

## Microsoft Silverlight and .NET RIA Services

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Ever since the evolution of the internet, businesses and end-users have wanted their desktop applications made available via the internet. Many solutions and technologies, like AJAX and Cytrix, have been developed and with each new development the UI has improved. However, many of those technologies have reached their limit or are limited by the various browsers, client-side scripts and HTML.

During the past year, Microsoft has release both Silverlight 3.0 along with .NET RIA Services. These two technologies combined can deliver a Rich Internet Applications (RIA).

**What is Silverlight?** (<http://www.microsoft.com/SILVERLIGHT/default.aspx>)

*Silverlight is a cross-browser, cross-platform and cross-device browser plug-in that helps developers design, develop and deliver applications and experiences on the Web.*

**What is .NET RIA Services?** (From: <http://forums.silverlight.net/forums/t/80529.aspx>)

*Microsoft .NET RIA Services simplifies the traditional n-tier application pattern by bringing together the ASP.NET and Silverlight platforms. The RIA Services provides a pattern to write application logic that runs on the mid-tier and controls access to data for queries, changes and custom operations. It also provides end-to-end support for common tasks such as data validation, authentication and roles by integrating with Silverlight components on the client and ASP.NET on the mid-tier.*

Arris Systems has used these technologies to build a traditional desktop application and distribute the application over the internet. The demo application is a basic contact management tool, which currently store contact information for scientist. In addition, the application maintains a library of publications created by the scientist. The site is available to the world:

<http://demos.arris.com/Silverlight>

### Demo Application Features

**Contact Listing** - listing of over 1,800 contacts

- Tree/grid controls allows user to filter and sort data
- Double click on a row to load the edit profile screen, which collects basic contact information, multiple addresses, and publications authored by the scientist
- Edit screen shows the use of basic data entry controls and the Organization text box – is an auto complete/search box with over 1000 companies listed.

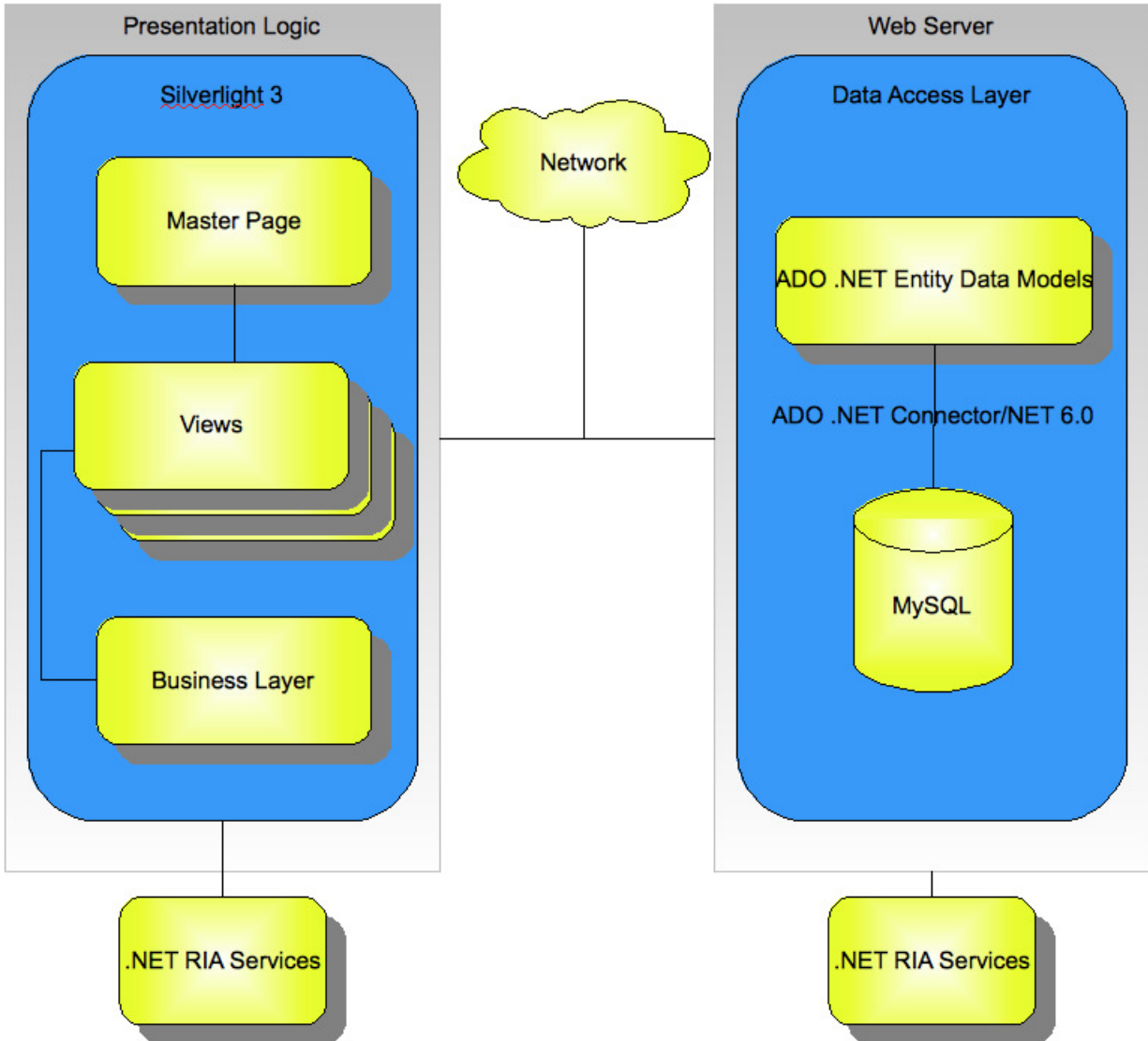
**Export to CSV** – either grid can be export to CSV/XLS.

**Desktop Application:** Application currently runs in any borrower and can be installed as a desktop application. Right click in the menu header to install it as a desktop application – it will then run outside of a browser.

### System Architecture

The high-level diagram below outlines the Model-View-Control design pattern used within the Arris Scientist registry application.

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Business logic can reside in both the client-side and server side and the RIA applications maintains state (traditional web sites are state-less). .NET RIA Services connect to the data layer through a DomainService object on the web server. That DomainService exposes ADO .NET Entity Data Models to the front end and easily updates the client code after a build. Queries can be made against the data tier with LINQ to SQL or an Entity Query. .NET RIA Services are tightly integrated with Visual Studio. It's as easy as creating a new Business Application in Visual Studio 2008. The client and the web server are created and are "RIA-Enabled" out of the box.