



**LONGJUMP**

*The On-Demand Enterprise  
Applications Platform*

## PaaS-onomics

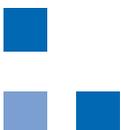
A CIO's Guide to using Platform-as-a-Service to Lower Costs of Application Initiatives While Improving the Business Value of IT

According to Goldman Sachs in their July 2008 IT Sales Opportunity survey of 100 CIOs, less than 2% of them said cloud computing was a priority. In fact, it was ranked last in a series of initiatives. In an increasingly competitive business environment and the emergence of cloud computing and its offshoot, platform-as-a-service (PaaS) solutions, these CIOs seem to be missing a bigger picture.

That's because PaaS offers businesses a very demonstrable ROI while also strengthening operations

an organization. Both these factors should have CIOs taking a closer look at PaaS not only for its economic benefits, but as an opportunity to improve information management and processes across the enterprise.

PaaS can add significant value to enterprise IT by enabling IT to better serve the business, operate at a strategic level with business divisions and rapidly deliver application solutions to business partners.



## Long Tail of IT Projects

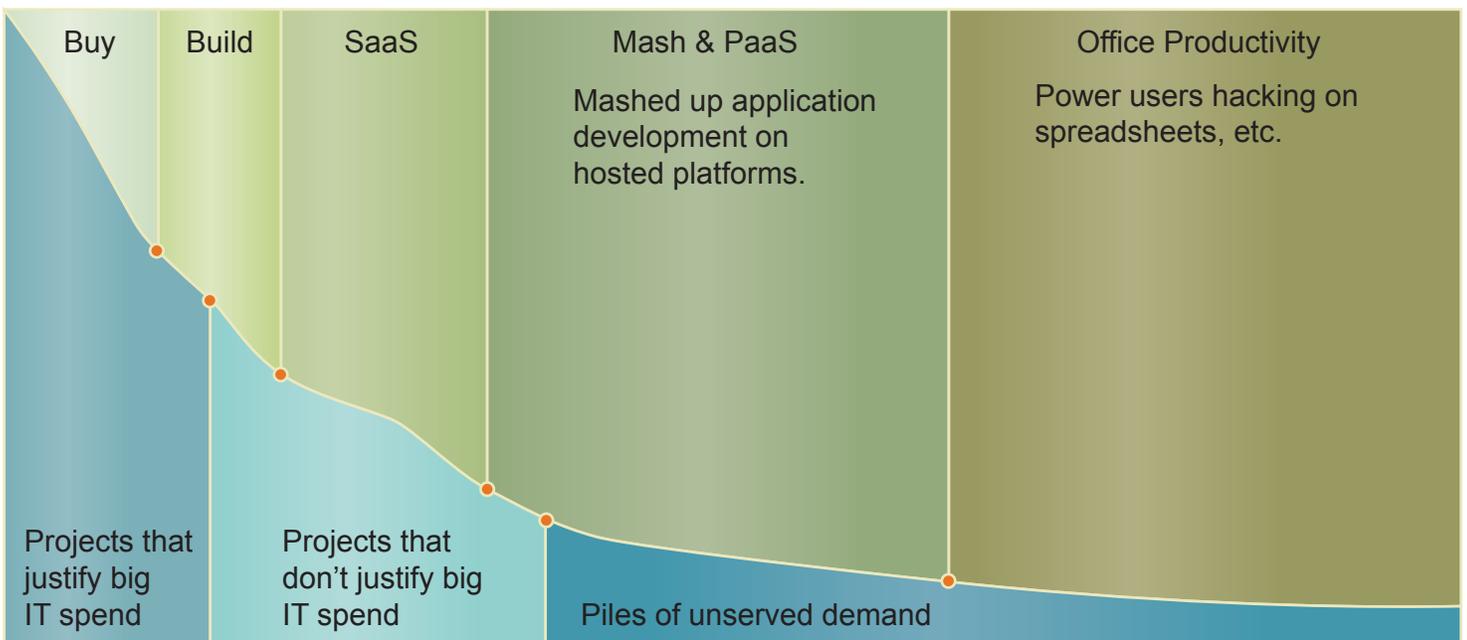
Every CIO faces the need to maximize their budget to support as many business-positive projects as possible. In fact, many CIOs today have built multiple budgets based on contingencies around the business climate, sudden new challenges, and updating technology. And every CIO has an IT backlog – the long tail of IT - a set of projects that are important and impactful to different divisions of the business but maybe can't be realized because of resource constraints, money, or where the level of project complexity requires too much time to complete or specialized talent.

Rightly so, the core enterprise applications that justify big IT spending are mission critical to the company and should be top of mind for the CIO, but those back-burning projects are still – well – burning. Over time, those long tail applications take a toll operationally and on general productivity. And business constituents come to rely more and more on their own makeshift solutions, including large, complex spreadsheets, home-

grown databases and even custom software development, all beyond the oversight, control and expertise of IT.

The departmental distraction, network traffic and cost to manage and maintain those solutions or to ensure they have the right security and access control can be significant and should be under the purview of Corporate IT.

Long tail projects can become a hindrance to business growth. After all, a company is only as strong as its weakest point. Businesses that have broken productivity areas collect a sea of missed opportunities to improve corporate performance, competitive position, IT governance, or increased revenues. In most cases, these departmental solutions could have been quickly developed and delivered by IT if there was corporate adoption of a central application platform. Of course, IT is busy keeping the lights on, but wouldn't it be better for the business to not need so many different lights.



## The Birth of a Silo

To understand how IT has gotten to where it is today, we need to examine how new applications are introduced.

Traditionally, IT would have to purchase physical hardware and then deploy some type of application infrastructure. That includes web servers, application servers, databases, creating application frameworks, etc. Of course, that means someone has to manage each of those layers. Scalability, data recovery and security issues also come into play. In many cases, much of the resource time and costs involved in building occur before the application has ever been defined.

Then application architects are tasked with:

- Requirements gathering
- Creating data models
- Designing user interfaces
- Mapping out workflows and processes
- Building connectors to external systems

Invariably, the endeavor involves essentially developing, quality assuring and releasing a complete software product. This internal product comes burdened with a list of technical, business and review requirements, a series of development cycles, and a complete application infrastructure that is specific for that one type of operation. It also needs to have some method for connecting to existing systems.

In the process of pulling together even simple applications, developers will have to find ways to build or buy application components for security access controls, user authentication, data view management, reports and dashboards, custom processing, and much more. Businesses often bring in independent contractors or services companies or platform specialists.

The IT application portfolio gets thicker with more vendors, more off-the-shelf software and an increasing number of sub-projects. Applications take on a life of their own, which is why entire suites of solutions are geared towards application lifecycle management.

Let's also consider that features that are developed in these silos often cannot be leveraged into other applications. They are disconnected and separate. This drives the cost of maintenance sky high and results in unpredictable IT spending whenever that application needs to be updated.

Ultimately, the application becomes its own silo and development teams have to reinvent the wheel for every new business problem or application function. Over time, multiple silos start appearing and management of these fragmented applications becomes more complex and expensive.

## Moving Beyond the Reactive

The application management maturity of an IT organization depends on their ability to repeat, reuse and repurpose technologies. According to John E. Van Decker of Gartner, there are five levels of the Application Maturity:

- Level 1 — Ad Hoc: Every time an activity is performed, the team creates a new process.
- Level 2 — Repeatable: Individual teams establish and use processes, but the processes are not shared across the application organization and there is little consistency.
- Level 3 — Defined: The application organization defines and consistently uses a shared set of documented processes.
- Level 4 — Quantitatively Managed: Process definitions are extended to produce or identify metrics that indicate process effectiveness.

- Level 5 — Optimizing: Process metrics are routinely reviewed to drive continuous improvement.

The average overall maturity level for today's IT organizations according to Gartner is 1.80. ("Maturity Assessment for Application Organizations: Financial Analysis and Budgets," 15 July 2008).

It is not possible to fully maintain rogue applications without a leveraged platform that can be centrally managed and optimized.

## PaaS: Applications without Infrastructure

Platform-as-a-Service, or PaaS, provides a common application infrastructure on a single platform for creating and running multiple applications. Because the entire platform is hosted as a SaaS, there is no installation of servers and applications to contend with, as the infrastructure management is handled by the PaaS provider.

Rather than having to implement a full-scale, multi-disciplinary deployment effort, PaaS allows the application developer or IT team to focus on:

- Partnering with business constituents to specify application requirements
- Visually prototyping, building and refining application solutions

### The 451 Group's Vishwanath Venugopalan

"Relative to custom software built and deployed in-house, PaaS offerings attract user interest for ease of deployment and reduced time to market." (September 2, 2008).

- Maintaining access control across the application platform
- Delivering more applications at greater frequency
- Optimizing application development resources and connections across applications
- Improving business to IT alignment

Basic data management, user authentication, process automation, reporting and analysis all come self-contained as part of the PaaS offering.

## PaaS-onomics: Benefits for IT Budgets

The relentless assault on IT budgets has forced IT to primarily focus on the maintenance of existing projects. Forrester Research has estimated that shows that 80% of the spending on IT budgets is on maintenance and 20% is geared towards new projects/initiatives.

Enterprises implementing PaaS solutions have numerous ways to maximize their IT budget the moment they start creating applications. In addition, PaaS solutions are far less expensive than the traditional application platforms, faster to implement, update and change, and extremely feature rich out of the box.

The primary economic reasons PaaS thrives in today's IT environment are that it:

- provides a solution for offering multiple applications on the same platform increasing the economy of scale and reducing complexity
- provides a solution for customizable applications that adapt to changing business conditions and needs

As an example consider a custom application that serves 200 users in an organization. Assuming that in-house resources are already tasked with their own dai-

ly efforts, a company may have to bring in third party providers to meet the project requirements. This could include a program manager, a system architect, one to two developers, a functional lead, and perhaps a subject matter expert.

	Time (weeks)	Equivalent Time Using PaaS	PaaS Weeks
Requirements Gathering	2	100%	2.0
Design and Process Modeling	3	40%	1.2
Building and Development	4	40%	1.6
Testing	2	75%	1.5
Deployment	1	50%	0.5
Support and Revisions	4	75%	3.0
	<b>16</b>		<b>9.8</b>

Total Ad Hoc Development	\$235,800	Differential
Total Development in PaaS	\$148,050	\$87,750

Infrastructure Costs		
Total Ad Hoc Infrastructure	\$53,000	Differential
Total Annual PaaS Subscription	\$48,000	\$5,000

Total Ad Hoc	\$288,800	Differential	Savings
Total PaaS	\$196,050	\$92,750	32.1%

Over the next 4 to 6 months, the resource costs can be over \$200,000. Add to this another \$50,000 for in-

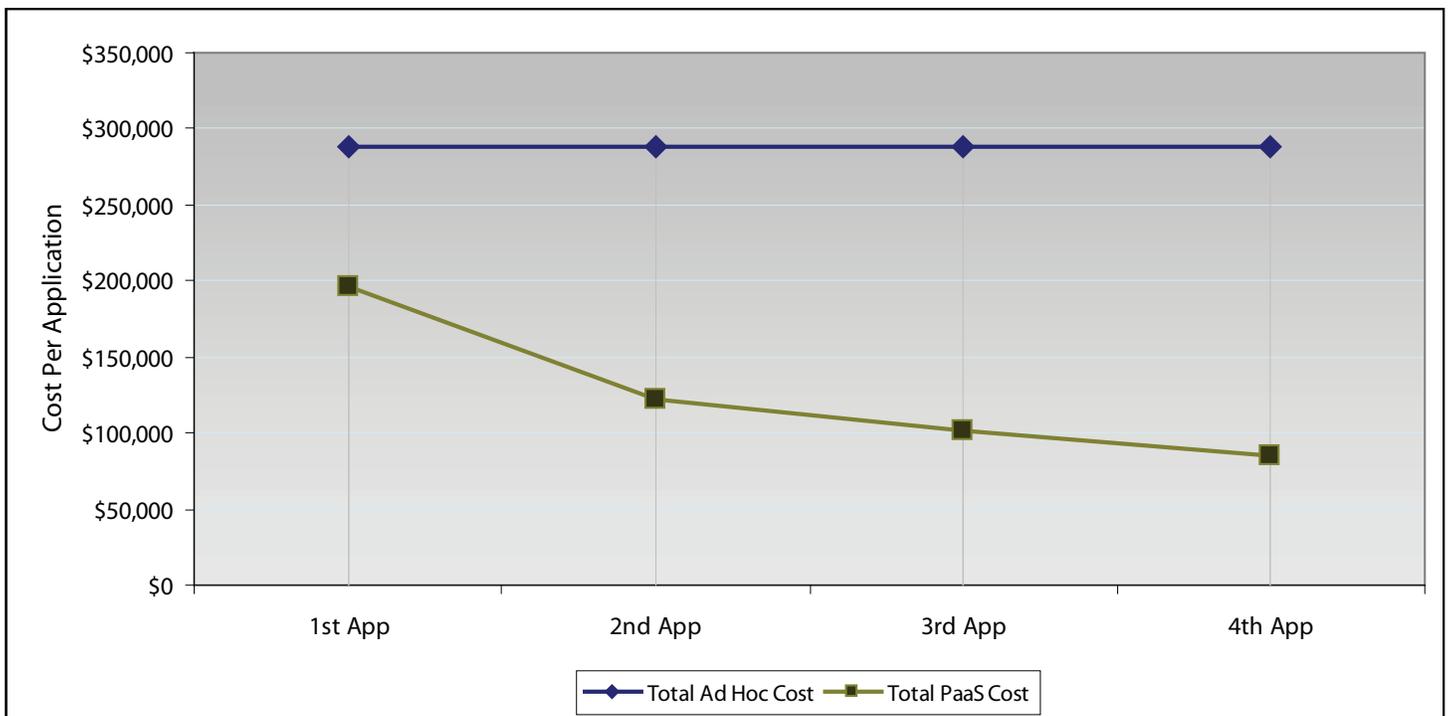
frastructure requirements in the way of servers, configuration, test, backup systems, networking equipment, datacenter overhead, and annual software license and maintenance, and that single application could cost over \$280,000.

If you have four such applications, you're looking at costs over \$1,000,000. While PaaS can cut the costs and application delivery time of the first application by over 30%, its enduring value is in being able to dramatically reduce the cost of future applications on the platform. By the fourth application, organizations can realize a major time-to-value by over 60% and cost savings of over 80%.

### Eliminating Application Overhead

By removing the need for custom infrastructure and reducing the development cycle by half, a single application can be created in a PaaS solution for 63% less.

Multiply that by a factor of 50 (the number of these applications a Fortune 500 enterprises may have to



service), and it is clear that there is serious physical, management and cost savings. A consistently leveraged platform offers businesses an economy of scale to move forward quickly and cost-efficiently.

Compared to building, deploying and managing application architectures or going with PaaS, the upfront cost savings are significant (factoring in hardware, software licenses, energy costs and personnel responsible for maintaining systems). In addition, the cost of PaaS, like any Software-as-a-Service offering, is scalable from the provider's end to meet growing organizational needs and fully-managed to include backup, recovery, upgrades, updates, load balancing, and security.

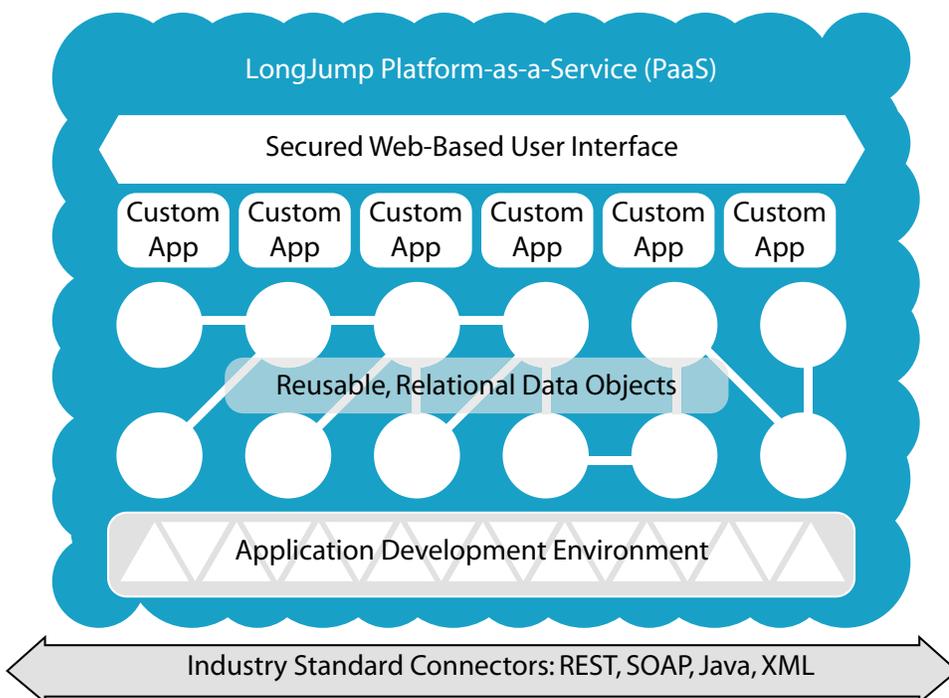
### Adding Predictability of Budget

Regardless of the number of applications created on a PaaS, the number of users is the only effective change in cost. This allows for a scalable, "pay for performance" budget that adapts to organizational and business changes.

By creating multiple applications, each organization will develop an economy of scale that improves the overall value of each user license. In short, hosting more applications on a shared platform reduces the cost per user, per application.

### Maximizing Time-to-Value

From the moment an application on a PaaS environment is launched, the ROI is already evident. That's because cost savings are immediate compared against a traditional homegrown, self-built, self-managed infrastructure. Because of the low startup expenses, PaaS offers rapid prototyping and deployment value allowing developers to start building applications and users start logging in to use them. Applications can go live the second they are finished, or to create proof-of-concepts where changes can be made quickly and re-deployed to constituents. With adequate sandboxing features, developers can also create test and release processes to ensure quality control.



LongJump's Platform-as-a-Service provides a complete application development platform in a hosted cloud environment. Businesses can use the platform to create custom applications with reusable data objects. Each application has a complete user interface and provides connectivity to industry standard methods for information exchange.

## Providing Adaptability and Reusability

The right PaaS solution can also provide something reusable building blocks - applications and data with rules, policies, external connectors, etc. - that can be repurposed across the business.

Multiple applications can be built on PaaS solutions for specific areas of the business, yet shared by all. Data points can be shared or re-used. A common UI or single sign on login means a unified platform for an individual to learn, yet they gain access to more application services.

The same system connectors being built for one application to an ERP system can be fully leveraged in another application. In addition, PaaS provides the opportunity for repeatable value – an adaptable platform that can be reused and extended.

Standardization over a common standard language, industry standard infrastructure, reusable data policies all provide a uniform approach to creating composite or situational applications, minimizing ad hoc efforts and improving IT control.

## Strengthening Governance

A PaaS solution includes built-in tools to ensure that rules and policies are met. In addition, because of access logs, built-in security, and data segmentation, users can be isolated from specific data and applications. And because all development would be done on the platform, information is always available about changes.

Administrators can prevent new features from being added, for example. They can delete and retire entire applications or datasets, or repurpose them for different situations faced by their business.

PaaS acts as a central method for managing data, ensuring better data quality, or enacting policies.

## Reduced Outsourcing Costs

Many large scale enterprises rely on IT outsourced services to manage their infrastructure. With PaaS, they are able to add new services and applications without incurring additional costs from IT service providers or by reducing the time it takes for those services to come online.

The ease of use of PaaS also enables technically capable business users to create their own applications without ever writing a line of code, offloading simple development projects away from IT. IT can control who is certified and eligible to make changes reinforcing the business's ability to adapt.

## Risks to Adoption

Like many emerging services, the adoption risks that CIOs should consider are:

- Application Fit
- Data security
- Performance and availability
- Ease of development
- Agnostic support for data
- Application Lock-In

### Gartner's Robert Desisto

"If your organization has an application that's compartmentalized to a particular department and to quick time-to-market deployment requirements, then consider permanently outsourcing that application to a SaaS deployment model." (The Role of SaaS in IT Modernization, April 3, 2008).

## Application Fit

PaaS-based applications are not a fit for every business function. For example, because of the nature of today's web technologies, applications that require high-volume real-time analysis and processing are best left to dedicated systems.

However, there are a vast number of applications that are suitable for PaaS, particularly transactional, situational, composite applications or manual processes currently involving multiple spreadsheets, data workflow, and reporting. One aspect of PaaS to consider is that affordability and speed in which applications can be developed on PaaS can enable an IT organization to measure results within less than week.

## Data Security

Enterprises often feel that data existing in the cloud is beyond their control and at risk of being compromised because it exists outside of their firewall. However, a true multi-tenant environment can provide very robust security, as proven by many SaaS providers and companies' willingness to operate in the cloud. In addition, a PaaS provider that operates within a SAS 70 Type II facility has built in safeguards at the physical level.

Another aspect to factor in is that data in a PaaS environment is more secure than a spreadsheet on someone's laptop or a server on the network with multiple ports open that no one knows about. PaaS is a very controlled environment that offers users a single point of entry, providing greater control, not less. And because it operates as a third-party service, malicious intrusion is not only more complicated to do, but easily thwarted by the host.

## Performance and Availability

Any PaaS solution must have high availability; however not all PaaS offerings are created equal. Some PaaS products are designed to be deployed in a consumer cloud where there's no SLA. Others are focused on the specific uptime, compliance and control requirement of the Global 2000 business.

One of the concerns around PaaS and SaaS products is the level of availability. Arguably, the case can be made that any hosted application provider must have a strong availability rating from a hardware and software platform side. It is imperative that systems serving a large number of tenants operate in a SAS 70 Type II facility and are built from well-managed standard components. Providers should also be willing to negotiate reasonable service level agreements.

To address the same point however, availability concerns should be tempered. After all, even systems that are custom built or developed in-house rarely meet even basic SLAs. By its very nature as a dynamic platform environment, PaaS systems are not always the best for "mission critical" (each business will have a different determination of what that means) applications. Likewise, bandwidth-impacting data (such as videos or large real-time data sets) needs special consideration. But even today, on-demand products like CRM are providing the complete transactional system beyond the firewall. So for internal, situational applications that don't require complex computing, PaaS is ideal.

## Ease of Development

In many situations with PaaS providers, businesses are required to compromise some level of customization in exchange for operating on a shared platform. However, IT management needs to identify PaaS solu-

tions that offer rapid prototyping and modeling of solutions using a browser-based UI, while also supporting standard languages like Java and development tools like Eclipse.

Both of these factors enhance the ability to build and extend applications quickly and adapt to necessary changes. Using the UI to change the applications and how they work allows for savvy business people to make changes according to their specific needs. PaaS

### Case Study

LongJump was used by a Fortune 100 global manufacturer of mobile devices to build an application for a very specialized form of licensing and contract management. The company was managing third-party vendors, contracts, international use rights, and each of their products had different software and different distributors. They were operating the entire process on a spreadsheet with over 1,000 columns and 1,000 rows over multiple worksheets.

The primary issue was that they needed to ensure contract compliance for their products in each of their geographical markets by verifying that a specific device, loaded with specific software, sold by a specific distributor in that specific country met the licensing rights they had negotiated with their third party developer contracts. When they didn't, they were violating contract compliance and would have to either negotiate new contracts, pay penalties, or both. In order to produce a report of this nature, it took a full-time employee two weeks to fully reconcile and analyze the information.

LongJump enabled the company to re-think how to solve problem in just a few hours. Once that basic application model was identified, building it in LongJump took minutes. Data import of their data took less than half-an-hour. At that point, users had

the opportunity to experience the application, and request refinements.

This included building reports and dashboards to monitor information, adding alerts to specific information, or triggering actions when certain data conditions were met (such as if a contract was coming due or someone added a new license). The developer relationship managers and product managers could get their own view into the data, see the products they were responsible for, and track and add their own information at will. The application was also used to perform vendor communications and provide activity histories on any data point.

LongJump better positioned members of the team to react to problems they know they need to act on, quickly look at just the information they needed, and move on to other more important areas of the business instead of spending time combing and analyzing their data. And they have a single point of truth for their entire team to work from.

### Cost Savings and Benefits:

One FTE, a reduced risk in contract compliance, better ability to react to new or changing information, open extensibility into other vendor issues. Assuming 20 people needed access to this data, the annual cost was \$4,800 in PaaS licensing and a day's worth of professional services.

solutions that feature familiar coding and IDE mechanisms enable existing members of the software engineering team to build applications directly. A standard code base also addresses the issues of lock-in, opening the door for other vendors to offer support a standard code base.

### **PaaS Benefits for CIOs and IT Organizations**

- Homogenized, zero footprint infrastructure
- Lower cost and improved profitability
- Rapid time-to-value
- Greater Business-IT alignment
- Reduced vendor maintenance
- Reusable data and platform
- Improved visibility and compliance
- Better responsiveness for change
- Single, industry-standard connection to enterprise

### **PaaS Benefits for Business Users**

- Saves time and effort
- Design/Adapt their own solutions
- Improves collaboration
- Analyze from disparate sources
- Create actionable processes
- Manage information lifecycle
- Personalized for individual users
- One tool to learn for many uses
- Break away from spreadsheets

## **Agnostic Support for Data**

Because most PaaS solutions are built for the web, web service connections and open APIs are fairly standard to the environment. However, not all services have fully robust and numerous APIs, which can make integration more difficult. In large corporations, WSDL support is important, too. This enables real-time or on-demand connection to existing systems using SOAP XML messages or integrating data through web service calls. In addition, other methods to bring data in, such as loading of structured files, can support data import with virtually any system. Also, the data going into the PaaS, must be extractable.

## **Application Lock-In**

One concern expressed by PaaS critics is around the concept of lock-in to a platform provider. In many cases, this lock-in is already happening with on-premise platforms. While there is no PaaS standard yet, it is important that the PaaS provider:

- address that its platform is built using modular, industry standard components
- can demonstrate a level of transportability
- provide a willingness to work with their customer to address lock-in issues.

Likewise, larger organizations should be ready to ask PaaS vendors about on-premise deployment or other certified delivery approaches.

## **Is Your IT Organization Ready?**

Some CIOs may see PaaS as a Pandora's Box: a new technology that could overwhelm an IT organization with a cascading list of application requests from business constituents. Certainly for IT, there will be added responsibility to help groups with their problems, but won't they have to deal with all the rogue application

infrastructures eventually? Isn't some form of consolidation always looming?

Much of IT has been commoditized over the last several decades. It's one of the reasons why so much of IT has been outsourced in the first place. Infrastructure management is a commodity. Where IT has a real future in the corporate strategy is in its ability to help focus resources and solve problems.

PaaS enables IT to become information consultants and business partners, streamlining data and processes into shared, on-demand applications. And because of the nature of SaaS, IT can dictate its own pace for adoption and deployment of PaaS-based applications into their environments - a "pay as you grow" strategy.

All new technologies incur some risk, but so do traditional on-premise technologies. The risk businesses face by not having a PaaS strategy include:

- Can they innovate fast enough if they build their own architectures?
- Are they spending unnecessarily on architectures when they should be trying to solve business problems?
- Are they putting their data at risk within a series of aging legacy systems?

## In the End, It's About Solutions

It is a mistake for CIOs to only consider IT in regards to mission-critical technology or budgets. The challenge is to deliver information solutions that help the business succeed. IT should always look to provide its business with innovative, lightweight, easy-to-manage solutions that streamline processes and information sharing, while subsequently moving the organization to a unified platform. Further, these applications may not directly affect the bottom line, but together

they have an impact into the cohesive operations of a company.

PaaS provide a significant leap forward in the ability for IT organizations to offer custom, hosted, adaptable applications quickly. And PaaS does so without a significant impact on the IT budget – often less than a dollar a day per user. PaaS solutions also provide improved data sharing, easier-to-use, always-on environments, and a large upside into the extensibility of their applications.

That means IT going beyond keeping the lights on, and instead being the light at the end of the tunnel - helping users automate their processes and to meet their growing list of business demands.



## The On-Demand Enterprise Applications Platform

LongJump is an on-demand platform for creating and delivering business applications to manage data, streamline collaborative processes and provide actionable analysis.

The LongJump Platform-as-a-Service (PaaS) solution enables businesses to reduce their application development costs and support efforts, while also significantly improving information management, analysis, and operating policies. LongJump delivers an immediate, comprehensive, and flexible alternative for businesses looking to leverage cloud computing with maximum control, security, and reliability.

LongJump's rich feature set also brings a common, proven set of components and processing engines that meet the needs of business, operations, and information management. The depth of features provided by LongJump rival much of those found in large scale enterprise platforms, making it well suited for even the most sophisticated environments.

Being a Software-as-a-Service (SaaS) solution, the platform provides a zero-footprint environment for developing, deploying, using and supporting custom applications.

1230 Midas Way, Suite 210  
Sunnyvale, California 94085  
[www.LongJump.com](http://www.LongJump.com)  
800.886.9028