Salesforce1 Platform: Accelerate App Dev with Huge ROI

Sponsored by: Salesforce.com

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EXECUTIVE SUMMARY

Salesforce.com finds itself at the center of one of the most disruptive transformations in the IT world in 35 years. The company's pioneering customer relationship management (CRM) applications proved the case for cloud computing, and the company has parlayed cloud CRM success into market leadership in the critical and emerging space of cloud application platforms. As a result, many salesforce.com customers report that they are reducing development cycles and delivery times to build and deploy new applications, allowing them to get to market faster with new products and new applications other than CRM, find new customers, address new business opportunities, and improve their overall competitiveness. At the end of the day, success in building applications goes back to the platform: Is it easy to script workflows? Configure, test, and validate code? Access data? Build in strong security? Put new applications into production quickly so they can start delivering business value? Time and again, Salesforce1 Platform users cited these factors as among the most critical to their success.

Business Value Highlights
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Salesforce1 Platform delivered a 520% ROI through:
▪ 70% accelerated time to market
▪ 80% more applications launched per year
▪ 44% increase in application development capacity while reducing IT costs
▪ 75-85% reduction in infrastructure costs

In this white paper, IDC analyzes the experiences of several Salesforce1 Platform customers to quantify the business value typically achieved and identify how these organizations are coming to rely on it as their platform of choice for the following reasons:

- Salesforce1 Platform customers are deploying larger-scale and more sophisticated nonsales applications on the platform and are leveraging it in more strategic ways than ever before.

- Salesforce1 Platform customers report that productivity and agility are the key values they derive from the application platform. Many customers report end-to-end application development time frames measured in weeks, not months, and requiring smaller teams to develop applications than would be needed with alternative technologies.

- Customers analyzed increased time to market by 70% for applications and noted that the platform helped organizations increase the number of applications they launch per year by 80%.

- Customers analyzed enhanced IT staff efficiency and productivity by enabling organizations to grow their application environment by 44% annually yet reduce IT labor costs.

- Customers analyzed reduced the infrastructure costs associated with developing and deploying applications by 75–85%.

- Salesforce1 Platform delivered an aggregate 520% return on investment (ROI) to surveyed organizations and paid for itself in seven months.

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CLOUD PLATFORMS FOR FASTER APPLICATION DEVELOPMENT

Businesses are in a constant struggle to reduce costs and improve agility. As the world economy transforms into increasingly more digital modalities of operation and delivery, information technology (IT) is playing a more dominant role in the competitiveness of businesses and their offered products and services. Information technology is no longer the sole province of IT departments and is now pervading every business division. Thus, while costs and agility of IT departments are under greater pressure than ever, business divisions are increasingly driving innovation to support the accelerating pace of business.

Background on PaaS

Cloud computing is at the forefront of this transformation, aided by dizzying changes in front-end technology invading enterprises from the consumer space in the form of touch-based mobile devices. Such transformations inevitably create disruptive change in application platforms. Cloud-based application development environments that support enterprise needs to extend and augment the packaged applications with custom applications are a fast-growing area of the market that IDC broadly classifies as platform as a service (PaaS).

PaaS is a very important emerging category of capabilities and tools that support custom application development and integration. The capabilities map to traditional IDC application development and deployment subcategories and effectively span all IDC functional markets in database, middleware, and development tools.

The key value of PaaS technologies is in simplifying the processes, increasing agility, and reducing the costs of building, testing, integrating, and managing applications and other specialized code. These applications can be either modifications or extensions to "finished" production applications, including packaged applications or SaaS like Salesforce Sales Cloud, or entirely new finished applications, such as mobile apps for employees or customers, analytical or line-of-business automation applications, and social intranets or customer communities.

There are many varieties of PaaS – some focusing on process management, some focusing on integration, and some tailored to have all the tools necessary to reliably build, test, deploy, and manage new applications. IDC recognizes that software intellectual property (IP) infused with cloud attributes can be sold through traditional licensing models for private consumption (private cloud) and as an as-a-service offering (public cloud). Cloud application platforms (CAPs) can thus be private or public cloud offerings, but both are characterized by having integrated components, libraries with a variety of common object classes and prebuilt integrations, framework abstraction layers, and common governance, identity, and data handling models. When these tools and capabilities are integrated, rather than customer assembled, and allow federation of rules and code structures across all the tiers in an application, they provide higher levels of productivity, agility, and efficiency to both corporate development organizations and independent software vendors (ISVs).

Developing rich, usable applications that perform well at scale is a huge initiative that IT organizations today perform with mixed results. Investing heavily in the software, networking, and storage

environments is table stakes for success. More important and elusive is building the developer workflows between code, test, approve, stage, and deploy, so that they happen with collaboration across distributed environments, on multiple platforms, with as little code failure as possible. PaaS tools that instantiate, automate, and enforce these code development best practices help many organizations build better applications.

Benefits of PaaS Platforms

The utility of a platform begins with the breadth of its functionality and the level of integration between its components. Emerging cloud-based platforms are building on this baseline utility in novel ways that point directly to core value arguments for users:

- **Infrastructure management is eliminated** because software enhancements and provisioning are addressed by the service provider. This also addresses some scalability and resource utilization concerns.

- **Developer productivity can be significantly enhanced,** especially when PaaS functionality is highly abstracted or extended in the areas of development, deployment, integration, or the software development life cycle.

- **Easier integration** with other Web-based resources and standard APIs is typically a design point in well-architected PaaS and eases the process of joining platforms or integrating content.

- **PaaS platforms deliver apps that are better built to spec.** The traditional application development process provides numerous opportunities for the desired application functionality to drift off target. This is largely due to requirements that are not well formed; inconsistencies with existing data models, process models, business rules; and complex development environments that trade development efficiency for flexibility. Most PaaS platforms provide a more integrated development and deployment experience along with a more highly abstracted approach to application development, which simplifies the development process. Consequently, the development process can be more streamlined and simplified, which helps improve desired application functionality.

These easy-to-understand business value attributes, when paired with the architectural benefits highlighted previously, help build the story around the allure of PaaS. This is especially true during a time of intense budgetary pressures, when IT organizations are bent on decreasing costs and focusing on transforming from cost centers into service centers, aiming to be more tightly aligned with the strategic goals of the business rather than merely "keeping the lights on." With PaaS, corporate IT departments are more able to focus on innovation instead of complex infrastructure and can redirect a greater proportion of their IT budgets to creating applications that provide near-term strategic value to their organizations.

With PaaS, corporate IT departments are more able to focus on innovation instead of complex infrastructure ….

History

Salesforce1 Platform, the premier PaaS offering of salesforce.com, spans functionality across multiple areas such as mobile, social networking, identity management, file storage, portals, relational cloud database, and custom computation. The anchor service that Salesforce1 Platform provides is an abstracted, metadata-driven programming model for the development and deployment of business applications. Whereas Force.com was originally intended to create new applications by extending the data model of CRM and allow other services to connect to it, Salesforce1 Platform has been primarily designed for building applications – and also to extend the salesforce.com offerings, which now comprise thousands of CRM and non-CRM applications.

Salesforce.com was keen enough to recognize early the synergies between applications and application platforms in providing an end-to-end environment for application needs. The company introduced Salesforce1 Platform to its customers in 2007. The environment was made available to developers in early 2008, and adoption has continued to expand at a rapid clip ever since. According to salesforce.com, in 2013, the Salesforce1 Platform (including Heroku) passed the mark of over 4 million applications built on it.

Salesforce.com recognized even earlier the importance of building a solution partner ecosystem. In 2005, the company offered what likely was the first application marketplace for enterprises, known as AppExchange (initially as a pilot that went live in January 2006). Today, AppExchange is a marketplace for much of what partners develop and productize on the Salesforce1 Platform and has become a key ingredient in the value proposition of the platform to its expanding customer base. Several customers interviewed for this white paper highlighted how AppExchange is their first point of search in the face of emerging new application requirements.

10 Times More Apps Developed

In a research study conducted in 2009, IDC found that Salesforce1 Platform adopters had extended the CRM application by leveraging its data, delivery model, user identity and access management, and familiarity of user interface to fulfill their needs for custom functionality. In the 2009 study, IDC found considerable passion for the platform and the beginnings of increasing commitment to it. In this round of interviews, we found much larger adoption profiles and more strategic implementations for the technology at customer sites, with many having used it to replace a variety of alternative platforms previously used to build custom applications. IDC also found a considerable increase in complexity and sophistication of Salesforce1 Platform apps at customer sites and larger user bases for these apps. A U.S. government agency, a Salesforce1 Platform customer interviewed for this white paper, had a team of over 20 developers and 10 support staff working on over 80 applications on the platform. Another company IDC interviewed, a nonprofit organization, highlighted over 30 applications and a team of over 12 people to maintain them. These examples emphasize a larger scale of use than had previously been witnessed with the Salesforce1 Platform. IDC believes that with the larger development and support teams allocated to managing these apps, Salesforce1 Platform customers are committing strategically to, and

> **IDC also found a considerable increase in complexity and sophistication of Salesforce1 Platform apps at customer sites and larger user bases for these apps.**

are putting a higher degree of trust in, the ability of salesforce.com to provide reliable service and support for the applications to back their own teams (see Table 1).

TABLE 1

Comparison of 2009 and 2013 Studies — Usage Patterns

	2009 Study	2013 Study
Custom apps built on Salesforce1 Platform (average)	3	31
Internal users (average)	323	2,747
External users (average)	867	100,100
Percentage of total employees using apps developed on Salesforce1 Platform (average)	9	89

Source: IDC, 2013

Salesforce1 Platform Core Services

Salesforce1 Platform includes an IDE – which contains the tools to develop and refine code – plus a variety of other tools for building, sharing, testing, staging, and deploying code. It also provides prebuilt UI libraries, mobile optimization tools, and developer/business leader workflow and approvals. Salesforce1 Platform allows developers to use a standard but rich library of prebuilt application logic objects to create relatively turnkey applications, including formulae, workflow rules, approval processes, and visual workflows. It also provides an import tool and an object-oriented declarative Apex (a Java-like programming language) environment to build far more sophisticated customized logic and rules for applications.

Salesforce1 Platform includes the following services and capabilities, which combined, make the application development life cycle easier for developers:

- **Mobile Services:** Mobility has become a key focus for enterprise developers and creators of commercial applications in the salesforce.com ecosystem. Like the rest of the Salesforce1 Platform, the new Mobile Services are geared around rapid code development using rich platform data and orchestration resources. The toolkit includes a prebuilt Salesforce1 mobile app (a popular application for branding and mobile enablement that automatically includes custom apps); an open source mobile SDK for writing HTML5, native salesforce.com, and hybrid apps for iOS and Android; out-of-the-box developer templates with the most popular JavaScript frameworks for both Web and hybrid apps; single sign-on and sophisticated federated identity management framework leveraging salesforce.com's recently announced Salesforce Identity Solutions; and a geolocation framework for building services that leverage and manage geospatial queries on mobile location, including context- and proximity-based searches.

- **Visual development:** Business analysts can use drag-and-drop tools to automate business processes, design page layouts, and build entire apps. This enables a new level of developers, often called "citizen developers," who sit on the business side to create apps with tools that are close to the spreadsheet world that they live in, but with the benefits of a governable, secure cloud platform environment.

- **Programmatic development:**

  - Apex is a Java-like object-oriented programming language with strong typing that allows complex business logic to be expressed around calls to Salesforce1 Platform APIs. Using syntax and a semantic model that resembles database-stored procedures, Apex allows the developer to control and manipulate system events or UI elements such as Visualforce pages. Web service requests and database triggers on objects can also initiate the execution of Apex code.

  - Visualforce is a component-based framework for building application user interfaces. The framework includes an HTML-like tag-based markup language, where tags correspond to user interface components such as fields or sections on Web pages. Visualforce has over 100 built-in components, but users are able to extend the framework with Apex code. Visualforce gives users the templates and tools to build advanced application front ends, which provide differentiation and rich corporate branding for any application.

  - Multilanguage development is possible using Heroku. Heroku supports applications built in popular languages and frameworks like Ruby, Java, Python, and more.

- **Heroku1:** This lets developers connect the Salesforce1 Platform data to the Heroku Service more easily. Launched recently at the yearly Dreamforce conference, Heroku1 is a service that syncs data from Salesforce1 Platform application with Heroku's PostgreSQL database service.

- **Social collaboration:** Salesforce1 Platform enables every app to have built-in social collaboration. The social feature is known as Chatter and is accessible to every object, record, app via the Chatter REST API. It provides resources for feeds, comments, likes, users, groups, private messages for mobile and Web apps.

- **Analytics:** Personalized reports and dashboards are automatically available to any app created on the Salesforce1 Platform. The recently launched analytics API lets developers integrate salesforce.com report data programmatically into Web and mobile apps. Rich visualization can be defined on top of the API to animate data.

- **Visual workflow:** Core to the Salesforce1 Platform, as part of the declarative paradigm, are workflow capabilities. Business analysts and admins can create approval workflows as well as business logic and triggers to apps. More advanced triggers can be added programmatically as well.

- **Site.com:** This enables developers to build and deploy public-facing Web sites and Web applications. This greatly simplifies Web calls and page assembly and allows developers to build sophisticated B2C sites with complex nesting schemas and custom domain names, all from the Salesforce1 Platform.

- **Role-based access control:** Salesforce1 Platform has built-in role-based access control. This enables developers to have granular access control at the object, field, and record levels. This keeps data visibility and sharing secured per user.

- **Salesforce Identity:** This new service provides a single sign-on and sophisticated federated identity management framework so that users have a single identity across mobile, Web, and on-premise applications. As a result, users have a simpler time accessing apps, utilization rates go up, and the IT help desk gets a break on those password reset requests. Salesforce Identity also allows for "external identities" to connect employees, customers, and partners using trusted identity.

- **AppExchange/Private AppExchange:** Commercial applications developed on Salesforce1 Platform can be listed on salesforce.com's AppExchange, a robust marketplace of add-on applications and capabilities developed by partners, customers, and salesforce.com itself. AppExchange has had success where other "marketplaces" have not fared well because salesforce.com stands by (performs quality control and indemnifies) Salesforce1 Platform-built code and has a significant trusted broker role in matching up buyers and sellers, including code being offered for free, and applications built on Salesforce1 Platform share the same security, governance, and data handling regimen as salesforce.com's own applications such as Sales Cloud and Service Cloud, allowing developers to provide the same assured and high-quality user experience to their users and customers. Additionally, salesforce.com recently introduced Private AppExchange, which brings the concept of an internal corporate appstore to companies.

- **APIs and integration capabilities:** Salesforce1 Platform has native integration capabilities ranging from off-the-shelf native ERP connectors to Web services, email, syndication feeds, and HTTP-based REST callouts. IT organizations interviewed in this study frequently cited "access to data" as an important capability for developers. When more and more important data – product data, collaboration records, customer data, employee data, contact data – is aggregated on a platform tier where it shares a common data handling schema, accessing those data sets for search, integration into Web forms, and display on a mobile device becomes far easier because they can be indexed and fetched using native SOAP or REST APIs, as on Salesforce1 Platform.

- **Translation Workbench.** One of the benefits of a cloud platform is instant worldwide deployment. Salesforce1 Platform takes this to the next level with built-in support for 14 languages and most worldwide currencies, with performance supported with worldwide datacenters.

- **Cloud database.** One of the services of the Salesforce1 Platform that simplifies complexity for developers, both visual and programmatic, is the built-in cloud database. Objects (essentially database tables) can be created with drag-and-drop tools that come with auto-generated UI and predesigned templates. A built-in Schema Builder tool makes it easy to visualize and model the data.

- **Multitenant infrastructure.** At the core of Salesforce1 Platform is the multitenant architecture. This architecture enables the cloud deployment model for providing three releases per year. All users get the immediate benefits of new features, while a metadata layer serves to keep the changes abstracted from the custom apps.

The Value of Faster App Delivery

Time is money. The top business value cited by the companies interviewed was the ability for IT to deliver apps faster. This ability to generate new, higher-quality custom business applications faster (3 weeks rather than 10 weeks) and with fewer resources had a significant business impact. On average, companies realized an additional $320,000 per 100 users in annual business benefits. Companies realized the time-is-money benefit in five ways:

> **This ability to generate new, higher-quality custom business applications faster (3 weeks rather than 10 weeks) and with fewer resources had a significant business impact.**

- **Time to market.** By delivering an application in time for peak season, a manufacturer in the building industry was able to increase sales by hundreds of thousands.

- **New revenue.** One company was able to quickly create 24 new products and resultant new sources of revenue.

- **Agility.** The ability to move quickly on an opportunity increased one company's yield by 6%.

- **Resource allocation.** A communications company was able to move resources from building applications to delivering the products to customers, increasing the company's revenue by tens of millions.

- **High customer satisfaction.** One company increased sales 5% by delivering a high level of responsiveness to its customers, reducing churn and maintaining profit margins.

The Value of Application Development Agility to the Business

Organizations interviewed in this study overwhelmingly cited "speed to deployment" and the heightened value of IT to the line-of-business groups in their companies as benefits when IT could deliver projects on time. The average number of applications built on Salesforce1 Platform for the current respondent group was 32 per company, a tremendous increase over the prior study, demonstrating that IT organizations' clouds deliver business value on Salesforce1 Platform in a reliable way.

This rapid increase in the number of applications being built, and supported, is characteristic of PaaS developers as they take advantage of integrated DevOps workflows. At most companies, the backlog of service requests to build new applications is constantly being reprioritized to devote IT assets to putting out fires, not building new applications. Through many years of downsizing and budget woes, a schism has opened between demand and supply for new applications. In an era when most bottom-line costs have been squeezed through asset consolidation at IT organizations, top-line growth now depends on new initiatives like Web or mobile applications. Since every application that gets built also has to be patched and managed, getting net-new apps built is harder at organizations that are not using agile cloud application platforms.

Salesforce1 Platform provides a productive and centralized approach to developing code, which helps developers focus on automated and more frequent releases of code to production environments.

It provides a management framework for seeing the bigger picture of the process while focusing on incremental code improvement. New functionality gets pushed to users more quickly, resulting in a better, more stable experience for them.

Salesforce1 Platform's centralized approach means code can be added from anywhere in the world, with full access to application development resources, because they are all assembled in the cloud. Developers can quickly build and deploy solutions, reducing application development cycle time, speeding the response to user requests, and delivering the IT agility required to take advantage of fast-breaking business opportunities.

Upgrades and new capabilities, like support for changing mobile platforms, and integrations, are delivered on the Salesforce1 Platform automatically and transparently three times a year. There are constant enhancements to performance and security that all developers and customers benefit from. One of the highest added values of PaaS capabilities is that developers and systems administrators automatically receive the latest platform features. This is an area where public PaaS offerings, and especially the Salesforce1 Platform, excel in delivering. For fast-growing companies, the ability to quickly build and refine applications and Web sites is oxygen for their fire.

The organizations IDC interviewed were heavy users of the Salesforce1 Platform Mobile Services, with increasing adoption of social features like Chatter. Some customers interviewed highlighted the potential benefits of the Heroku platform.

FINANCIAL BENEFITS ANALYSIS

In September and October 2013, IDC interviewed seven organizations that had been using Salesforce1 Platform for 14 to 96 months. The organizations interviewed ranged from small companies with fewer than 100 employees to several large corporations and government agencies with more than 3,000 employees. The interviews were designed to obtain quantifiable information as well as qualitative statements so that IDC could evaluate the overall impact of Salesforce1 Platform on the organization.

Organizations in the study selected Salesforce1 Platform for various reasons, but several noted that it was a key aspect of a broader IT modernization initiative. Interviewees cited the fact that Salesforce1 Platform is an "on-demand, anytime anywhere access solution" that would help them "scale up quickly." Reduced time to market was on the minds of a number of surveyed organizations, with one interviewee remarking, "I needed something that didn't require me to maintain a full development staff that would require months and months of development." Surveyed organizations also noted that they expected salesforce.com's PaaS offering would make them nimbler and more responsive and drive their business strategies. One respondent said her organization looked at the potential of Salesforce1 Platform from a broad perspective: "Salesforce facilitates a more holistic solution, such as the integration of many applications, and offers a holistic approach to re-envisioning business applications."

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"Salesforce facilitates a more holistic solution, such as the integration of many applications, and offers a holistic approach to re-envisioning business applications."

IT Return on Investment

From the interviews, IDC was able to measure the financial impact of adopting Salesforce1 Platform to these organizations. IDC concluded that organizations using Salesforce1 Platform benefited in four areas: IT infrastructure cost reduction, higher IT staff productivity, higher end-user productivity, and higher overall business productivity. These benefits lead to a faster time to market for products and services at the user organizations and generally are key drivers of business growth. The aggregate benefit to these organizations using Salesforce1 Platform averaged $727,835 per 100 users (see Figure 1). In detail:

- **Infrastructure cost reductions.** Organizations in the study leveraged Salesforce1 Platform to reduce a number of costs, including costs associated with in-house development activities such as servers, software, hardware, travel, and consultancy services. On average, they saved $102,829 per 100 users.

- **IT staff productivity.** Organizations were able to avoid IT hires and reduce their ongoing maintenance and application development costs with Salesforce1 Platform. They saved $243,814 per 100 users.

- **User productivity.** By reducing downtime on Salesforce1 Platform, surveyed organizations recorded an average productivity gain of $62,227 per 100 users.

- **Business productivity.** Organizations recorded significant benefits from higher productivity with Salesforce1 Platform through faster application development, moving staff members to positions focused on growing the business, higher productivity because of better applications, and other cost reductions in operations. On average, the organizations surveyed recorded $318,965 per 100 users per year of business productivity benefits.

> **Aggregate benefit per 100 users with Salesforce1 Platform averaged $727,835.**

FIGURE 1

Average Annual Cost Savings ($ per 100 Users)

Total = $727,835
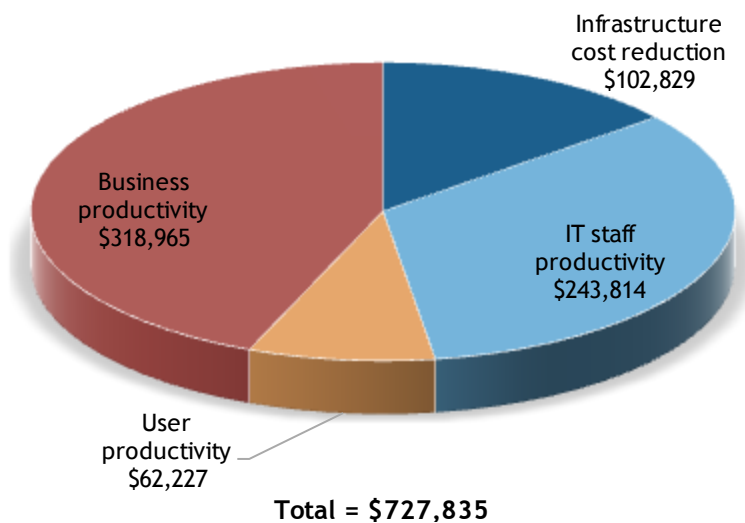
Source: IDC, 2013

All surveyed organizations are standardized on Salesforce1 Platform, although each maintains different use cases. They are using Salesforce1 Platform as, among other uses, a customer relationship management solution, a provider of high-criticality hosting and applications, a corporate intranet, an application store and application exchange, an ecommerce service app, and an approval/process management tool. The majority of organizations say that they are building applications using only the Force.com service of the Salesforce1 Platform, although one respondent is using the Heroku service as well.

IT Service Management KPIs

Organizations standardize on Salesforce1 Platform to create an optimal environment for developing and deploying applications. We can observe their success by evaluating the IT service management key performance indicators (KPIs) that most closely track to application development and deployments. For example, surveyed organizations report that they have accelerated their application development processes, reducing the time to market for their applications by 70% with Salesforce1 Platform (see Figure 2).

In addition, they have reduced the number of FTEs per application project by 22%. As expected, when you can do something faster and cheaper, you do more of it, and organizations report launching almost two times as many applications with Salesforce1 Platform. Getting applications out the door efficiently is the first part of the equation. The second part is getting users to adopt the applications. User adoption has also been positively impacted; the average time to adopt an application has decreased by 67%, and the application utilization rate is 30% higher. As one interviewee explained: "They are excited that the apps are available on their iPad … so it's mobile. And it's easy to use. It's very intuitive and standard."

Part three of the IT service management equation for applications is quality, which is discussed in the Quality of Applications Developed section.
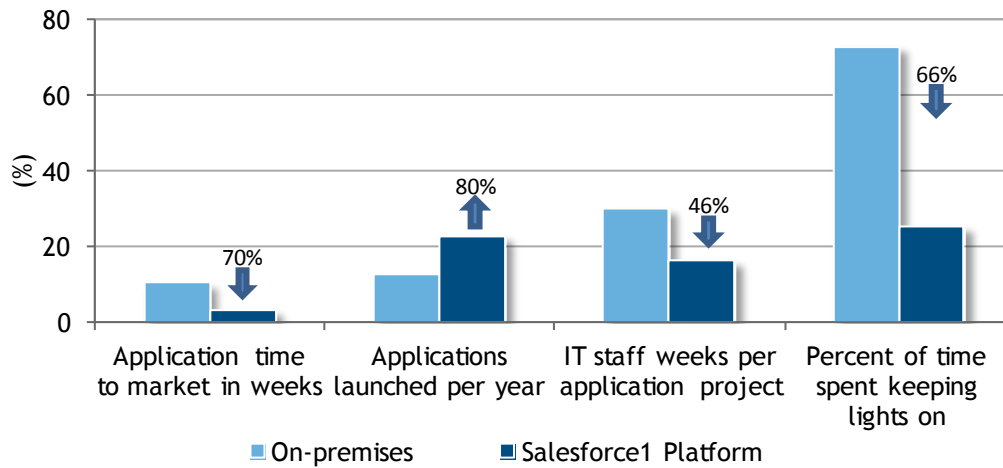
70% reduced time to market for applications

22% reduction in the number of FTEs per application project

2x as many applications with Salesforce1 Platform

FIGURE 2

IT Service Management KPIs

Source: IDC, 2013

Infrastructure Cost Reduction

By adopting Salesforce1 Platform as a standardized solution, organizations in this study have lowered their annual infrastructure costs by an average of $102,829 per 100 users. These savings have manifested themselves in five areas:

- Saving on server purchases and upkeep

- Reducing expenditures on software and licenses

- Lowering travel costs

- Cutting spending on other hardware

- Spending less on outside consultants

Using Salesforce1 Platform has allowed surveyed organizations to cut their costs related to servers by an average of $42,267 per 100 users. Organizations have been able to do more with their existing servers, extend the lives of their servers, and avoid server refreshes and upgrades. One interviewee noted that her company's server lifetimes had been extended by five years because "we've shifted the burden to Salesforce."

Surveyed organizations have also cut their software costs with Salesforce1 Platform to the tune of $25,069 per 100 users. They have achieved this by developing applications that are more efficient and better meet their organization's needs. This has enabled organizations to avoid costs for software that are either redundant or can be more efficiently deployed with Salesforce1 Platform. One interviewee cited her organization's success in using Salesforce1 Platform to significantly reduce the scope of the company's collaborative client/server software platform, thereby cutting software-related costs (see Figure 3).

One interviewee cited her organization's success in using Salesforce1 Platform to significantly reduce the scope of the company's collaborative client/server software platform, thereby cutting software-related costs.

FIGURE 3

Average Annual Infrastructure Cost Reduction
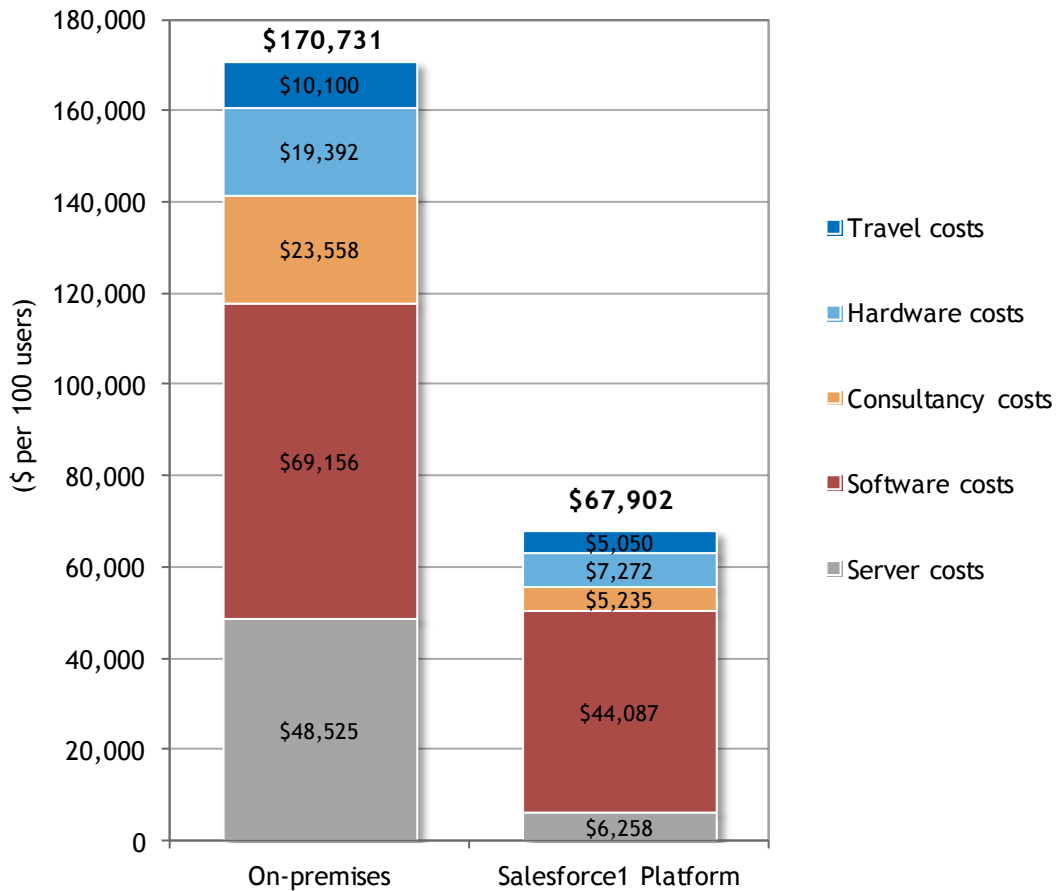
Source: IDC, 2013

In addition to reduced costs for servers and software, organizations have also realized other types of cost savings. For example, one interviewee noted the extent to which her organization has avoided consultancy fees, explaining: "We use consultants for a much shorter period of time with Salesforce. If we didn't have Salesforce, we would spend four to five times as much on consultants." Another interviewee pointed out that her organization has captured savings in travel costs because Salesforce1 Platform has enabled more application deployments and helped collect data needed to better analyze travel costs.

"We use consultants for a much shorter period of time with Salesforce. If we didn't have Salesforce, we would spend four to five times as much on consultants."

IT Staff Productivity

Salesforce1 Platform has made IT departments of surveyed organizations more efficient and productive. Organizations reported that they have avoided new hires and saved significant staff time because of lower error rates and improved data analysis. In addition, Salesforce1 Platform has led to IT staff efficiencies in developing and maintaining applications, which have meant large cost savings for these organizations given the scale of their application development efforts (see Figure 4).

FIGURE 4

Average Annual IT Staff Productivity Benefit
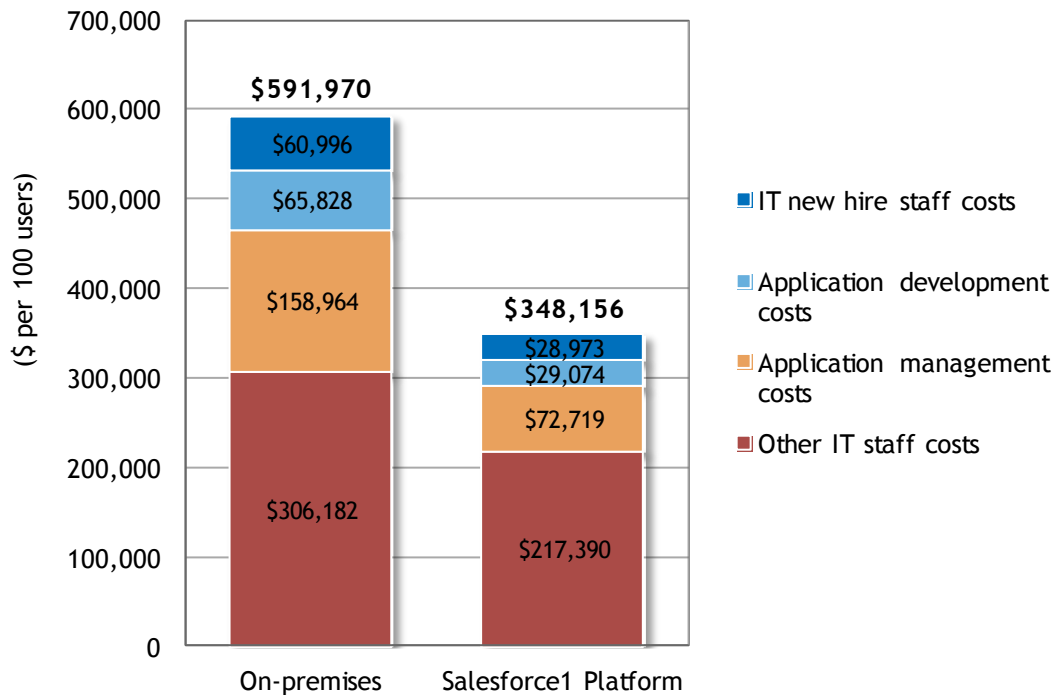
Source: IDC, 2013

A key benefit of Salesforce1 Platform to surveyed organizations has been the extent to which it has helped them to do more with less, growing their applications by an average of 44% annually without having to add IT staff, or allowed them to move existing staff to new responsibilities. One interviewee stated this clearly: "We'd need to hire more people if we didn't have Salesforce. To do what we're doing, we'd have to double our staff." According to interviewees, Salesforce1 Platform has also helped their organizations avoid costs associated with maintenance and application development. For example, one interviewee noted that automatic upgrades with Salesforce1 Platform are "a big time savings on our side because we aren't the ones doing the upgrade, which saves our people time."

> "We'd need to hire more people if we didn't have Salesforce. To do what we're doing, we'd have to double our staff."

Quality of Applications Developed

The last measurement of IT service management for an application platform is quality. The positive impact of Salesforce1 Platform on service quality KPIs is clear. Surveyed organizations reported that downtime has declined significantly with Salesforce1 Platform, with the number of downtime incidents per year declining by 97.9%. As a result, total downtime hours and the downtime impact per user are both down by over 99% (see Table 2).

> **Total downtime hours and the downtime impact per user are both down by over 99%.**

TABLE 2

Service Quality KPIs

|	SFDC	On-Premises	Difference	% of Advantage
Downtime incidents per year	0.3	15.7	15.4	97.9
Average time per incident (hours)	2.7	32	29.3	91.7
Annual downtime (hours)	0.9	502.4	501.5	99.8
Annual cost of downtime per 100 users ($)	125	62,352	62,227	99.8

Source: IDC, 2013

Business Productivity

Salesforce1 Platform has also delivered significant business benefits to surveyed organizations. In particular, organizations report that they have accelerated the time to market for the applications they develop and improved the quality of their applications. Given the increased prominence of application development in IT strategies, time to market and quality of applications will remain metrics that are central to the success of organizations' application development efforts (see Figure 5).

FIGURE 5

Average Annual Business Productivity Increase

Total = $318,965
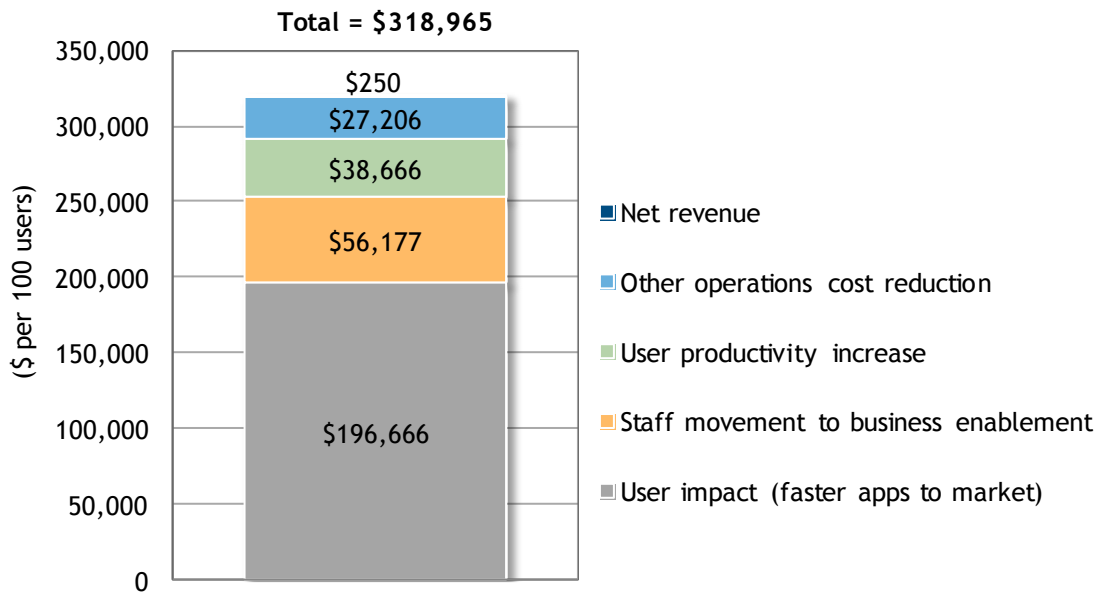
Source: IDC, 2013

The single most significant category of benefits captured by surveyed organizations was the increased speed to market of their applications with Salesforce1 Platform. Organizations are benefiting in a straightforward manner from accelerated time to market for their applications: The sooner their internal end users and customers can use their applications, the more aggregate value that the organizations capture. When asked how applications improved productivity, one company explained: "As a technology, no. But as a function of allowing the business to better engage with us, yes. The agility helps us get the business engaged. When we get the apps in the hands of the users so much faster, they are still excited about it, so they get engaged." The value is multiplied by the number of applications the companies are fielding each year. Salesforce1 Platform has helped a number of surveyed organizations dramatically cut the time to market for their applications, driving business benefits. As one interviewee noted, "It takes a fraction of the time for us to deliver an application with Salesforce."

> "It takes a fraction of the time for us to deliver an application with Salesforce."

Surveyed organizations have also recorded productivity increases because of the higher quality of their applications developed with Salesforce1 Platform. Their internal end users are finding that applications have been improved in ways such as having increased availability and stronger reporting functionality and are putting these more robust applications to greater use. Organizations are, in turn, capturing the benefits this creates.

In addition, surveyed organizations have discovered that they are benefiting from the fact that their use of Salesforce1 Platform enables some employees to refocus on business enablement. Beyond the clear productivity gains of being able to optimize end users' time, this can also result in higher morale among employees as they take on more challenging and creative tasks.

Five-Year ROI Summary

IDC uses a discounted cash flow methodology to calculate the return on investment and payback period. ROI is the ratio of the net present value (NPV) and discounted investment. The payback period is the point at which *cumulative* benefits equal the initial investment.

Table 3 presents IDC's ROI analysis for the adoption of Salesforce1 Platform for organizations. This ROI analysis is a five-year view of the financial impact of Salesforce1 Platform.

The five-year ROI analysis shows that, on average, the organizations in this study will spend $0.4 million per 100 users on Salesforce1 Platform and will return $2.4 million in benefits. This results in an NPV of $2.0 million per 100 users for Salesforce1 Platform. Based on these results, the organizations saw an average payback period of seven months after their deployment of Salesforce1 Platform and an ROI of 520%.

ROI of 520%

Spending $0.4 million per 100 users on Salesforce1 Platform will return $2.4 million in benefits over 5 years.

TABLE 3

Five-Year ROI Analysis (per 100 Users)

Benefit (discounted)	$2.4 million
Investment (discounted)	$0.4 million
Net present value (NPV)	$2.0 million
Return on investment (ROI)	520%
Payback	6.56 months
Discount rate	12%

Source: IDC, 2013

CHALLENGES AND OPPORTUNITIES

Given market success and an astounding pace of adoption, salesforce.com has significant opportunities of growth with its application platform, as it aggressively evolves the platform to meet customer needs. Discussion with customers revealed some clear pain points, and in many cases, salesforce.com has active R&D investments to meet these challenges. In the sections that follow, we highlight three important areas of challenge and opportunity facing the platform.

Sharper Tools

Salesforce1 Platform developers tell IDC that the key to success in productivity and agility is in identifying the parts of their applications that can be developed declaratively. As the data in this document illustrates, most Salesforce1 Platform adopters realize strong benefits from the environment compared with other alternatives available to them or from the systems they had prior, which were providing some of the functions. Once complex coding is required with the Apex language, however, users begin to feel some of the challenges of using a nonstandard language such as Java, for which exists a rich ecosystem of tools. To be sure, new tools are constantly emerging from a rapidly expanding ecosystem around the Salesforce1 Platform and Apex, but these tools have so far been challenged to compete with the many powerful IDE choices for Java or with the vast ecosystem of vendors and open source projects providing a variety of deep diagnostic tools for monitoring, debugging, profiling, and analyzing Java code.

The most important area of investment that salesforce.com can make is partnership with, or acquisition investment in, a powerful IDE for Apex. An IDE can function as an anchor for the Salesforce1 Platform and a gateway to all developer functionality available for application construction and deployment. Salesforce.com has significant capabilities that can be surfaced in a powerful IDE, and a good IDE choice can bring missing tools to the environment. An IDE can provide much-needed support for developer team workflows, as more and more salesforce.com platform customers undertake ever larger projects on the platform. IDC believes that this is an important area of much-needed investment by salesforce.com in Salesforce1 Platform.

Governing the Governor

One key issue that arose in IDC's discussions with customers relates to the effort needed to work around Salesforce1 Platform resource governors. The salesforce.com environment is a multitenant system that allows a very large number of customers to work concurrently on the same infrastructure. To support the hundreds of thousands of tenants on the infrastructure reliably, individual tenants have to be restricted from commissioning workloads through queries or reports that can tax the infrastructure. These restrictions, also known as Apex limits or resource governors, prevent errant code from monopolizing system resources and slowing down other tenants.

The challenge with governors is that sometimes the queries are legitimate and necessarily resource-consumptive tasks, such as loading data or building complex reports. In recent years, salesforce.com has invested in solutions to this problem such as creating data-load APIs. Additionally, as the infrastructure is upgraded on a continuous basis with infusion of new servers with faster processors, the problem has become somewhat less critical. IDC believes that salesforce.com should invest in

additional tools and mechanisms to allow developers to interact with governors in order to interrogate available resources and negotiate resource commitments.

The Heroku Expansion

The Salesforce1 Platform has made significant progress over the past few years. One of the key investment areas that salesforce.com made is the acquisition of a code-based cloud application platform known as Heroku. Salesforce.com recognized that despite the growing adoption of Salesforce1 Platform, many enterprises – especially larger ones with complex requirements and significant vested skills – prefer to develop custom applications with standard or standardized technologies.

General-purpose programming languages and multivendor-backed frameworks such as Java or Microsoft .NET have taken hold in most large enterprises as key tools for building custom applications because they provide a level of strategic safety that reduces dependence on the technology provider by allowing control over upgrade cycles and providing fine-grained control over application architecture. To appeal to this traditional value, salesforce.com acquired Heroku in 2010. Heroku had built a public PaaS offering designed to appeal to Ruby-on-Rails programming language developers and had gained significant traction with an exploding wave of mobile and Web applications. With the help of the significant R&D infusion resulting from the acquisition, Heroku was able to add support for other programming languages such as Java and Python and build bindings to salesforce.com metadata and APIs from standard programming environments deployed on Heroku.

Heroku brings a new style of engagement to enterprises for building custom cloud applications, one that leverages the same programming languages and developer skill sets available to them internally and attains a higher level of code reuse and developer process synergies. Heroku services have been popular with consumer application developers, especially those constructing back ends for new mobile and social applications. Today, enterprises are just beginning to take advantage of code-driven PaaS capabilities, but IDC expects this trend will intensify, and salesforce.com is extremely well positioned to leverage this increased adoption. Salesforce.com has folded Heroku services into the overall Salesforce1 Platform and has begun to provide higher levels of integration. Heroku developers can access Salesforce1 Platform data and metadata, which means application developers can construct parts of their applications out of Java or Ruby code running in Heroku. This represents one of the key opportunities facing the salesforce.com platform – namely, to offer productivity and agility for custom applications that can be developed in traditional programming languages.

Additionally, salesforce.com recently announced Heroku1, which extends the value of Salesforce1 Platform by making it easy to build customer-facing apps that leverage existing Salesforce1 Platform data. The service automatically keeps employee workflows in sync with customer app experiences.

MARKET CONTEXT — ADDITIONAL IDC RESEARCH

Additional independent research IDC has done recently confirms the importance of PaaS to enterprises and the strength of Salesforce1 Platform in the PaaS space. IDC's 2013 *CloudTrack Survey* highlights the momentum PaaS is gaining in enterprises, while IDC's BuyerPulse Deals Analysis highlights the strong showing of the Salesforce1 Platform in the mix of deals IDC sees. Additionally, IDC market share data shows Salesforce1 Platform as the leading platform in the PaaS space. Thus, not only is PaaS showing increasing adoption among enterprises, but Salesforce1 Platform gets the most recognition by buyers and is the leading market share holder. The data clearly indicates that Salesforce1 Platform is now more widely adopted than ever.

IDC CloudTrack Survey

In IDC's *CloudTrack Survey* (n = 1,109, September 2013), 67% of users agreed or strongly agreed with the following statement: "Colocated data simplifies the application development process." Salesforce1 Platform also has native connectors to a broad set of popular enterprise applications, including SAP, Oracle, Microsoft products, and many other on-premises or cloud-based applications, freeing that data from the production application stack where it resides and allowing it to be easily shared, consumed, and analyzed. Salesforce1 Platform developers can also connect with Amazon compute and storage services, such as S3 and EC2, using the AWS toolkit; access and manipulate S3 objects using Salesforce1 Platform as an interface and controller for these objects; and launch application integration with EC2.

Salesforce1 Platform gives developers a single IDE-based interface for managing data and compute assets that reside elsewhere, allowing them to write calls to these remote assets "through" using the platform as the dashboard. Buyers surveyed by IDC's *CloudTrack Survey* put "being stranded on a vendor's cloud" as a significant inhibiting scenario for them – 59% state it was a "concern" or a "strong concern." By making it easy for organizations to integrate with their data, security regime, and processes, whether they are on Salesforce1 Platform or another cloud or in a customer datacenter, Salesforce1 Platform helps alleviate concern about vendor lock-in.
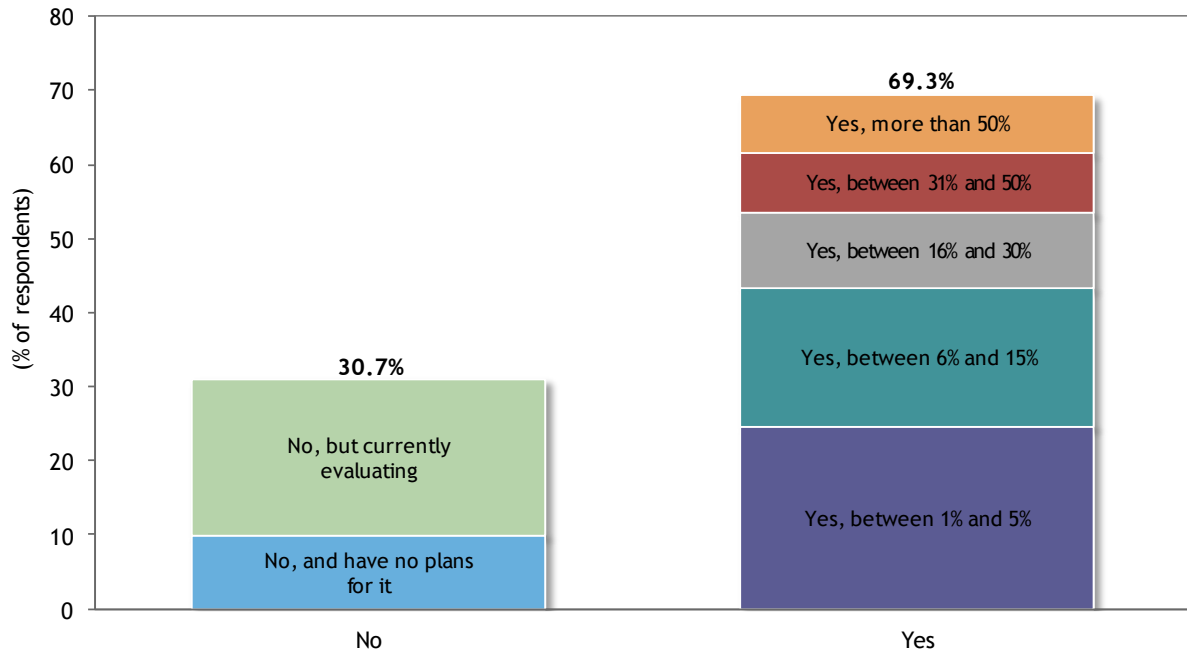
IDC's *CloudTrack Survey* (n = 1,109, September 2013) surveyed business and IT users in five countries and found that, on average, they plan to move 38% more of their development work to PaaS environments over the next 24 months, and over 25% currently use PaaS for 16-100% of their total testing and development work, with 8% stating they use PaaS testing and development "more than 50%" of the time (see Figure 6). Over 25% of respondents currently use PaaS for 16-100% of their total testing and development work.

> IDC's *CloudTrack Survey* found that on average, business and IT users plan to move 38% more of their development work to PaaS environments over the next 24 months.

FIGURE 6

PAAS Cloud Platform Usage

Q.   *Does your organization use public platform-as-a-service (PaaS) cloud platforms for developing and/or testing applications, including mobile applications?*

n = 1,109

Note: The survey was conducted among business and IT users in five countries.

Source: IDC's *CloudTrack Survey*, September 2013

IDC BuyerPulse Deals Analysis

Customer deals captured in the BuyerPulse Software Deals database mentioned using the Salesforce1 Platform nearly twice as often as the next nearest PaaS provider. Salesforce.com claims that in 2013 Salesforce1 Platform reached the 1 million developer milestone, made up of either "third party" ISV developers who create and host powerful business applications, Web sites, and mobile applications on behalf of their customers or internal developers working in the development or operations teams of their business' IT organizations. Salesforce1 Platform is also used by commercial SaaS ISVs to build new products to sell in the salesforce.com AppExchange marketplace, typically to enrich their customers' experience with the core application experience native to salesforce.com (sales, marketing, workforce management, data analysis, etc.).

> **Customer deals captured in the BuyerPulse Software Deals database mentioned using the Salesforce1 Platform nearly twice as often as the next nearest PaaS provider.**

Companies and ISVs are using Salesforce1 Platform to build applications across a spectrum of business functions and industries, including supply chain management, billing, audit, tax calculation, event management, compliance tracking, brand management, pricing, accounts receivable, accounts payable, claims processing, billing, HR, payment processing, project management, compliance management, software BOM management, and employee onboarding, to name just a few of the hundreds of application categories being built on Salesforce1 Platform.

Figure 7 shows the major application platform-as-a-service players with their respective market shares. In 2012, salesforce.com was the leader in this market.

FIGURE 7

Worldwide Application Platform as a Service: Share of Revenue by Vendor, 2012
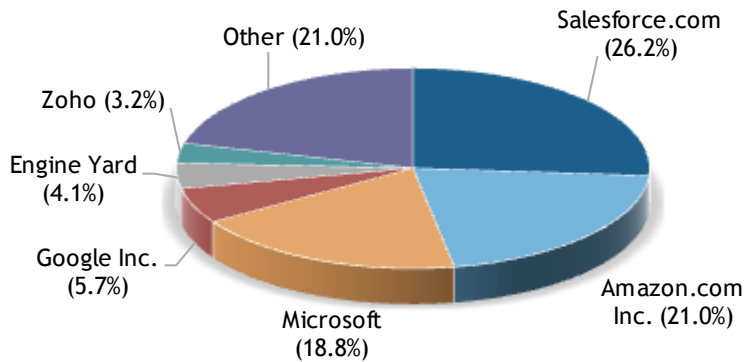
Source: IDC, 2013

CONCLUSION

What do smart start-up firms with two employees and a good idea have in common with Fortune 100 multinational organizations? They both need to move fast, stay lean, and iterate on success. The organizations IDC has interviewed for this study have done just that with Salesforce1 Platform. In detail:

- **Their IT development/operations efforts have either begun with or substantially shifted their key projects to a cloud-based PaaS environment.** The Salesforce1 Platform – which one respondent called the "leading edge" projects (those which must get built quickly) – has the highest visibility among users or customers and will provide the fastest access to top-line revenue growth. IDC's *CloudTrack Survey* (n = 1,109, September 2013) surveyed business and IT users in five countries and found that, on average, they plan to move 38% more of their development work to PaaS environments over the next 24 months, and a whopping 69% currently use PaaS for 16-100% of their total testing and development work, with nearly 10% stating they use PaaS testing and development "more than 50%" of the time.

- **They stayed lean by seeking enormous savings over what they have been spending – and would otherwise spend – on traditional on-premises development, testing, staging, and deployment environments and saved over $0.7 million annually per 100 users.** IT staff productivity was more than 30% of that gain, but overall business productivity and reduced capital expense for infrastructure components were important contributors to the savings. New hires were documented as being avoided because of Salesforce1 Platform. It's finally becoming more widely known that cloud-based specialists like salesforce.com can manage environments that are more secure to breach, with more stable uptime, than all but the most sophisticated, very large IT organizations. Respondents in our study found more reduced "idle" cost because of downtime than if the IT organization ran the infrastructure for application development itself. A typical organization in our study saved over $2 million in ongoing maintenance that it would have had to put into its own datacenters and – astoundingly – saved over $2 million in FTE IT costs because of access to better data, making better decisions as a result. Salesforce1 Platform's dashboard gives a transparent picture of all assets, all projects, and all milestones, and users pointed to it as a lifeline for good insight into their work.

- **They iterated by seeing a good thing in Salesforce1 Platform and deciding to move more and more of their development and application life cycle to Salesforce1 Platform in particular and salesforce.com in general.** Faster time to market drove much of the huge gains cited by users – about 75% of the business benefit category – and this derives precisely from IT's ability to build and refine code quickly and reliably. The fact that these firms saw success on Salesforce1 Platform and nearly doubled the number of applications they built year over year means they iterated on success.

> **The Salesforce1 Platform — which one respondent called the "leading edge" projects (those which must get built quickly) — has the highest visibility among users or customers and will provide the fastest access to top-line revenue growth.**

> **Faster time to market drove much of the huge gains cited by users — about 75% of the business benefit category — and this derives precisely from IT's ability to build and refine code quickly and reliably.**

As IT organizations struggle to help their businesses keep up with opportunities, they have turned to cloud-based PaaS like Salesforce1 Platform to serve their customers better. Benefits in our respondent pool were a combination of bottom-line capex savings and efficiencies and top-line speed, agility, and access to opportunity. New functionality gets pushed to users more quickly, resulting in a better, more stable experience for them. Users get a tighter engagement with their individual customers because Salesforce1 Platform's collaborative development workflow means code can be added from anywhere in the world, with full access to application development resources. Organizations can quickly build and deploy solutions, reducing application development cycle time, speeding the response to user requests, and delivering the IT agility required to take advantage of fast-breaking business opportunities. For fast-growing companies, the ability to build and refine applications and Web sites is oxygen for their fire.

RESEARCH METHODOLOGY

Study Demographics

In September and October 2013, IDC interviewed seven organizations that had been using Salesforce1 Platform. The organizations interviewed ranged from small companies with fewer than 100 employees to several large corporations and government agencies with more than 3,000 employees. The organizations interviewed are headquartered in North America, but several operate worldwide (see Table 4).

TABLE 4

Organization Demographics

Employees (average)	2,903
Internal users (average)	2,748
External users (average)	100,101
IT staff (average)	123
Years with salesforce.com (average)	4
Number of applications built with Salesforce1 Platform (average)	31
Application growth (average)	44%
Mix of applications by criticality (average)	1/3 each
Industry	Technology, professional services, government, retail, service provider
Region	North America

Source: IDC, 2013

ROI Calculation

IDC utilized its standard ROI methodology for this project. This methodology is based on gathering data from current users of the technology as the foundation for the model. Based on these interviews, IDC performs a three-step process to calculate the ROI and payback period:

- Measure the savings from reduced IT costs (staff, hardware, software, maintenance, and IT support), increased user productivity, and improved revenue over the term of the deployment.

- Ascertain the investment made in deploying the solution and the associated training and support costs.

- Project the costs and savings over a five-year period and calculate the ROI and payback for the deployed solution.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

- Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings.

- Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.

- The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.

- Lost productivity is a product of downtime multiplied by burdened salary.

- Lost revenue is a product of downtime multiplied by the average revenue generated per hour.

- The net present value (NPV) of the five-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.

Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each company what fraction of downtime hours to use in calculating productivity savings and the reduction in lost revenue. IDC then taxes the revenue at that rate.

Further, because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1000 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For more than 48 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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