MICROSOFT DYNAMICS CRM

Comparing the xRM Application Framework and Force.com:
A Guide for Technical Decision Makers

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Microsoft Dynamics· CRM

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FOUNDATIONS FOR BUSINESS APPLICATIONS: XRM AND FORCE.COM

Every application supports a business in some way. For many applications, this support comes through managing relationships between various things of interest to the business. For example, a customer relationship management (CRM) application manages relationships among customers, salespeople, and more.

One useful way to design a foundation for creating business applications is to build it around the notion of entities and the relationships among those entities. This makes applications easier and faster to implement, since the foundation itself can provide much of what they need. Rather than worrying about details of the infrastructure, developers can focus entirely on the business logic that provides real value. Coupled with effective tools, this kind of technology can even let people who aren't professional developers create applications.

The Microsoft® xRM application framework, part of Microsoft Dynamics® CRM 2011 business software, provides this kind of foundation. Designed to support relationship-oriented business applications, also known as extended CRM applications, xRM makes it easier for independent software vendors (ISVs) and enterprises to create the applications they need. Microsoft Dynamics CRM itself is built on this framework, but as the "x" in its name suggests, xRM can be used to implement any kind of relationship management application.

Salesforce.com offers a broadly similar foundation with Force.com Appforce. Like xRM, Force.com is associated with customer relationship management, in this case Salesforce.com's CRM offering, and it can be used to create relationship-oriented business applications. Both technologies provide multi-tenancy, so building applications that support multiple customers is straightforward. Both also provide online marketplaces that help ISVs sell their products and enterprises find applications they might use.

Yet even though the two technologies have similarities, xRM is clearly the superior choice. Here's why.

WHY THE XRM APPLICATION FRAMEWORK IS A BETTER CHOICE

Three major advantages of xRM stand out:

- *xRM provides familiar, widely used technologies for developers.* Force.com relies on technologies used nowhere else, requiring developers to learn its unique environment.

- *xRM allows deploying applications both in the cloud and on-premises.* Force.com provides a cloud-only solution.

- *xRM benefits from Microsoft's broad platform investments.* With Force.com, Salesforce.com must create every piece of the platform itself, a tall order for a relatively small company.

All three of these advantages are worth closer examination.

xRM Provides Familiar, Widely Used Technologies for Developers

Whether it's built on xRM or Force.com, a business application has the same basic components, and it relies on the same kinds of tools. Figure 1 shows a general picture of these components and tools.
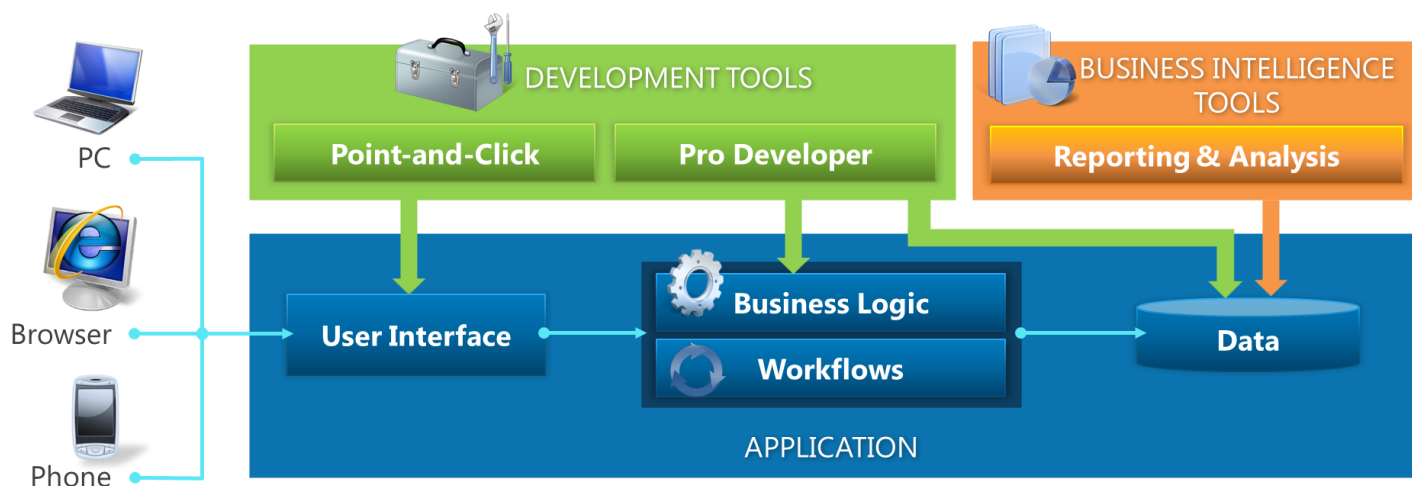
Figure 1: Applications built on xRM and Force.com have similar components and use similar tools.

Both xRM and Force.com support applications that work with a variety of clients, including PCs, web browsers, and mobile phones. Yet looking at the three key aspects of the solution—the application itself, development tools, and business intelligence tools—reveals several key advantages of xRM.

For example, the technologies that applications are built on vary significantly between xRM and Force.com. The most important differences are these:

- For creating custom web user interfaces, xRM uses ASP.NET, a very popular component of the Microsoft .NET Framework. Force.com relies on Visualforce, a technology created by Salesforce.com specifically for this platform.

- For business logic, xRM lets developers use familiar .NET languages such as C# and Visual Basic®. With Force.com, developers use Apex, a programming language created by Salesforce.com specifically for this platform. For workflows, which are a common approach to implementing business applications, xRM uses Windows® Workflow Foundation (WF), another built-in component of the .NET Framework. Once again, Force.com provides its own platform-specific technology for creating workflows.

- For data, both xRM and Force.com define a high-level data model that shields applications from the underlying relational tables. With xRM, applications use *entities* with *attributes*, while Force.com applications use *objects* with *fields*. In xRM, however, entities are mapped one-to-one to relational tables in Microsoft SQL Server® database software. This lets an application's data still potentially be accessed with standard SQL in a normalized format. In Force.com, however, data is stored in a proprietary fashion defined by Salesforce.com— developers can't access it directly as ordinary relational tables. And rather than using SQL, Force.com developers use the platform-specific Salesforce Object Query Language (SOQL).

Applications are created using development tools. Both xRM and Force.com provide tools for two different audiences: point-and-click tools aimed primarily at non-developer audiences, along with tools intended for professional developers. For the latter group, xRM offers Microsoft Visual Studio® 2010 development system,

providing a complete solution for application lifecycle management (ALM). Millions of developers today know how to use Visual Studio, experience they can apply directly to creating xRM applications. With Force.com, professional developers use an Eclipse-based tool created by Salesforce.com specifically for this platform. While xRM lets .NET developers exploit their existing tool knowledge, Force.com requires them to learn a new development environment.

A foundation for business applications must also provide tools for business intelligence (BI). Because xRM stores an application's data as standard tables in SQL Server, all of the SQL Server BI functionality can be used with it, including SQL Server Reporting Services (SSRS), SQL Server Analysis Services (SSAS), and SQL Server Integration Services (SSIS). The proprietary data format used by Force.com makes this more difficult, however, restricting Force.com customers either to the set of BI tools that Salesforce.com provides or to third-party tools from other vendors.

Relying on standard, widely used development technologies has important advantages. With xRM, current .NET developers need minimal retraining, and the knowledge they acquire is applicable to the Windows world in general. With Force.com, however, developers must be specifically trained for the environment. This can make it harder both to attract and to retain developers. It's also likely to be harder (and more expensive) to fill positions for Force.com developers. The reality is clear: a platform that uses familiar, widely used development technologies is just better.

xRM Allows Both Cloud and On-Premises Deployment

Force.com is a purely cloud-based platform—customers don't run it in their own data centers. Microsoft also believes that cloud computing has many benefits, and it's often the best option. Yet Microsoft also understands that running applications in customer data centers and at hosters can sometimes be the right solution.

Reflecting this understanding, xRM is available both in the cloud and on-premises. Unlike the cloud-only Force.com, xRM gives customers a choice: The same xRM application can run in the cloud, at a hoster, or in a customer's own data center. This broad support has a number of advantages:

- Customers don't need to commit to a particular deployment option. Instead, they can use whatever approach makes the most sense, even changing after the initial deployment. Because the same application can run in the cloud and on-premises, customers aren't forced to commit up front. This lets an ISV create one codebase that runs in either environment, allowing their customers to choose the option that's best for them.

- Supporting both cloud and on-premises options lets customers spend their money more intelligently. For example, an enterprise might initially find that deploying an xRM application in the cloud and paying per month provides the lowest costs. With enough users, however, it might at some point become cheaper to take the application in-house. Or perhaps the enterprise chooses first to deploy the application on premises, and then finds that it would actually cost less to run it in the cloud. Unlike Force.com, xRM lets customers select the option that's best for them.

- Providing an on-premises option helps address security and regulatory requirements. Some applications rely on data that can't legally be stored outside a country's borders or that might need to conform to specific regulations. In situations like this, a cloud-only solution doesn't work—having an on-premises option is

crucial. With xRM, an application can even be split between the cloud and the customer's data center, letting them keep data on-premises when required.

With cloud computing, Microsoft is all in. But we also understand that the cloud isn't always the best solution; on-premises computing will remain important for many years. By supporting both cloud and on-premises deployment, xRM has a significant advantage over Force.com.

xRM Benefits from Microsoft's Broad, Ongoing Platform Investments

Choosing an application framework for an organization is an important decision. Once an application is built on a particular framework, moving it to a different one can be problematic. The wrong choice is like a bad marriage, forcing you to live with a partner that's not a good match. Given this commitment, it's important to choose the right technology for the long term.

Microsoft invests billions of dollars every year in research and development, and a large share of this goes to strengthening our platform technologies with new innovations. Because xRM is built on this foundation, it benefits from this broad investment. For example, xRM originally had its own custom workflow engine. Once Microsoft created Windows Workflow Foundation, however, xRM moved to use this common workflow technology. Similarly, the product has adopted Windows Identity Foundation, a general Windows technology for supporting claims-based identity. In both cases, xRM benefitted from broader investments made by Microsoft.

Contrast this with Force.com. Salesforce.com began as a CRM company, with Force.com provided as an additional service. Rather than build on a broad base, the company has created the Force.com technologies itself, one by one, specifically for this platform. Because Salesforce.com is a much smaller company than Microsoft with significantly fewer products, it can't amortize those platform investments across as many different offerings.

Because xRM benefits from the scale and depth of Microsoft's platform investments, it provides better and more modern technology. Here are some examples:

- Unlike Force.com, which provides only a plug-in for the Microsoft Outlook® messaging and collaboration client, xRM provides a native Outlook client. This offers many advantages. Microsoft Dynamics CRM for Outlook with Offline Access supports offline use in addition to the rich interoperability of Microsoft Dynamics CRM with Outlook. Users interact with their CRM data exactly like they do in Microsoft Dynamics CRM for Outlook, but they can continue to access the data while disconnected from the Internet. When Microsoft Dynamics CRM for Outlook with Offline Access is synchronized, any data modifications and customizations applied on the server are transferred to the local Microsoft Dynamics CRM application. This also lets custom entities created by developers act like native Outlook objects, a clear illustration of the seamless interoperation between the two technologies. Furthermore, xRM provided immediate support for Outlook 2010, the most current version of the product. Outlook is a Microsoft product, and all of these advantages illustrate the benefits that customers derive from this fact.

- With the Windows Azure™ technology platform, Microsoft offers the industry's strongest general-purpose foundation for cloud applications. The xRM application framework provides built-in support for connecting xRM applications to this sister platform, including the ability to create a massively scalable Windows Azure web interface that connects to an xRM application. This cloud synergy makes it easy to exploit the best of

both xRM and the Windows Azure platform. And like xRM, Windows Azure supports .NET, letting developers use the same skills in both worlds.

Microsoft spends billions of dollars every year on research and development, much of it on platform technologies. xRM benefits from these broad, ongoing investments.

PARTNERING WITH MICROSOFT

Choosing a foundation for your business applications means choosing a partner. Making the right choice lets you provide more business value more quickly. Making the wrong choice limits your ability to innovate and stay ahead of your competitors.

For ISVs and enterprises creating extended CRM applications that manage relationships, the advantages of the xRM application framework over Force.com are clear:

- *xRM provides familiar, widely used technologies for developers.*

- *xRM allows both cloud and on-premises deployment.*

- *xRM benefits from Microsoft's broad, ongoing platform investments.*

Understanding the Microsoft advantage makes it clear why xRM is a better choice for your organization.

To get started, visit http://crm.dynamics.com to sign up for a free trial of Microsoft Dynamics CRM Online. The power of xRM is waiting for you.

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