



## **Building Business Solutions on Force.com**

The objective of this white paper is to present UST Global's point of view on building business solutions on Force.com. The author presents his analysis on the benefits/risks and security/compliance issues, provides his tactical recommendations to solve business problems for enterprises in the financial services industry, and shares his view on the future of Cloud platforms.

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## **Building Business Solutions on Force.com**

*Business drivers such as cost reduction, easy legacy application migration, deployment flexibility, speed to market, and agility are making it compelling for enterprises to build applications on Force.com.*

Economic conditions have created a fundamental shift in how technology is perceived. Now more than ever, competitive advantage is defined by agility. Forced to do more with less, organizations must still achieve consistent revenue growth and performance. This paradigm requires a new strategy for building and delivering IT Services and Solutions.

### **What is Force.com?**

Force.com is a cloud platform that provides both the hardware and software required to build custom applications. Force.com eliminates the need for the upfront capital investments required by traditional development platforms such as .Net or Java. It also eliminates the time lags associated with setting up development, testing, training and production environments. Attributes such as multi-tenancy, the ability to easily scale both up and down, built-in analytics and dashboards, support for “any” device and browser, built-in workflows and logic, and unlimited customization make application development on Force.com very compelling.

### **Key Business Benefits of Building Applications on Force.com**

- Allows organizations to move from the capital expenditure (CapEx) to operational expenditure (OpEx) model
- Provides secure, scalable, reliable global access
- Provides greater speed to market
- Supports all mainstream devices and browsers
- Allows for flexibility in resource planning
- Reduces cost of development and testing
- Increases utilization of IT resources
- Allows for more customization with less coding

## The Cloud Platform Industry

Cloud platform providers in today's market range from mid-sized organizations to billion-dollar providers, with variables in what each has to offer:

☒ = minimal function included in platform    ✓ = included in platform    ✗ = not included in platform

Vendor	Database		Logic				Tools				
	SQL	Content	UI	Business	Integration	Workflow	IDE	4GL	On-premise deployment	Authenti-cation	Billing
AdventNet	✓	✗	✓	✓	✗	☒	✗	✓	✗	✓	✗
Bungee Labs	✗	✗	✓	✓	✓	✓	✓	✗	✓	✓	✗
Caspio	✓	✗	✓	✓	✓	☒	✗	✓	✓	✓	✗
Daptiv	✓	✗	✓	✓	✓	✓	✗	✓	✗	✓	✗
Google	✗	✓	☒	✓	✗	✗	✗	✗	✗	☒	✗
Intuit	✓	✗	✓	✓	✓	✓	✓	✗	✗	✓	✓
Magic Software	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗
Micro Focus	✓	✓	☒	✓	✓	✗	✗	✗	✓	✓	✗
Microsoft Azure Services Platform	✓	✓	☒	✓	✓	☒	✓	✗	✗	☒	✗
Microsoft SharePoint Online	☒	✓	☒	☒	☒	☒	✗	✓	✓	✓	✗
OrangeScape Technologies	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗
Relational Networks	✓	✗	✓	✓	☒	✓	✓	✓	✓	✓	✗
sales-force.com	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓
Stax Networks	✓	✗	✓	✓	✗	✗	☒	✗	✓	✓	✗

### Source: Forrester Report, Platform-As-A-Service Is Here: How To Sift Through The Options

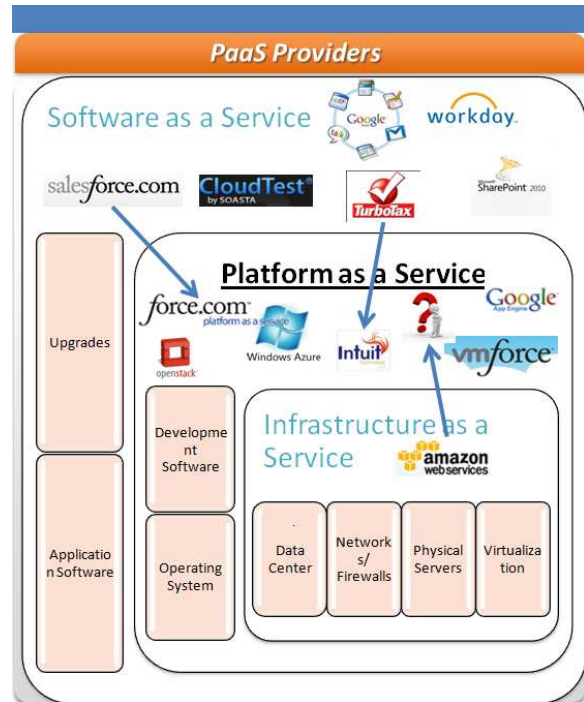
Based on the data points from the chart shown above, it is evident that Force.com is one of the most comprehensive cloud platforms in the industry. The wide range of features allows for lower costs and faster development speeds.

It is important to note that convergence is taking place in the cloud computing industry. Infrastructure-as-a-Service (IaaS) providers such as Amazon Web Services and Software-as-a-Service (SaaS) providers such as Salesforce are moving into the Platform-as-a-Service (PaaS) space. Is PaaS going to be the “Future of the Cloud?”

The emerging players in this new industry are initially capturing differing business segments. Salesforce.com has already made Force.com a convincing platform for CRM extensions, and Intuit—in association with Microsoft—is building a Tax platform (the Intuit Partner Platform). An interesting observation here is that both Salesforce.com and Intuit’s Turbo Tax began as SaaS providers and are now moving into the PaaS arena.

Microfocus (Mainframe emulation platform to migrate mainframe application as SaaS), Daptiv

(platform for project management) and Boomi (integration and data synchronization) are other notable cloud platform providers.



## Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis on Force.com

### Strengths

- Salesforce, the leading SaaS-based CRM tool, is built on Force.com. This provides an integrated development environment, supports 4GL programming, and provides an integrated mechanism for authentication and billing. To hasten the development process, Force.com’s SWOT analysis has native support for workflows, business logic, UI components, and an integration engine.
- Applications built on Force.com can support all mainstream browsers and mobile devices.
- Development is based more on customization rather than coding, which leads to quality products in less time. Compared to .Net and Java, Force.com customers have experienced development cycles up to five times faster and at half the cost.
- The Salesforce App Exchange is a marketplace on Force.com for the custom development of Business-to-Business (B2B) and Business-to-Customer (B2C) applications and services. As of September 5, 2010, it hosts 626,502 applications and services. Salesforce has over 77,300 customers and has 13% of the CRM market (Q2-2010, Salesforce.com Investors Presentation).

## *Weaknesses*

- Apex is the ONLY programming language that can be used on Force.com. Though similar to Java, Apex has its own limitations (it cannot, for example, create temporary files or spawn threads<sup>1</sup>). Salesforce, however, plans to release vmForce later this year, which will support Java as the development language. This will also address the issues of “lock in” to Apex.
- Applications built on Force.com cannot be deployed outside the Force.com platform.
- PCI/PII compliance will require the de-identification of data, hybrid architecture, and integration with other payment providers (such as PayPal and Google Checkout).

## *Opportunities*

- Force.com facilitates easy B2B Integrations. An eCommerce application on Force.com can seamlessly integrate with PayPal or Google Checkout and easily handle payments.
- Intelligent services can be designed on Force.com by mashing up the data collected from various online services. For example, retailers can leverage the benefits of services from weather.com and competitor store locations to push out specific coupons to consumers.

## *Threats*

- The risk associated with the “OpEx” model is that it puts Salesforce.com in total control of the pricing model. They can increase the per-user cost in the future.<sup>2</sup>
- The total cost of ownership (TCO) of PaaS-based applications depends on the number of users such as developers, testers, or business users. As the success of an application increases the number of users will start to rise, resulting in a higher TCO. At some point, it is possible that the PaaS application could become more expensive than an on-premise solution. At that point, since internally hosting Force.com applications is not an option,<sup>3</sup> the Force.com user contract would have to be re-negotiated. That said, Salesforce.com has very attractive packages and pricing options available to suit industry demands.
- Application development on Force.com requires effective people change management. Employees in an existing workforce that manages internal sandboxes, infrastructure, software licenses, and/or hardware upgrades could find their jobs threatened. This is usually addressed by re-deploying that existing workforce to more value-added work in the same functional area, or by moving them to management functions in other applications and associated infrastructure.

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<sup>1</sup> [http://www.salesforce.com/us/developer/docs/apexcode/Content/apex\\_intro\\_apex\\_limitation.htm](http://www.salesforce.com/us/developer/docs/apexcode/Content/apex_intro_apex_limitation.htm)

<sup>2</sup> Source, Forrester Report – Platform-As-A-Service Is Here: How To Sift Through The Options

<sup>3</sup> Source, Forrester Report – Platform-As-A-Service Is Here: Can it help you?

## Force.com - Security and Compliance

### *Security & Compliance*

When it comes to security, no one should be trusted—neither third-party providers (cloud or traditional) nor employees. From the security perspective, the issues become:

- Mitigating the risk of a security breach
- Protecting the data
- Determining the counter measures to be taken

From a compliance standpoint, Payment Card Industry Data Security Standard (PCI DSS) and Personally Identifiable Information (PII) are the two most widely-discussed issues around cloud adoption.

### *Solutions*

#### *1. Disassociate Data*

The best way to deal with PII data is to disassociate the data. Disassociating the data means the “de-identification” of a particular piece of data. The extent of this disassociation depends not only on the data in a particular case, but on the auditors involved. Leaving an individual’s name and age associated with each other can be an issue, for example. After the data is de-identified, it can then be placed on the cloud platform and analytics can be run that take advantage of its scalable, distributed computing power. Running analytics on large data sets to find specific information can be extremely cost effective.

#### *2. Cloud Monitoring and Filtering*

It’s important to implement a façade layer to monitor and filter the data going in and out of the cloud platform. This filter will enable authentication, authorization, and an audit trail. It will also ensure that only authorized users get access to the information and it will cleanse unexpected system errors before they are displayed to the end user.

#### *3. Architecture*

There are two popular ways of handling PCI compliance on Force.com. The most popular is to outsource payment processing to third-party services such as Google Checkout or Pay Pal. The other popular option is a hybrid architecture where sensitive information is saved on a physical server while the remainder of the application components reside on the Force.com platform.

### *Certification*

Force.com is governed by a comprehensive information security management system. Force.com has received an ISO 27001 certification and continues to undergo SAS70 Type II and SysTrust audits.

## **Leverage the Power of Force.com: Tactical Recommendations**

### ***Build the Next Generation Client Collaboration Portal***

In this era where almost everyone has access to large amounts of information through search engines and social networks, it is important for asset managers to stay connected with their important clients and ensure that all relevant information is “quickly and consistently” pushed out in a structured, efficient and user-friendly manner. The challenges that asset managers face today is enhancing service through speed of information and collaborating efficiently with their clients.

These challenges can be met by building a collaboration portal that can integrate with various data sources (Social Media and RSS feeds from various websites, for example) and automatically pull all relevant information into one common user-friendly interface.

The new collaboration cloud from Salesforce is an enterprise collaboration tool. This platform has rich features to create and manage profiles, create and facilitate discussion in groups, accept feeds from defined sources, share content such as spreadsheets and presentations, and build user notifications. It also has sophisticated security and sharing models that integrate with social networks such as Twitter and Facebook.

### ***Legacy Migration***

The Total Cost of Ownership (TCO) involved in maintaining legacy applications is often under-estimated. Licensing and training costs, managing customer complaints, and the time and effort of managing disparate databases and keeping them in sync can all add up to a significant amount.

By doing a quick “Force.com Readiness Check,” many applications such as contract management, project tracking, simple workflow applications, and data-driven websites can be migrated—quickly and cost effectively—to Force.com.

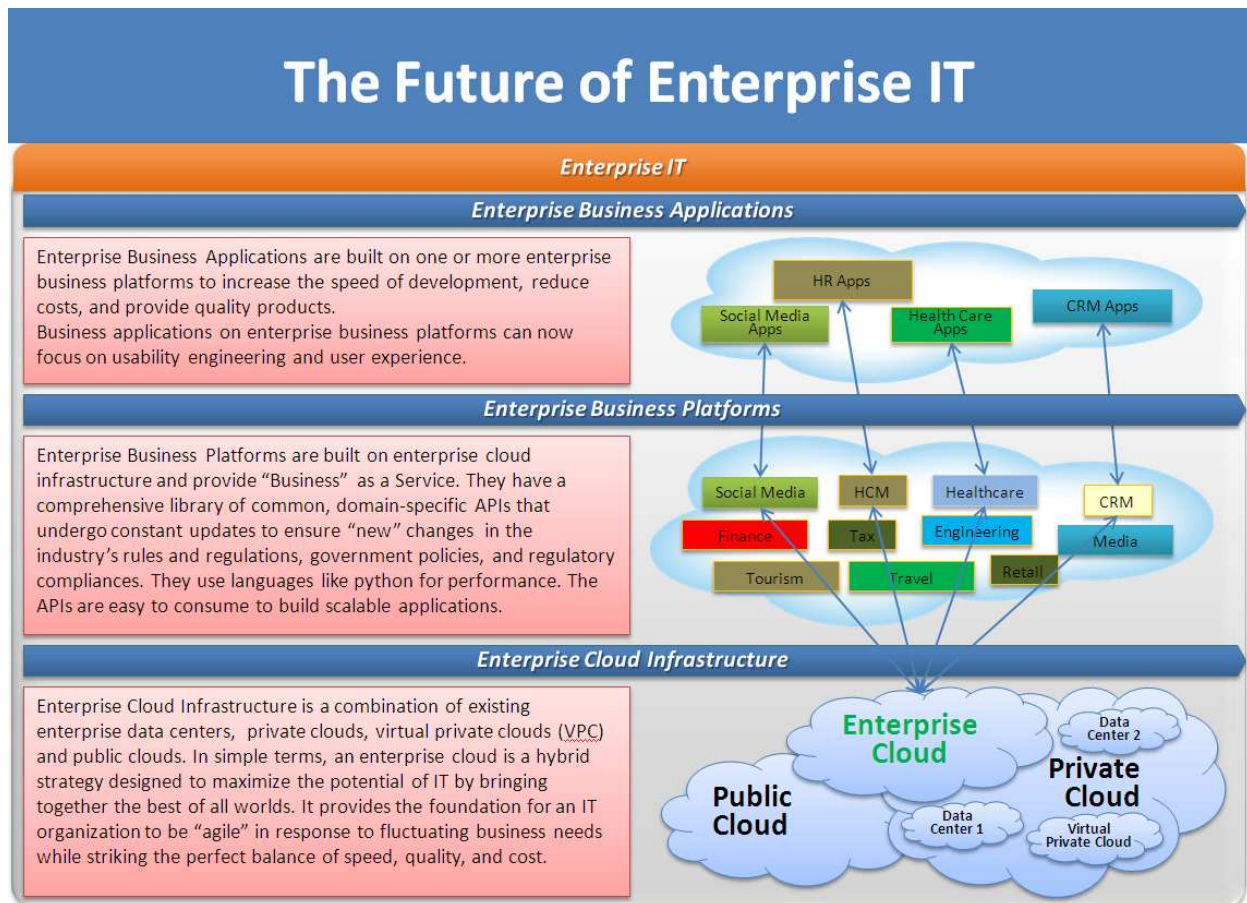
### ***Business Intelligence Applications***

There are literally petabytes of available historic financial public data (historic trading information on the stock exchange, for example). Since this data is public, the security concern around the data is not an issue.

Analytical engines that run complex models (trend analysis, risk models, and market penetration models) with feedback loops often need bursts of very high computing power for quick results. Since this is usually an iterative process based on fluctuating market conditions, these models typically undergo frequent changes.

Cloud providers such as Amazon Web Services (AWS) and Force.com can provide cost-effective storage and computing power to run Business Intelligence (BI) applications and “mine” for specific information in an extremely cost-effective way.

# The Future of IT: Business Applications Built on Business Platforms and Enterprise Clouds



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Driven by tough economic conditions, advancements in other technologies such as faster networks, cheaper and more efficient storage options, and deeper penetration of the internet have propelled the adoption of cloud computing over the past two-three years.

Force.com is a cloud platform that is tuned for building CRM applications and CRM extensions. Other players in the cloud platform arena include Intuit, who, in association with Microsoft, is building a tax platform. Facebook, another popular platform, is for building social media applications. Workday is becoming popular within the Human Capital Management (HCM) space, and although the intent of Workday is not to be a platform provider, it is an option that cannot be ruled out.

Similar to cloud computing, mobile computing is also changing the way business is done today. With 4G networks, applications with a mobile interface to user-friendly devices such as the iPhone and iPad are becoming the norm. This makes it important to build business applications that can handle all mainstream mobile devices. Applications built on Force.com inherently support this business need.

Understanding and embracing cloud platforms today can open opportunities for enterprises in the future.

## **Financial Industry Success Stories on Force.com**

National Retirement Partners:

<http://www.salesforce.com/customers/financial-services/nrpfinancial.jsp>

Tiedemann Investments

<http://www.salesforce.com/customers/financial-services/tiedemann.jsp>

## Key Contributors

- Tony Velleca – Vice President, Services and Solutions
- Prasan Vyas – Director, Salesforce.com
- Vasu Vijay – Global Practice Head, Infrastructure Services
- Christopher Bieler – Director, Marketing
- Anand Raja – Solutions Architect, Microsoft Practice

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## About the author

**Biju Chandrasekharan is the Practice Lead for Cloud Computing Services at UST Global Inc.**

Mr. Chandrasekharan has over 10 years of experience as a Practice Lead, Program Manager, Solutions Architect, and Business Applications developer for portfolios that include areas in finance, insurance, and retail.

Mr. Chandrasekharan leads the Cloud Computing Practice within UST Global. His

current role is to work with the various clients of UST Global and the internal delivery teams on solutions that add business value to the client. His focus is on solving business problems through cloud-based solutions and transforming and positioning IT to be an effective business enabler for large enterprises.

## **About UST Global**

UST Global® is a NEXT-Gen IT services and solutions provider focused on the Global 2000 market. Headquartered in Aliso Viejo, California and London, England, it provides IT and business process outsourcing services through its state-of-the-art centers in India, Chile, and the Philippines. UST clients get the advantages of its highly efficient Global Engagement Model; a seamless blend of expertise from locally based senior resources with the productivity, cost, scale, and quality of its offshore teams. Since its inception in 1999, UST Global has grown to over 7,000 employees and has been recognized for an unmatched focus on its clients and for its “Commitment beyond Contract.” It follows a philosophy of “fewer CLIENTS, more ATTENTION” to be able to service each of its customers individually.

For further information on UST Global visit [www.ust-global.com](http://www.ust-global.com)

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