

# VS10 WCF of Many Flavors... When do I use which?

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## About Brian

### Chief Architect

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### Publishing

*Developers Guide to Microsoft Prism 4, O'Reilly & Assoc., March 2011*

*Developing Applications with Windows Workflow Foundation, LiveLessons training DVD, June 2007*

*Smart Client Deployment with ClickOnce, Addison Wesley, January 2007*

*Data Binding in Windows Forms 2.0, Addison Wesley, January 2006*

*MSDN Magazine, MSDN Online, CoDe Magazine, The Server Side .NET, asp.netPRO, Visual Studio Magazine*

### Speaking

*Microsoft TechEd US, Europe, Malaysia, DevConnections, DevTeach, others*



## Remoting / Services Circa 2007



## Service Technologies - 2011



## WCF Flavors Overview

- WCF is a framework for building connected applications
  - Remote communications pipeline
  - Service applications
- Low level plumbing for any communication pattern
- Other flavors are specializations for specific communications patterns



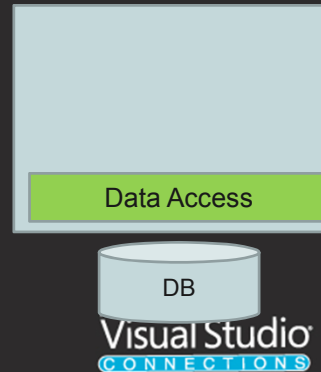
## WCF

- Using the full framework
- Richest scenarios and flexibility
- Greatest complexity / learning curve
- Can do:
  - Any protocol
  - Any calling pattern
  - Any security
  - Transactions
  - Reliability
  - Callbacks
  - Queuing
  - Cloud



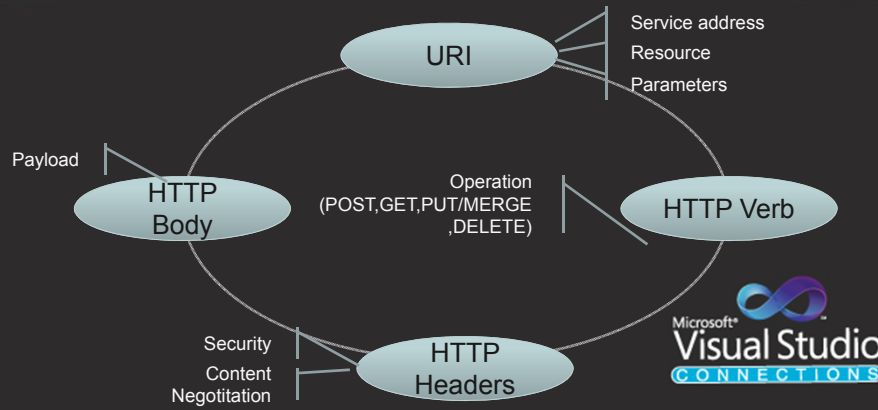
## WCF Data Services Overview

- **Framework for exposing data via services**
  - Based on OData standard protocol
  - CRUD-Oriented - Query and update back end data
  - REST- based
  - Consume from any platform
- **Built on WCF**
  - But little WCF knowledge required
- **Data Sources**
  - Entity Framework
  - Custom LINQ Provider
- **Formerly known as:**
  - "Astoria"
  - ADO.NET Data Services



## REST

- **REpresentational State Transfer**
- **REST is an architectural style, SOAP is a protocol**
- **REST embraces HTTP**



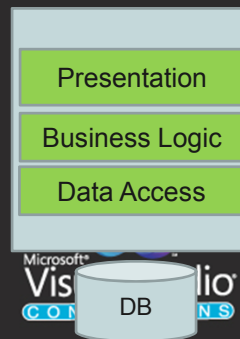
## OData

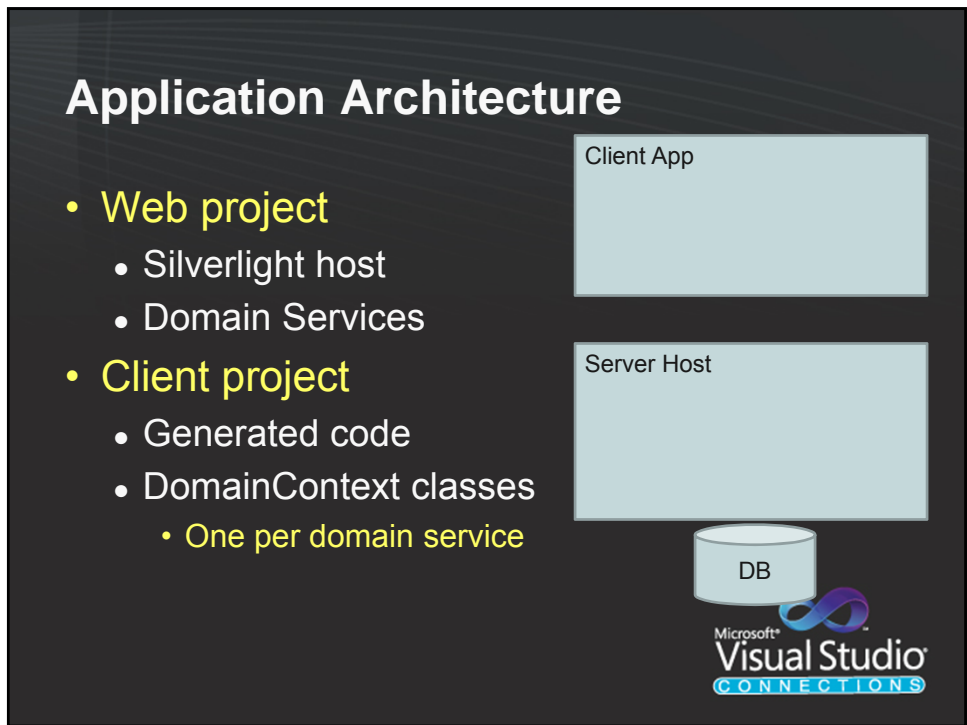
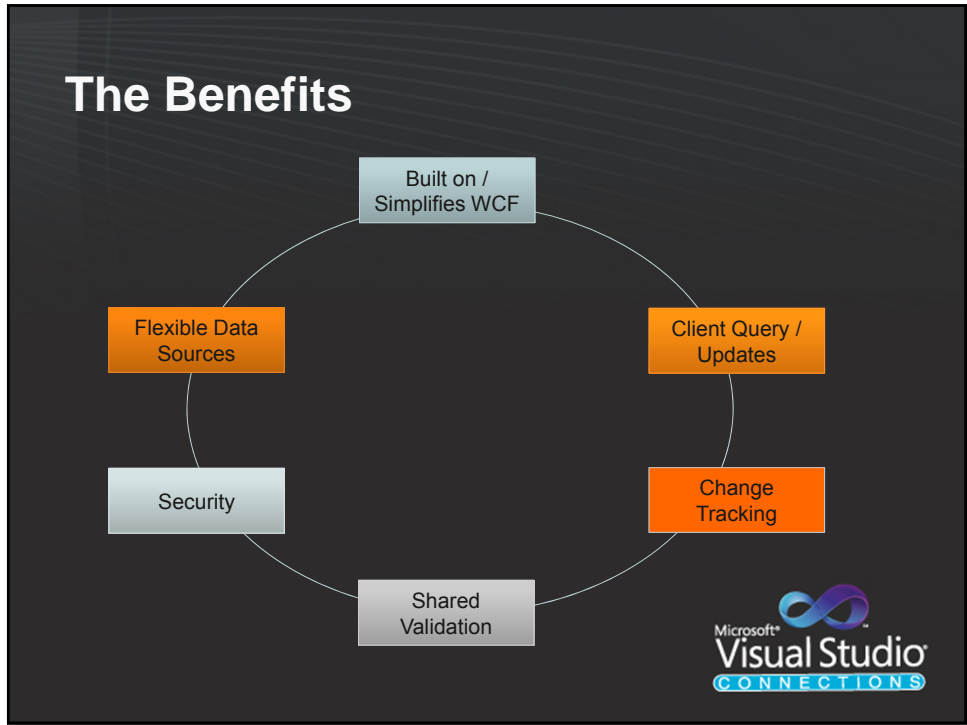
- Industry standard protocol ([www.odata.org](http://www.odata.org))
  - Initiated by Microsoft
- Expose data for query or update
- REST-based services
- ATOM Publishing Protocol or JSON formatting
  - application/atom+xml or application/json
- URL syntax for expressing queries
  - Data service URI
  - Entity set name
  - Navigation property
  - Operators and functions
- HTTP Verbs to express operation
  - GET, POST, PUT, DELETE



## WCF RIA Services Overview

- Simplifies building N-tier Line of Business (LOB) applications
  - Highly dependent on push pull of data
  - Can use for non-CRUD operations as well
- Architecture and tools for building the glue code between the client and the back end
  - Streamlined pipeline for data and operations between client and server
  - Clients: Silverlight & ASP.NET
  - Future releases: ASP.NET client side JavaScript (WCF JQuery)





## WCF Web API

- Fully leverage the HTTP protocol
- Use REST-based architecture (optional)
- Simplify usage of WCF for HTTP services
- Ideal for many client platform consumption
- Supports
  - Content negotiation
  - Custom formatters
  - Hypermedia linking
  - HTTP message manipulation



## Summary

- WCF – When you need it all
- WCF Data Services – When you just want to expose a database remotely
- WCF RIA Services – When you want remote access to your data from a Silverlight or HTML/JS client and want validation and security for free
- WCF Web API – When you want your services callable from any platform for any data format



## Resources

- <http://www.idesign.net> – WCF Master Class, Samples
- Programming WCF Services, Juval Lowy, [http://www.amazon.com/Programming-WCF-Services-Mastering-AppFabric/dp/0596805489/ref=dp\\_ob\\_title\\_bk](http://www.amazon.com/Programming-WCF-Services-Mastering-AppFabric/dp/0596805489/ref=dp_ob_title_bk)
- Learning WCF, Michele Leroux Bustamante, [http://www.amazon.com/Learning-Hands--Michele-Leroux-Bustamante/dp/0596101627/ref=sr\\_1\\_1?s=books&ie=UTF8&qid=1320245792&sr=1-1](http://www.amazon.com/Learning-Hands--Michele-Leroux-Bustamante/dp/0596101627/ref=sr_1_1?s=books&ie=UTF8&qid=1320245792&sr=1-1)
- WCF Data Services - <http://msdn.microsoft.com/en-us/data/bb931106>
- WCF RIA Services – <http://tinyurl.com/wcfriaserie>
- WCF Web API – <http://wcf.codeplex.com>

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