

PLATFORM AS A SERVICE: THE NEXT BIG OPPORTUNITY FOR COMMUNICATIONS SERVICE PROVIDERS



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INTRODUCTION

When Cloud Computing first dawned on our consciousness three or four years ago, many Communications Service Providers (CSPs) focused on the infrastructure layer. It was a logical first step: most CSPs have co-location or hosting facilities in place, and their network assets enable them to offer a more complete cloud delivery package than many hosting-only providers. As a result, CSPs are rolling out a variety of infrastructure-based cloud services, including Compute as a Service and Storage as a Service, in private (dedicated) and public (shared) configurations.

As the cloud matures, providers who have invested in cloud infrastructure will look to evolve today's Infrastructure as a Service (IaaS) offerings into new sources of revenue and competitive differentiators. They will leverage their current cloud infrastructure, services, systems, and expertise to take on the next great opportunity in cloud services: Platform as a Service.

DEFINING PLATFORM AS A SERVICE

The National Institute of Standards and Technology (NIST), which has developed widely accepted definitions around cloud computing, defines Platform as a Service as follows:

Cloud Platform as a Service (PaaS). The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly application hosting environment configurations.¹

Sifting through the committee-developed language, the key points for a CSP are:

- Platform as a Service (PaaS) overlays development and delivery tools onto the CSP's infrastructure. In essence, PaaS represents a value-added service—in alignment with most CSP strategies.
- PaaS is an integral component to development and delivery of cloud-based applications (Software as a Service—or SaaS). This gives CSPs the opportunity to place themselves squarely in the middle of the huge and growing SaaS market. Rather than simply and passively transporting SaaS services to users via their

¹ National Institute of Standards and Technology, The NIST Definition of Cloud Computing (DRAFT), January 2011, http://csrc.nist.gov/publications/drafts/800-145/Draft-SP-800-145_cloud-definition.pdf

broadband, VPN or wireless networks, PaaS enables CSPs to carve out a new and essential role in SaaS development and delivery, situated between software developers and end users (business or consumers).

For in-house and external developers, PaaS represents a simpler and less expensive way to bring their software to market. For CSPs and cloud service providers, PaaS attracts developers, whose applications increase the value (and retention rates) for the wraparound services the CSP offers to its own customers.

What's Included in PaaS Services?

PaaS generally includes templates, Application Programming Interfaces, and tools that facilitate software development and delivery. To be attractive to developers, the platform's tools must be easy to use, flexible and comprehensive, ideally utilizing Open Standards to enable the software to run on multiple platforms. Capabilities may include integration with other commercial or custom software, billing tools, and customer management tools or portal.

CSPs and cloud service providers may use PaaS platforms to offer aggregated applications from multiple developers. To facilitate this, the platform usually includes tools for managing multiple SaaS services from multiple developers, and for serving multiple customers. The tools may include billing capabilities at the customer and service level, tracking of terms and licenses, and remittance of fees back to the developers.

In addition, providers use their PaaS platforms to offer value-added functionality and/or services across the catalogue of available services. This likely includes identity and access management services, to enable single sign-on across disparate SaaS services; security services on a per-customer or per-application basis, and analytics and reporting services.

THE SAAS DELIVERY ECOSYSTEM

PaaS is a foundation for developing and delivering SaaS-based applications. For CSPs that are looking to enter the market, it's helpful to understand the SaaS delivery ecosystem—that is, the business models and key players involved in getting SaaS applications from the developer to the end-user.

In reaching the end-user market, a developer can, of course, “go it alone,” selling standalone subscriptions to its applications directly to users. The developer may use a PaaS platform (rather than code completely from scratch) to accelerate the development and testing processes, and to take advantage of the PaaS functionality for billing and managing customers. For CSPs, there is an opportunity to sell PaaS (and underlying IaaS) services directly to the developer—but the CSP would not touch the customer relationship. This model places the burden on the developer to do its own marketing, billing, and servicing—a challenge for resource-constrained developers.

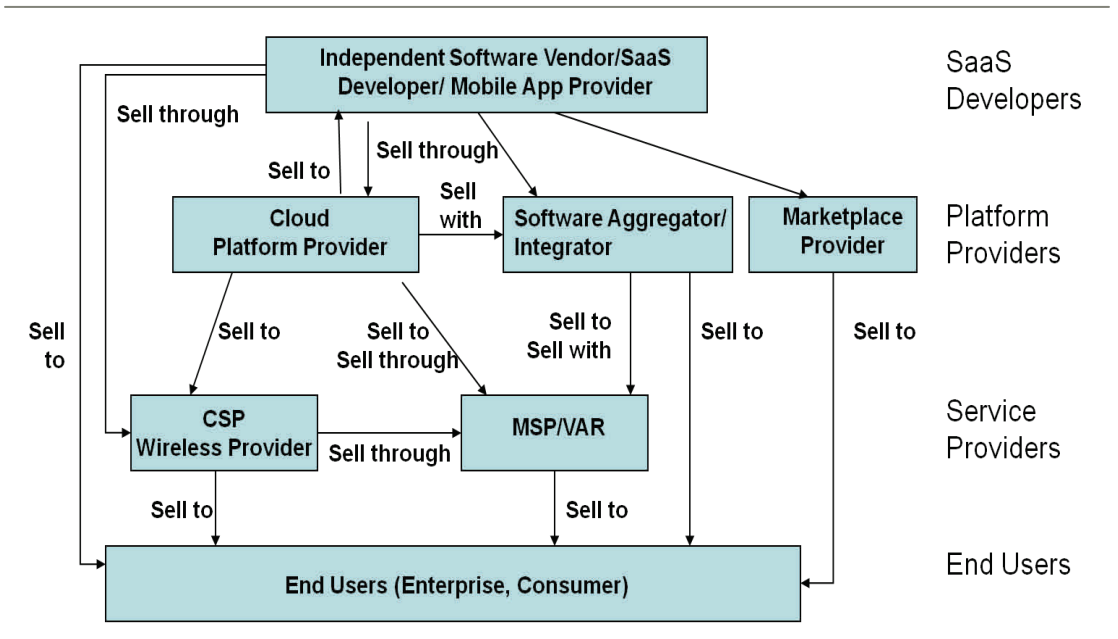
Instead, the more attractive route to market is through partnerships with platform and service providers. In this case, platform providers may offer not only development tools,

but also a mechanism for management and delivery of SaaS. The platform provider may act as a “retailer”— selling the developer’s SaaS services to end-users via the platform. Or it may act as a “wholesaler”— offering a comprehensive and turnkey set of services, including developers’ SaaS services and wraparound functionality, to other service providers (e.g., CSPs, VARs) to sell their own customer bases.

Routes to Market

As shown in Figure I, the route to market can be extremely complex, with multiple platform and service providers sitting between the developer and the end-user, and sharing the revenue that the end-user generates. **To reduce the complexity and maximize revenue for developers and service providers, it makes sense to minimize the number of different players in the ecosystem.**

Figure I - SaaS Routes to Market



Source: Stratecast

We’ll define the participants and their roles as follows (note that some companies may take on multiple roles):

- **Independent Software Vendor (ISV), SaaS Developer, Mobile App Developer** – Develops the software applications.
- **Platform providers:**
 - **Cloud Platform Provider** – Offers a platform for development, enablement, and/or delivery of SaaS services. As defined earlier, a full-service platform may include components for development, billing, customer and vendor management, and customer self-servicing tools. Specialized platforms may

focus only on one area—e.g., development or delivery. Cloud platform providers may target their platforms (in the form of software and hardware, or hosted services) to developers to develop and deliver their services. Or they may target to other providers, such as cloud Aggregators, who use the development capabilities to add their own services. Some platform providers also offer their own Marketplace services for developers who use their platforms.

- **SaaS Aggregator** – These providers use cloud platforms (their own or those developed by others) to build wraparound or value-added functionality to SaaS applications developed by a variety of developers. Aggregation platforms usually offer a limited number of pre-screened best-of-breed commercial SaaS applications that will appeal to a specific target market (e.g., business customers, small businesses, a particular industry). The aggregator offers these services as a bundle with their own complementary services—for example, security services, backup and restore, unified communications. PaaS services offered by aggregators may include platform-based customer self-service tools for identity and access management, billing reports, and usage reports. CSPs are well-suited to take on the role of aggregator, using a robust PaaS platform. For a CSP, this model adds value to the services they already deliver. It taps into a SaaS revenue stream that they would not ordinarily have access to, without requiring the CSP to invest in developing their own SaaS solution. And because the CSP serves as the entry point to a customer’s key business applications, the service is remarkably “sticky.”
- **Marketplace Provider** – In the Marketplace model, popularized by the Apple App Store and used by the U.S. federal government, multiple developers arrange for their SaaS services to be presented to end-users via a single portal, with common purchase processes. As the name indicates, a marketplace is like a crafts fair or flea market, where the participants pay the provider to participate (either a direct fee or a portion of sales). The marketplace provider offers a turnkey “platform” to bring together buyers and sellers. Unlike aggregation platforms, most marketplaces accept all comers, little or no screening to determine “best of breed” in a particular category. Furthermore, marketplaces generally do not facilitate integration of apps, or wraparound services. This may restrict their usefulness to CSPs, who should ideally add value to commercial SaaS services by offering their own service wrappers. The marketplace model is convenient for consumers, in that they can see a wide variety of choices in a single location. However, marketplaces are less effective for businesses, which require control over end-user access to SaaS. In some cases, service providers offer “Private Marketplaces” for specific user segments, in which business administrators choose which apps from a selected list may be accessed by which employees. While these are often displayed to users as an “app store”, they are usually more of an aggregation model.

- **Service Providers**

- **CSP/Wireless Provider** – May offer commercial SaaS apps bundled with their network service offers or available for a separate fee. CSPs are now sensing an opportunity to offer greater value to their business customers by providing access to an integrated suite of business applications that can be accessed via any network, any device.
- **MSP/VAR** – Channel partner who earns a commission for selling commercial SaaS services, alone or integrated with its own services.

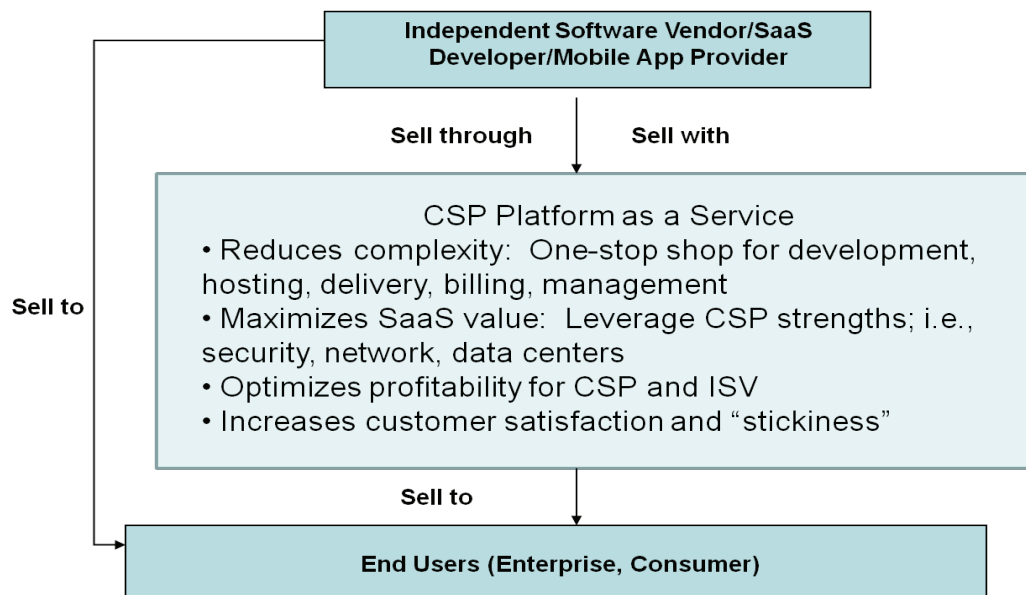
- **End User** – The end-user of SaaS services—and source of all revenue.

Each relationship is defined as “sell to”, “sell through”, or “sell with”—useful indicators in determining how revenue is allocated.

- “Sell to” is a traditional supplier-vendor relationship.
- “Sell through” usually involves pass-through pricing, with the seller paid a commission.
- “Sell with” is usually defined as a joint marketing effort, in which participants may jointly absorb costs associated with sales, but each participant retains the revenue only for its own services.

In this view, it’s important to remember that the revenue driving the entire market comes from the end users at the bottom. Therefore, the key to profitability is to collapse the layers of the ecosystem, so that there are fewer participants, each adding greater value. ***We believe that CSPs with a robust PaaS offer are uniquely positioned to play a central role in SaaS delivery, by taking on the roles of the platform provider, integrator, and service provider.*** Figure 2 below shows the same ecosystem made considerably less complex with a CSP PaaS offer.

Figure 2 - SaaS Route to Market via CSP PaaS



Source: Stratecast

WHY CSPS SHOULD DOMINATE PAAS IN THE NEXT DECADE

Why CSPs? Surely many of the participants in the ecosystem are looking to expand their roles (and revenue share). **However, we believe that CSPs are uniquely positioned to offer PaaS services that will enable SaaS delivery.** CSPs offer:

- **Top tier data center and co-location assets**, situated in close proximity to a majority of end users. These centers have been built for high capacity and high availability—thus offering developers the scalability they require, and end-users the application delivery performance they desire.
- **Network assets**, to support delivery of SaaS to end users. CSPs are able to offer high speed, high availability network facilities that can be bundled with private IP networks for end-to-end SLAs—just as they are doing today with their IaaS services.
- **Experience in managed and professional services.** While some customers value the self-service nature of the cloud, many developers and customers are willing to pay for ongoing management (e.g., services that provide a guaranteed level of performance or availability). This opens up opportunities for CSPs to offer new managed services, such as Managed SaaS Enablement (PaaS and SaaS), along with managed hosting and managed network services.

- **Experience in customer care.** Most CSPs offer robust, integrated care options including sophisticated portals and live chat. This is in contrast to many IaaS providers that offer very limited customer support.
- **Monitoring and management capabilities** include internal and customer-facing real-time tracking and reporting.
- **Billing capabilities** include on-line bill payment and flexible pricing models. Some CSPs provide in-language reporting and local currency remittance for global developers.
- **Access to a large customer set,** including difficult or expensive-to-reach small and mid-sized businesses.
- **Global or regional presence** enables developers to access the global marketplace.

Stratecast *The Last Word*

The future of technology will be driven by applications—consumer, business, machine-to-machine; for mobile, desktop, and home environments. To satisfy customer demand, developers will increasingly turn to a cloud-based platform that will facilitate development and delivery. At the same time, consumers and business customers will demand consistent performance, security, and management across all their SaaS applications—regardless of developer.

Who better to satisfy both developers and customers than CSPs? When CSPs deploy PaaS services, they leverage their strengths in service delivery and their existing network and data center assets to create a new revenue opportunity. Furthermore, by wrapping their existing network-delivered services (such as security, unified communications, file sharing and hosted telephony) around business-critical SaaS offers (such as customer relationship management, business productivity, and financial software), CSPs can deliver a complete business technology package to customers. With a PaaS solution, CSPs can maximize customer retention and share-of-wallet, while supporting the growing market of developers.

Where to Start – For many CSPs, the route toward PaaS leadership starts with their own IaaS infrastructure. On that foundation, they can layer a robust platform that is attractive to developers. CSPs who have not invested in cloud infrastructure can still position themselves in this market, by “white-labeling” IaaS services from another provider. By leveraging another cloud provider’s IaaS, the CSP can focus on its service delivery strengths by developing and delivering rich PaaS services that meet the needs of both developers and end customers.

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