



May 2009

Document **J29**

## **RESEARCH NOTE** **FORCE.COM DRIVES FASTER DEVELOPMENT**

### **THE BOTTOM LINE**

**Nucleus analyzed existing Force.com application deployments and found an average of 4.9 times faster development. End customers, developers, and ISVs experience more rapid time to value, lower cost, and greater ongoing flexibility.**

It's still early days for Force.com — Salesforce.com's application development platform — but Nucleus's in-depth analysis of projects developed by both customers and ISVs suggests significant advantages in time to value for the Force.com development model. Nucleus conducted an analysis of 17 Force.com projects and found significant savings in time to development and ongoing support costs.

Our analysis included:

- Companies that had moved existing applications to Force.com
- Companies that had evaluated both traditional (JAVA and .NET) development environments and Force.com and selected Force.com
- Systems integrators that had worked with customers who selected Force.com
- ISVs that had evaluated traditional development environments and selected Force.com

In selecting the companies analyzed, Nucleus only included companies that could accurately compare development times in both Force.com and JAVA or .NET environments.

### **RESULTS**

In its discussions with developers, Nucleus discussed the details of the projects as well as developers' estimates of the time, in terms of total developer hours and total time from selection to deployment, each project would take to develop in Force.com versus a JAVA or .NET environment. Nucleus then calculated the ratio of time to develop in Force.com versus the others and found the time to deliver varied from a low of 1.5 times faster in Force.com to a high of 10 times faster, with an average of 4.9.

On average, developers found that they could deliver applications 4.9 faster on Force.com than on JAVA or .NET.

**TOPICS**

Software as a Service  
Enterprise Applications  
Customer Relationship  
Management

Projects with a greater timeline acceleration in Force.com tended to leverage more of Force.com's existing common objects, user and administrator interfaces, and workflow functionality; those with more specific features that required more custom code naturally had a smaller acceleration advantage.

**WHY FORCE.COM DEVELOPMENT IS FASTER**

Developers that were able to articulate the accelerated development factor of Force.com cited a number of reasons why it was faster than traditional environments:

- Custom objects, custom Salesforce.com database tables that store company-unique information, can be quickly built and re-used across projects.
- The Salesforce.com administrator tools and user interface can be quickly configured rather than requiring the developer to build and test interfaces and tools from scratch.
- Workflow engine. The rules, forms, and processes of Force.com's workflow engine can be quickly configured to support custom workflows.
- Pre-tested platform. Salesforce.com has already built and tested the production environment, including database, database connectivity, application server, security protocols, and other application infrastructure items such as load balancing so developers have to make fewer technology strategy decisions and spend less time on testing before moving to production.

For developers in end-user organizations, and those working for ISV and systems integrators, these factors resulted in less application design and planning time, fewer lines of code written, and faster time to deliver an application.

One ISV that moved from JAVA development to Force.com about 18 months ago was looking to develop applications to deliver to customers as a service. It found *"That the effort required to develop the platform and set up the infrastructure would be quite high, and we were blown away by the speed by which we could develop the applications and all the robustness and scalability that came with it as well. It has taken a tenth of the time that it would have taken to do in JAVA, because you're really configuring and customizing a bunch of existing capabilities — the database, the workflow approvals, the user interface — are there for you already and it's much faster than JAVA where you have to build the stack, the security protocols, and the rest."*

An end-user organization that had tried twice unsuccessfully to develop a custom .NET application to support its retail sales team explored Force.com and found *"Because of the components you can use and build on, like the administrative interfaces which are free in Salesforce.com but have to be coded and maintained in .NET, we were looking at 100 lines of code versus 1000. Our project timeline was 10 weeks for Salesforce.com versus 26 weeks for .NET."* Interestingly, the company — which was not previously a Salesforce.com customer — built its business case for the project assuming that it would purchase annual user licenses for 530 Salesforce.com users, and its projected .NET project budget was still 2.2 times the Force.com project budget.

Another medical services organization that has been a Salesforce.com user for more than three years has developed more than 160 custom workflows in Salesforce.com and uses custom objects and fields to deliver applications across

the organization. It found that, depending on the type of application, *"We can write solutions for the platform four to five to sometimes 10 times faster than our traditional development environments — because it's just at the application level or with Apex or making API calls in and out of the system. We literally roll out new solutions on a daily basis."*

Other developers found:

- *"With Force.com you have components like a pick list in the context of a screen. Because some of these components are prebuilt they save you some time in development, a lot in testing, and in deployment."*
- *"We had four weeks [to build our application]. We leveraged a lot of the core functionality of Salesforce.com. In a .NET environment, you'd have had to stand up a server, do unit testing, test cases, and load testing, and we didn't have to do any of that because we built mostly on standard objects that Salesforce.com had already tested."*
- *"The beauty is I whip up requirements tonight and they have something for me to look at tomorrow and that doesn't happen in traditional software. By the weekend I have something that meets my specific needs. In the traditional software model some of the things I wouldn't even suggest because of the economics."*
- *"In developing an application, .NET or JAVA is only one step. Then you have to see where it's hosted, what application server you will use, how you'll handle authentication ... in speed to market, apples to apples we're about 40 percent faster on Force.com. It depends on the project, but if you can find things on the AppExchange or other components that will jump start you significantly."*

### **OTHER FORCE.COM BENEFITS**

As is to be expected, many of the benefits of cloud computing Salesforce.com application users achieve are experienced by users of custom applications developed on Force.com as well, including lower initial and upfront costs and greater ongoing flexibility:

- *"If we weren't using Force.com, I would need an additional five people — network administrators, databases, administrators, and another layer of developers."*
- *"Without Salesforce.com. I would need \$10,000 for a server, a T1 line in the office, a dedicated T1 at the plant at \$14,000 per location per year, and at least one developer type person."*
- *"Any time you develop you always have to be concerned with how it's going to behave in the operating environment and keep up with software upgrades. We don't have to worry about that. Traditionally, from one version to another there's all the compatibility testing, code changes, continuous upgrades and huge infrastructure changes that have to be made to accommodate the latest releases. When your server needs to be upgraded you've got to match hardware and software to support custom apps. We don't have to worry about any of that with Salesforce.com."*
- *"You don't have to worry about, 'Do I have a big enough database or enough servers?' It all just goes away."*

## THE LEARNING CURVE

Most developers found that if they had previous experience on .NET or JAVA, the learning curve for coming up to speed on development with Force.com was relatively rapid, and most developers could fully come up to speed in a few days with minimal or no training.

One systems integrator that develops projects on .NET, JAVA, and Force.com found, *"Force.com is very standardized. If you look at JAVA or .NET there are multiple ways, for example, to do infrastructure calls, so you have to make a decision. There's nothing extraordinary about Force.com. If you're a JAVA programmer it's a little faster to learn than if you're a .NET programmer. We had one guy who had four years of experience with .NET and we were busy enough on Force.com stuff that he picked it up and taught himself with no additional training."*

Others said that while learning to develop on Force.com wasn't difficult, it did require some changes in thinking and discipline about how applications are developed:

- *"Every API call is documented; everything is documented. The only thing that takes longer is that Force.com requires you to have a certain amount of test coverage. If you don't, you can test it in the sandbox but you can't deploy it in production. They require you to have that extra test coverage to ensure you're deploying good code and thinking about performance — I can't write a record that goes through every field because their governors will shut it down."*
- *"Sometimes you have to be smarter about how you write the code because you have to write within limits that Salesforce.com has defined. There are governors tied into the framework because you're sharing."*

## THE HALO EFFECT

ISVs that chose to develop on the Force.com platform also found that in addition to being able to develop their applications more quickly, they were able to more quickly attract large customers because they could rely on the reputation and reliability of Salesforce.com and its platform. As one ISV said, *"On Force.com you're able to get out there faster, get big customers faster, generate cash faster, and capture market faster. Without the platform it would have probably taken us more than twice the time [to build the application] but we wouldn't have been able to sell it to big customers. We have 25 customers today and we're cash flow positive in our second year — that's unusual."*

## ANY DOWNSIDE?

Like any platform choice, once it is made there are switching costs. Users of Force.com considered there to be no greater risk of investment in Force.com than in any other platform, particularly given the speed of development. As one ISV said, *"We are stuck with Force.com much like you're stuck with .NET. It would be a major pain with either if you had to move."*

## CONCLUSION

Cloud computing is dramatically changing the cost and time equation for enterprise applications and custom application development. Nucleus found that today, the relatively young Force.com platform delivers, on average, 4.9 times faster application development than traditional .NET or JAVA environments. Given the

rapid time to value, lower cost, and greater ongoing flexibility, Force.com is likely to grow in popularity as an option for custom application development.

*Nucleus Research is a global provider of investigative technology research and advisory services. Building on its unique ROI case study approach, for nearly a decade Nucleus Research has delivered insight and analysis on the true value of technology and strategies for maximizing current investments and exploiting new technology opportunities. For more information or a list of services, visit [NucleusResearch.com](http://NucleusResearch.com), call +1-617-720-2000, or e-mail [info@NucleusResearch.com](mailto:info@NucleusResearch.com).*