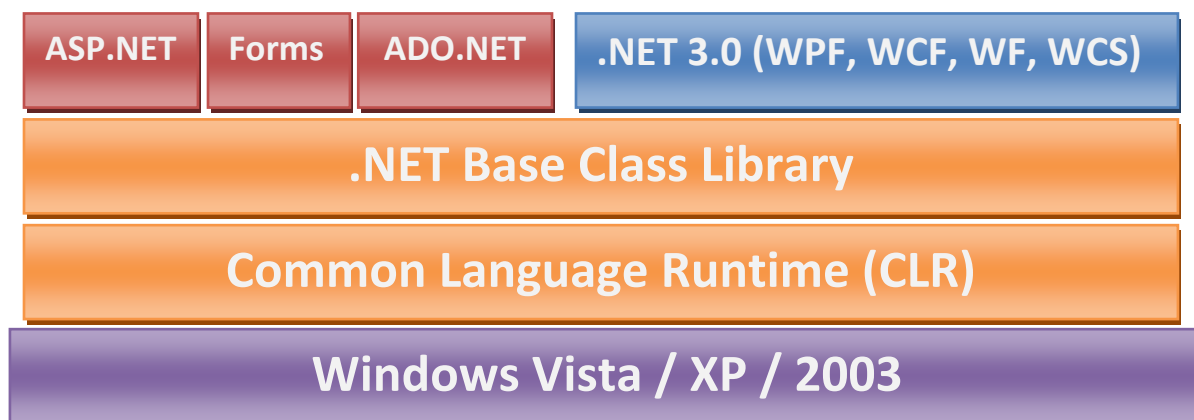


Welcome to the World .NET 3.0

By Mark Smith

Unless you've been hiding in a cave, you've probably heard that Microsoft has released the latest version of the Windows operating system – Windows Vista. What has gotten slightly less fanfare is the release of .NET 3.0 which will dramatically change the way we write many types of Windows applications in the future.

.NET 3.0 is native to Windows Vista, but is also available for Windows XP and Windows 2003 Server. Unlike previous releases of .NET, this one extends its predecessor rather than replacing it. That means that existing applications will not be broken by this release because .NET 3.0 does not change the CLR or base class libraries of .NET 2.0. Instead, it adds four new ground-breaking technologies: Windows Presentation Foundation (**WPF**), Windows Communication Foundation (**WCF**), Windows Workflow (**WF**) and Windows CardSpaces (**WCS**). These four components bring new capabilities and functionality into the programmer's tool chest and offer new ways to develop applications for the Windows platform.



Unlike many of the existing classes in the framework today, the capabilities exposed by .NET 3.0 are not implemented in the Win32 API itself, but instead are only available through the managed classes that make up this new release. That in itself is interesting because it indicates Microsoft's commitment to .NET – new capabilities are being exposed exclusively through this model. So, if you've avoided the managed platform and thought it was just another passing fad from Redmond, think again!

Windows Presentation Foundation

WPF is designed to make the creation of rich client interfaces much simpler by providing a consistent model that integrates graphics, documents, 2D/3D, multimedia, animations and the internet into a single application model. Rather than relying on diverse and separate APIs, you can now utilize WPF to create applications that exceed the expectations of your demanding users. In addition, it provides a new model for visual design that allows for much easier separation of code and UI. This will open up opportunities for visual designers to "skin" and create really fancy visual applications while letting the experienced developer work on the back end logic that makes it all work. Ultimately, WPF is really

positioned to replace Windows Forms, however because it is an independent technology, it doesn't impact existing Windows Forms applications.

Windows Communication Foundation

Creating robust, scalable distributed applications is a challenge for developers. Depending on your goals you need to pick your communication technology wisely. The technology chosen likely impacts the internal design of the application and requires a broad knowledge and skill set on the part of the developer to make it all work properly. The Windows Communication Foundation simplifies much of this by unifying the various technologies (sockets, queuing, web services) together into a single API. You can now design the service itself and then decide, even at runtime, exactly what communication strategy you would like to use to expose it to the world. In addition, WCF adds in support of the latest of the WS-* specifications giving you a broad reach to communicate with other platforms.

Windows Workflow

Many applications are built of individual steps that are linked together to form the core logic of the application. Whether you knew it or not, you are really building workflows in these scenarios and Windows Workflow is now here to help you simplify that process. With WF, you can create independent blocks of logic that you then link together through a visual designer to fulfill the design of the application. This visual rendering of the design of the application allows the business to verify that the application meets their needs. Workflow is useful on both the server side (where it is used most often), but also in client side applications where things like application navigation logic can be complex and obscure. You can take those independent pieces of functionality and use Workflow to coordinate them.

Windows CardSpaces

Finally, the last new piece is Windows CardSpaces. This brings some security enhancements into the platform by providing a consistent way to enforce and provide digital identity. This is useful in authentication and verification – especially in the Internet age where many applications interact with clients over the Internet rather than private networks. WCS can be used by WCF to enforce identity and can also be used through IE7 to provide client credentials to services.

DevelopMentor has been involved with .NET 3.0 from the very beginning and we have customized training to help you get up to speed on these technologies and what they can do for you. We offer full week courses devoted to WPF, WCF and WF, as well as a week long "What's new in .Net 3.0 and Vista" class if you are interested in the integration aspects and overall picture of the technology.

Over the next few months, we will be giving you a taste of each of these technologies – providing some insight into why they were built and what types of things you can do with them. So, we'll see you next month!