, Legacies, estimates they will be in two years. Similarly, Strivers will have the largest increase in cloud spending in the next 24 months (see Exhibit 2).

**EXHIBIT 2: STRIVERS ARE TOPS IN CLOUD SPENDING**

SOURCE: ANYWHERE ENTERPRISE—LARGE AND SMB: 2009 U.S. TRANSFORMING INFRASTRUCTURE AND TRANSFORMING APPLICATIONS SURVEY, WAVE 1-12

**Businesses with more than 50% of IT budget spent on cloud**



It follows, then, that this younger enterprise category plans to spend the most on cloud computing services, in terms of percentage of budget, over the next 24 months. More than a third of Strivers say 50-80 percent of their IT budget will be earmarked for cloud services over the next two years; no more than 20 percent of any other organizational category plans to make such a large cloud bet.

Strivers are least interested in using cloud computing as a cost-cutting tool; only 47 percent say this is among their top three motivations for deploying cloud computing (the lowest frequency among the organizational types). Strivers also involve IT the most in terms of decision-making; three quarters of these companies say IT is involved in cloud decision-making, more than any other customer category. Strivers are also the least likely to involve executive management in cloud computing decisions; only 19 percent of such firms say executives have a place at the table

when deciding on cloud spending/deployment. This reflects a certain “get-it-done” ethos among Strivers, where executives, having grown the business furiously in a short time period, cede control to technologists quickly as their environments become complex. By contrast, cloud decisions at Startups are driven more by executives (see Exhibit 3).

**STARTUPS: CLOUD IS THE LIFEBLOOD**

In the last 10 years, Startups have been associated with Internet technology, software and other IT products and services, although a healthy Startup market is emerging in other areas such as biotech and green energy.

For Startups, the decision to go with cloud computing begins at the top; 45 percent of Startups say executive-level decision-makers are primarily involved in choosing their IaaS and PaaS strategy and vendors. Startups view the cloud as a key differentiator and as much of a critical factor for the businesses’ future as core business functions, such as R&D, sales or marketing. (IT is the primary cloud decision-maker in over two-thirds of Strivers and Legacies; a little more than half of M&Ps leave cloud decisions to IT).

**EXHIBIT 3: STARTUPS LEAVE THE CLOUD DECISION TO EXECUTIVE MANAGEMENT**

SOURCE: ANYWHERE ENTERPRISE—LARGE AND SMB: 2009 U.S. TRANSFORMING INFRASTRUCTURE AND TRANSFORMING APPLICATIONS SURVEY, WAVE 1-12

**Who is your primary decision-maker for cloud-based infrastructure and platform services?**

	<b>Startup</b>	<b>M&amp;P</b>	<b>Striver</b>	<b>Legacy</b>
<i>Sample Size</i>	216	440	58	561
<i>Executive Management</i>	45%	37%	19%	22%
<i>Line-of-Business Executives/Leads</i>	6%	5%	5%	10%
<i>Individual Users</i>	0%	2%	0%	1%
<i>IT</i>	46%	56%	76%	68%

Startups are least likely to create their own private cloud infrastructures (only 41 percent will consider it, versus more than half of respondents in all other categories surveyed). This follows the emerging concept of “lean startups,” similar to the lean manufacturing ethos, where every dollar spent on the business must be tightly coupled with a productivity or revenue-generating metric. While the overall “lean” concept extends to many industries and companies of all sizes, Startups are best positioned to deploy cloud services as their main infrastructure in order to go lean. By contrast, Legacy attempts to get leaner via internal IT transformation can be painful and disruptive.



However, it is a myth that all small, young companies are completely cloud-based or use cloud platforms for the majority of their IT. Only 5 percent of Startups in 2009 put more than 50 percent of their IT infrastructure in the cloud. This was the most compared to other cloud customer types, but much lower than might be expected due to the popular impression of the “cloud-based” startup. The majority of Startups (66 percent) use cloud computing for 20 percent or less of their IT infrastructure. However, 13 percent of these firms say they will reach the 50/50 internal/cloud IT tipping point in the next 12-24 months (second only to Strivers, 18 percent of which say they will spend more than half their IT budget on cloud).

With such a reliance on cloud platforms, service availability is paramount for Startups using IaaS and PaaS. Almost 50 percent say availability is among their top three criteria for choosing a vendor. This is the classic eggs-in-one-basket issue Startups face when considering where to put the entire future of the business (see Exhibit 4).

A great example of Startups’ approach to the cloud (versus others) is captured in an anecdote from a 2009 venture capital conference. Every company in VC firm Benchmark Capital’s portfolio of more than 50 firms, including social networking site Twitter and consumer reviews site Yelp, was relying on Amazon Web Services for its IT infrastructure. Some firms did not have “a single IT guy,” noted Peter Fenton, a Benchmark partner, quoted in an article on VentureBeat.com. But when a handful of representatives from other VCs were pressed to reveal if they themselves used cloud computing, few acknowledged widespread use, citing fears of data loss and disclosure of sensitive data.

#### **EXHIBIT 4: TOP ATTRIBUTES AND BARRIERS FOR CLOUD ADOPTION VARY WITH COMPANY SIZE AND AGE**

SOURCE: ANYWHERE ENTERPRISE—LARGE AND SMB: 2009 U.S. TRANSFORMING INFRASTRUCTURE AND TRANSFORMING APPLICATIONS SURVEY, WAVE 1-12

## What are your top attributes for choosing a cloud provider, and what are your top barriers to cloud adoption?

### M&Ps

<i>Top attribute</i>	<b>Cost</b>	<b>67%</b>
	Security	51%
	Customer support	43%
<i>Barrier</i>	<b>Reliability/availability of cloud platforms</b>	<b>46%</b>
	Unproven technology	34%
	Virtualization security	32%

### Legacies

<i>Top attribute</i>	<b>Security</b>	<b>61%</b>
	Cost	56%
	Service availability	45%
<i>Barrier</i>	<b>Reliability/availability of cloud platforms</b>	<b>46%</b>
	Unproven technology	34%
	Virtualization security	32%

### Startups

<i>Top attribute</i>	<b>Cost</b>	<b>58%</b>
	Security	50%
	Service availability	49%
<i>Barrier</i>	<b>Reliability/availability of cloud platforms</b>	<b>46%</b>
	Virtualization security	34%
	Unproven technology	34%

### Strivers

<i>Top attribute</i>	<b>Service availability</b>	<b>48%</b>
	Cost	47%
	Security	47%
<i>Barrier</i>	<b>Virtualization security</b>	<b>39%</b>
	Reliability/availability of cloud platforms	35%
	IT governance is challenging in the cloud computing environment	35%

### LEGACIES: SLAS AND SECURITY ARE TOP CONCERNS

Older enterprises have more concerns about the fundamentals of cloud computing, such as security, reliability and service assurances. Thirty-one percent of Legacies say network- and application-specific service-level agreements (SLAs) are among the most important measures for them when deploying cloud computing (only 17 percent of Strivers say SLAs are a critical issue). Legacies are also far more security-conscious than Strivers; 61 percent say security is a top criterion when choosing a cloud partner, while only 47 percent of Strivers say this.

As a percentage of IT spend, Legacies are the stingiest when it comes to the cloud. More than 90 percent of these firms spend less than 50 percent of their IT budget on cloud computing services. IT is involved in cloud spending decisions in the majority of Legacies (66 percent), and only 22 percent of Legacies say executive-level decision-



makers are involved in their cloud computing decisions. This is similar to Strivers but differs from smaller firms—both Startups and M&Ps—where principals of the business generally have more say over IT in general. Both of these trends—IT spending percentage and IT-centric decision-making—point to the tactical nature of cloud projects in most large, older companies.

Legacies—which typically operate in more countries than Strivers and often have larger customer bases—tend to also have more regulatory pressures. Over a quarter of Legacies (28 percent) cite regulatory issues as a cloud barrier, more than any other adopter category. Such firms, more often than not, have learned from past mistakes around security and are therefore more wary of their vendors in general.

This category also is the most inclined toward private cloud adoption, citing it as their most preferred deployment model. One large company deploying a private cloud, a North American subsidiary of a global soft drink manufacturer, embodies much of Legacies' overall thinking toward cloud adoption. A 100-year-old business with tens of thousands of employees, the firm recently embarked on a major internal cloud deployment using a virtualized server, networking and storage platform across multiple data centers in North America. As the company explores options such as internal data center transformation and external clouds, it finds the current field of offerings confusing and challenging to parse.

"You ask 10 people [on our IT staff] their definition of a cloud, and you'll probably get 10 different definitions," says the director of IT for the beverage-maker. "That's because it's not really mature yet. I would like to say we're open enough to consider the right technology for the right challenge, whether it be our internal cloud or even an external public cloud. It may be an option we choose for some specific need—such as putting second-level storage on a public storage cloud. Would I put my customer data out there? Heck no."

## **M&PS: WARY OF THE CLOUD**

Examples of M&Ps vary widely, from purveyors of specialty products and craft goods, to accounting and legal offices, to transportation firms. When it comes to IT, M&Ps are often tied to vertical-market IT solutions installed to automate business processes or adopt new application or database technologies as business needs arose. Inertia keeps many of these firms wedded to existing platforms and software packages, which once provided breakthrough productivity or cost-saving enhancements, but are now just maintenance cost burdens that can hold back the business.

M&Ps are split on the cloud's potential; as many M&Ps think cloud computing is an enabling technology (40 percent) as think it is will take years to mature. Lowering costs is the motivating factor for M&Ps to adopt new technology, and this is no different for cloud computing; more than two-thirds (67 percent) of M&Ps see the cloud as a means of reducing IT costs—more than any other category of adopter.

M&Ps have a history and reputation of relying heavily on external providers of support and service for IT and telecom services. As such, these firms will also likely require more hand-holding than other firms if they do choose a cloud platform; more than any other customer category (43 percent), these older SMBs say customer support is paramount to them as a cloud vendor selection criterion.



When it comes to spending plans around the cloud, M&Ps are similar to Startups.

#### **IV. CLOUD VENDOR PERCEPTIONS**

With a clearer understanding of what shapes the cloud plans of Strivers, Legacies, Startups and M&Ps, we now examine how these various groups view the major providers of IaaS and PaaS technology. Overall, younger firms have more of an affinity for younger vendors: Strivers and M&Ps take a kinder view of Amazon, Google or even newer firms such as Elasta or 3Tera (now owned by CA). Larger enterprises (both Legacies and M&Ps) want safer-sounding, more familiar names (see Exhibit 5).

#### **EXHIBIT 5: YOUNG FIRMS LIKE YOUNG VENDORS; OLDER FIRMS LOOK FOR TRUSTED NAMES**

SOURCE: YANKEE GROUP, 2010

Which supplier(s) do you currently use or would you consider using for your IaaS/PaaS deployment? (Please select up to 3)

**IAAS**

	Startups	M&Ps	Strivers	Legacies
<i>Sample Size</i>	190	374	56	512
<i>Amazon</i>	31%	24%	25%	11%
<i>AT&amp;T</i>	24%	26%	30%	30%
<i>Cisco</i>	35%	44%	50%	49%
<i>EMC</i>	7%	9%	20%	16%
<i>FlexiScale</i>	1%	0%	4%	0%
<i>GoGrid</i>	3%	2%	4%	3%
<i>Google</i>	47%	39%	27%	24%
<i>HP</i>	16%	20%	23%	28%
<i>IBM</i>	23%	28%	41%	48%
<i>Mosso</i>	0%	1%	0%	0%
<i>Nirvanix</i>	1%	1%	2%	1%
<i>ParaScale</i>	1%	0%	2%	0%
<i>Rackspace</i>	9%	9%	5%	3%
<i>Sun</i>	18%	13%	27%	21%
<i>Terremark</i>	2%	2%	0%	3%

**PAAS**

	Startups	M&Ps	Strivers	Legacies
<i>Sample Size</i>	190	374	56	512
<i>3Tera</i>	6%	2%	5%	4%
<i>Appistry</i>	3%	2%	7%	1%
<i>Coghead</i>	6%	2%	0%	3%
<i>CohesiveFT</i>	1%	1%	5%	2%
<i>Elastra</i>	3%	0%	9%	1%
<i>Force.com</i>	6%	8%	11%	6%
<i>GigaSpaces</i>	4%	2%	9%	3%
<i>Google</i>	44%	42%	34%	29%
<i>IBM</i>	29%	27%	41%	51%
<i>LongJump</i>	0%	1%	7%	1%
<i>Microsoft</i>	38%	48%	63%	53%
<i>rPath</i>	3%	0%	4%	2%
<i>Salesforce</i>	27%	21%	20%	21%



## IAAS VENDOR SELECTION

The general distinction between large and small companies (Legacies/Strivers versus Startups/M&Ps) provides the starkest difference in terms of how IaaS providers are viewed in the market.

It's no surprise that Amazon is a favorite among SMBs: More than a quarter cite the company as a top IaaS provider they'd consider. Amazon is also a favorite among Strivers, with a quarter of such enterprises considering Amazon Web Services, compared to only 11 percent of older companies. The quick provisioning, low cost and simple credit-card-based billing are all attractive to smaller firms.

Legacies hold the dimmest view of Amazon. Only 11 percent say they will consider the online retailer as a trusted IT partner. Typically, these companies pay for their critical IT infrastructure with purchase orders, not credit cards, and Amazon's service assurances around data integrity, security and regulatory compliance may not meet their expectations. On the whole, Startups and M&Ps are twice as likely as large enterprises to choose Amazon (26 percent vs. 13 percent).

Almost half of large enterprises (Strivers and Legacies) view IBM as an IaaS partner, but only a quarter of SMBs see Big Blue as a potential cloud option. Unsurprisingly, big firms favor EMC and Sun more than smaller ones do; these vendors are known for high-end, expensive solutions aimed primarily at larger companies. Similar to the selection for traditional IT vendors for PaaS, these firms can also play a critical role in an internal cloud deployment or data center consolidation project. Large enterprises also see CSPs as credible partners for IaaS; a third of Legacies and Strivers view AT&T as a potential partner, more so than M&Ps and Startups (less than a quarter of either group mentions AT&T).

## PAAS VENDOR SELECTION

SMBs overall have a narrow view of PaaS providers and cite a narrower set of vendors than do larger firms. Compared with larger enterprises, SMBs—Startups and M&Ps—are more drawn to newer platform providers, such as Google. Over 40 percent of SMBs name Google a top choice for PaaS, while both categories of large enterprises are less tied to it (34 percent of Strivers and 29 percent of Legacies).

Strivers, which are under pressure to meet the demands of rapid expansion and growth, are the most open-minded when considering PaaS providers. Strivers are more inclined than Legacies to consider emerging vendors in PaaS such as LongJump, Elastra, GigaSpaces, Force.com or Appistry (by as much as a 9-to-1 margin in some cases versus Legacies). While Strivers are eager to explore these firms, no vendor (except for Force.com) garners more than a 10 percent mention among Strivers. This indicates Strivers are interested in finding more flexible, dynamic or possibly cheaper alternatives to Microsoft, which is the most-cited firm by Strivers for PaaS (63 percent).

By contrast, the only PaaS vendors with notable name recognition among Legacies are typically familiar names already entrenched in Legacies' data centers: Microsoft (53 percent), IBM (51 percent) and Sun (31 percent). Since Legacies have such a penchant for private cloud adoption, this makes sense, as these are the platforms that are already likely in place within Legacies; IT shops in these big companies are now forcing their suppliers to reinvent how their products operate and how they're managed under a new internal-PaaS paradigm.



## V. CONCLUSIONS AND RECOMMENDATIONS

With a better understanding of customer segmentation and demand, CSPs and cloud computing vendors can better formulate their approach to businesses looking to adopt cloud computing; they can target offers better by understanding enterprises' needs, concerns and overall attitudes about the technology.

### RECOMMENDATIONS FOR CSPS

- **Spur cloud adoption among older company customers by directly addressing their top concerns: SLAs, availability and security.** Legacies will be one of the toughest market segments for carriers to entice into the cloud. But to some extent, CSPs already have an advantage over other cloud purveyors, since large, older enterprises already identify more with traditional service providers and IT vendors, as opposed to some of the newer Startups that have emerged in the last few years. By partnering with the firms big companies know and trust, CSPs can extend their cloud offerings more easily to this most reluctant category of potential cloud customers. Verizon's and AT&T's partnerships with IBM around cloud computing and storage are good examples of this.
- **Seduce Strivers and Startups with sexy SaaS partners.** CSPs should seek out some of the newer "as-a-service" platform vendors—especially SaaS—to partner with to provide complete cloud stack offerings (from infrastructure, to platform, to software as a service). Being associated with some of the newer, more dynamic and technically interesting SaaS providers—such as NetSuite, Zoho or AppZero—will give CSPs more cloud credibility. CSPs will likely get better revenue-sharing deals with these smaller players than they would with larger SaaS providers, such as Microsoft. Ultimately, an improved level of SaaS "street cred" might also help CSPs sell their own IaaS and PaaS offerings more effectively.
- **Jump-start SMB (especially M&P) cloud adoption with bundled cloud services.** The top motivator for many SMBs migrating to cloud services is cost. To that end, CSPs have a good opportunity to seize a large percentage of overall technology spend from SMBs by bundling PaaS and IaaS services with other offerings, such as telecom, wireless, WAN connectivity and even managed services.

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