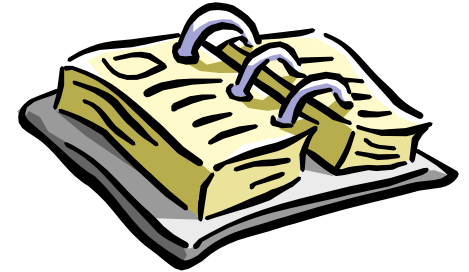


Ivo Leitão

28 de Janeiro de 2006

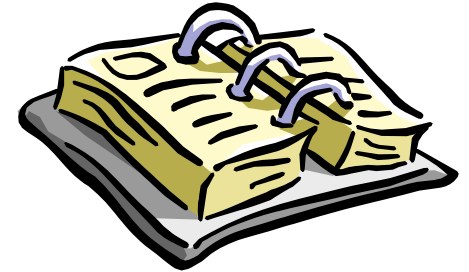
Uma loja virtual em Windows Communication Foundation (Indigo)

Agenda



- ❑ **Introdução**
- ❑ **WCF**
- ❑ **Aplicação**
- ❑ **Conclusões**
- ❑ **Referências**
- ❑ **Q&A**

Agenda

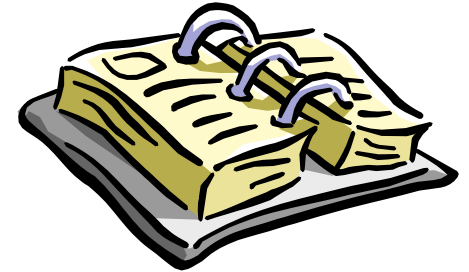


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Introdução

- **Ao longo dos anos surgiram diversas aproximações ao desenvolvimento de software:**
 - Object-Oriented
 - Polimorfismo.
 - Encapsulamento.
 - Subclasses.
 - Component-Based
 - Interfaces.
 - Carregamento dinâmico.
 - Metadata.
- **Recentemente o desenvolvimento de orientado ao serviço tem sido o alvo de todas as atenções:**
 - Um mundo em que todos os componentes podem ser um serviço.
 - Nesse mundo:
 - Não podem existir fronteiras
 - Nem protocolos proprietários.
 - A comunicação deve fluir livremente.
- **Solução da Microsoft:**
 - Windows Communication Foundation (Indigo)

Agenda



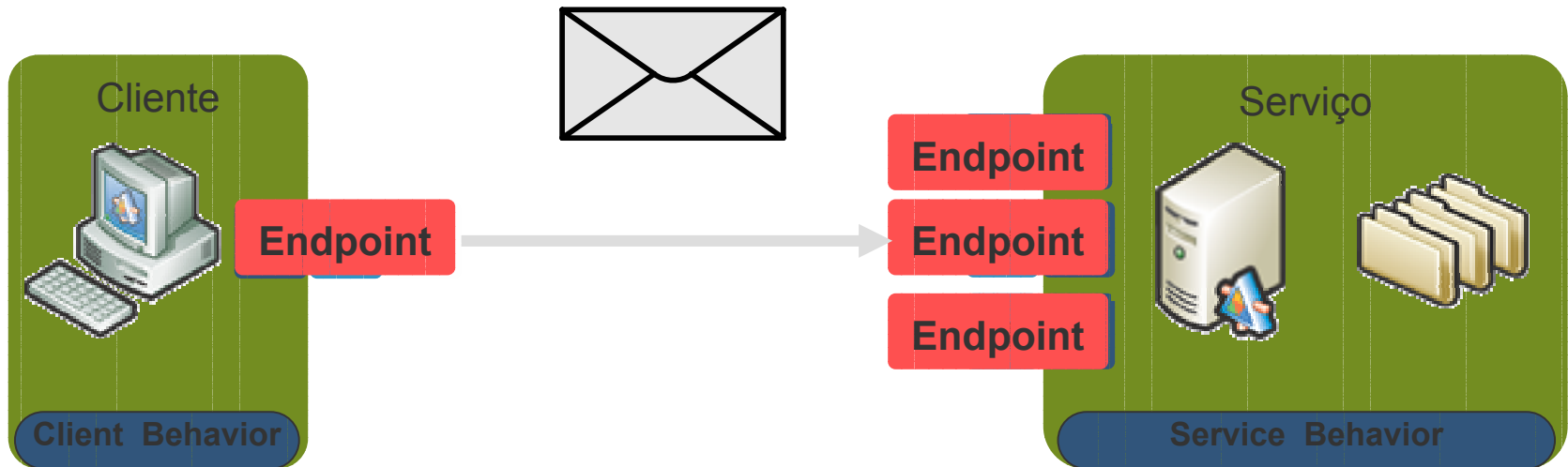
- ❑ Introdução
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WCF – O que é ?

- ❖ **Um modelo unificado de programação para construir aplicações orientadas ao serviço na plataforma Windows.**
- ❖ **Principais características:**
 - Unificação.
 - Um conjunto de tecnologias sobre um mesmo chapéu tecnológico: Web services (ASMX), Web service Extensions (WS*), Microsoft Message Queuing (MSMQ), Enterprise Services, COM+ e .NET Remoting.
 - Orientação ao serviço.
 - Promove boas praticas no desenvolvimento de aplicações orientadas ao serviço.
 - Integração.
 - Suporte para as especificações WS*.
 - Compatível com tecnologias anteriores da Microsoft.

WCF – Componentes



Address

Onde?

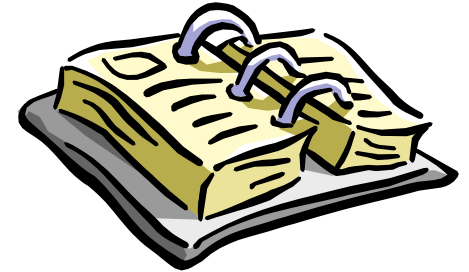
Binding

Como?

Contract

O que?

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Aplicação - Arquitectura

❖ Ambiente de desenvolvimento:

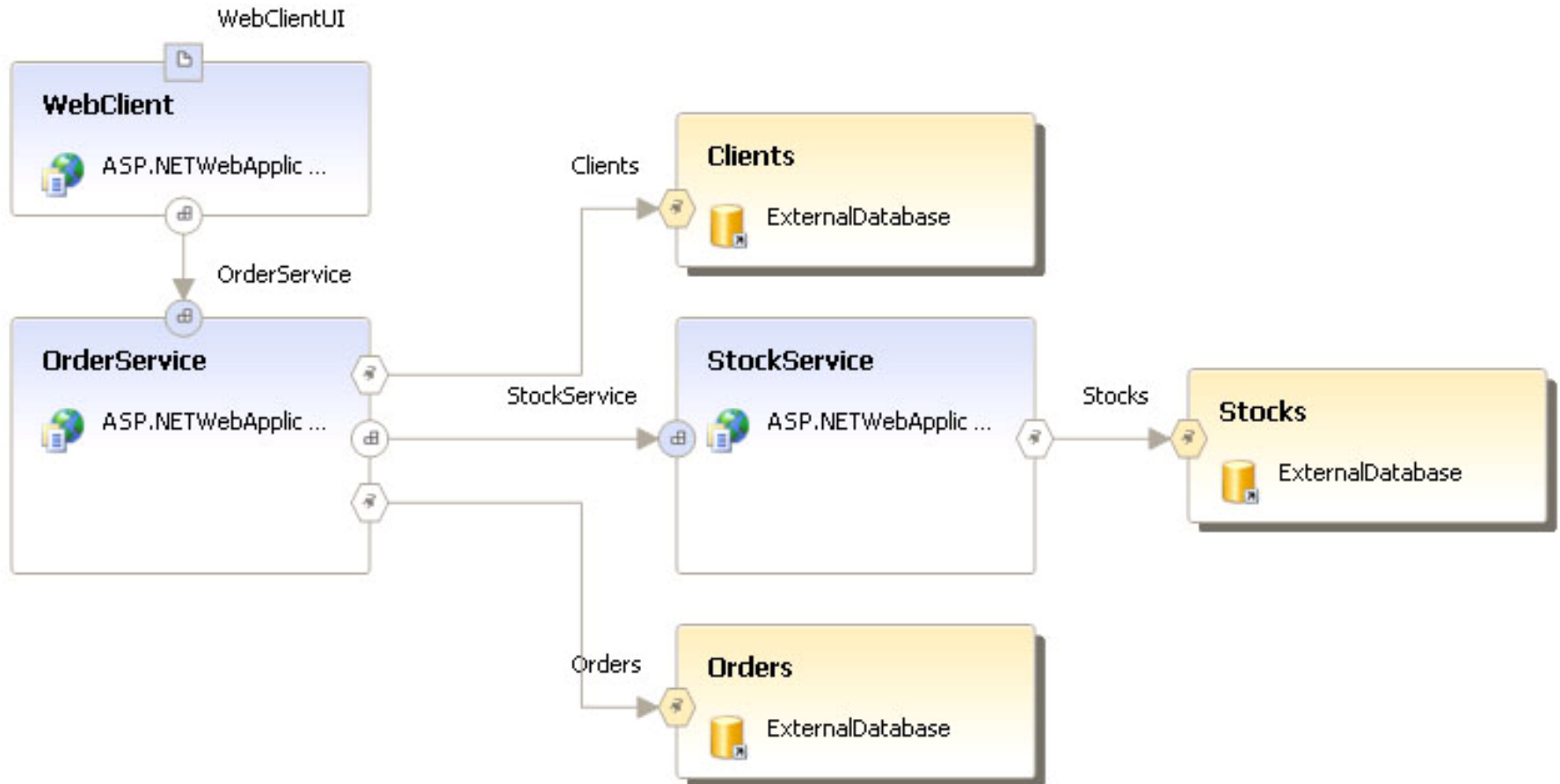
- IDE: Visual Studio 2005 Team System.
- Linguagem: C# 2.0.
- API's:
 - ASP.NET 2.0.
 - WinFX Runtime Components e SDK de Novembro de 2005 versão CTP (Community Technology Preview).
 - .NET Framework 2.0.
- Base de Dados: SQL Server 2005 Express Edition.
- Servidor aplicacional: Internet Information Server (IIS).
- Servidor de mail: 602 LAN Suite.

❖ Três bases de dados: Clients, Stocks e Orders

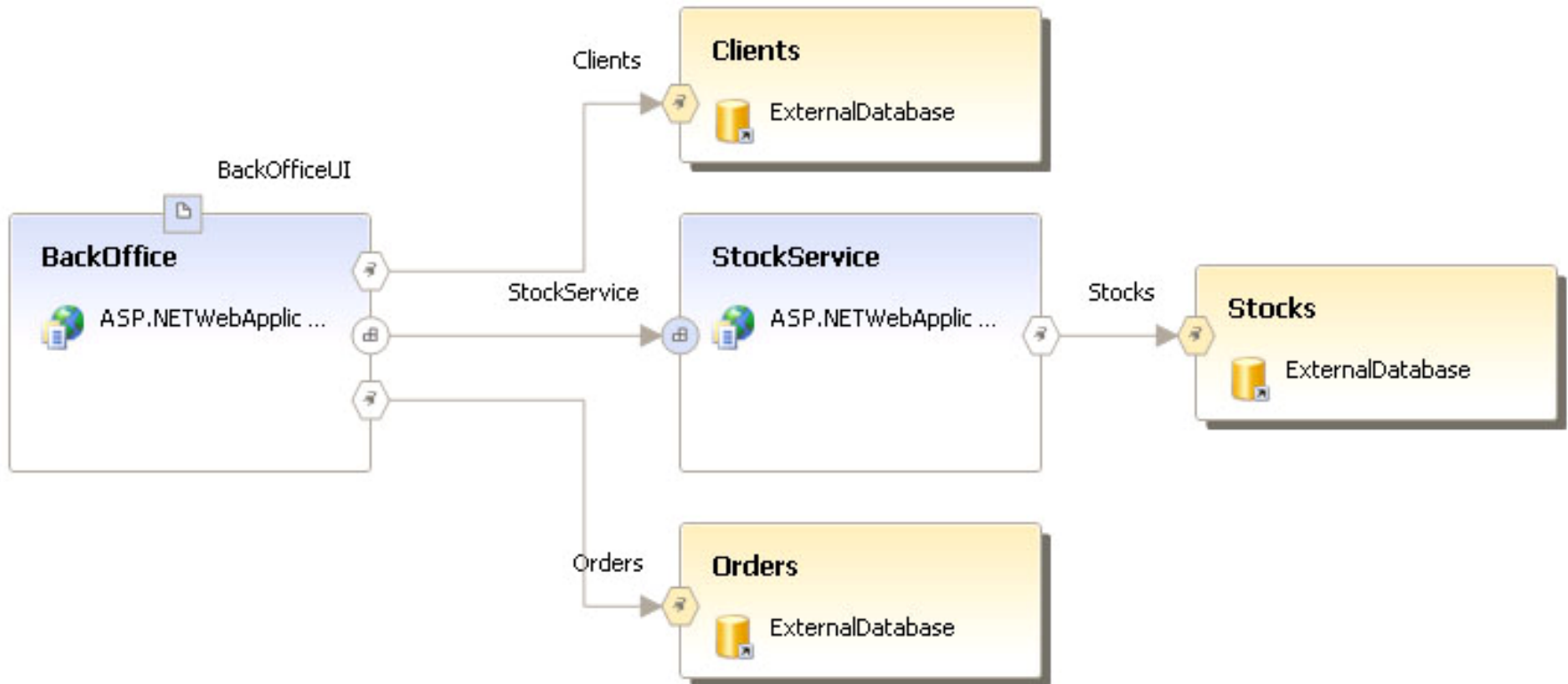
❖ Duas aplicações ASP.NET 2.0:

- Web Client – Permite a compra de items na loja.
- Back Office – Gestão de clientes, encomendas, stocks e configurações.

Aplicação – Web Client



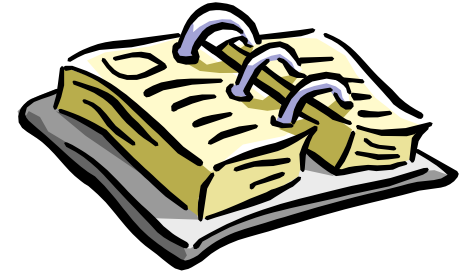
Aplicação - Back Office





Aplicação - Demo

Agenda

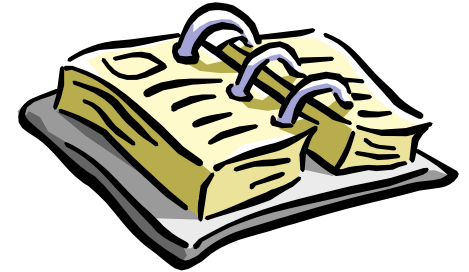


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Conclusões

- ❖ **Estamos a falar de uma tecnologia completamente nova e revolucionaria ?**
 - Não ! É uma evolução...
- ❖ **Vantagens:**
 - Unificação de um grande conjunto de tecnologias.
 - Grande facilidade de programação.
 - Interoperabilidade(WS*).
 - Orientação ao serviço (SOA).
- ❖ **Desvantagens:**
 - Beta
 - Preço em performance a pagar pela interoperabilidade.

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Referências

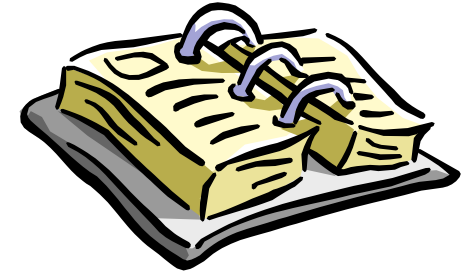
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Q&A



WCF - Serviço

1 - Definição do serviço

```
[DataContract]
public class OrderResult
{
    [DataMember]
    public bool Success { get { ... } }

    public string MessageCode { get { ... } }

    [DataMember]
    public string MessageText { get { ... } }
}
```

```
[ServiceContract]
public interface IOrderService
{
    [OperationContract]
    OrderResult Order(string login, string password, int itemId);
}
```

2 - Implementação do serviço

```
public class OrderService : IOrderService
{
    public OrderResult Order(string login, string password, int itemId) {...}
}
```

3 - Configuração do serviço

```
<system.serviceModel>
  <services>
    <service type="OrderService">
      <endpoint
        address=""
        binding="wsHttpBinding"
        contract="IOrderService"
        bindingConfiguration="Default"/>
    </service>
  </services>
</system.serviceModel>

<behaviors>
  <behavior
    name="Default"
    returnUnknownExceptionsAsFaults="true"/>
</behaviors>
```

WCF - Cliente

1 – Geração da proxy

svcutil.exe <http://localhost:8080/OrderService/Service.svc?wsdl>

2 - Configuração do serviço

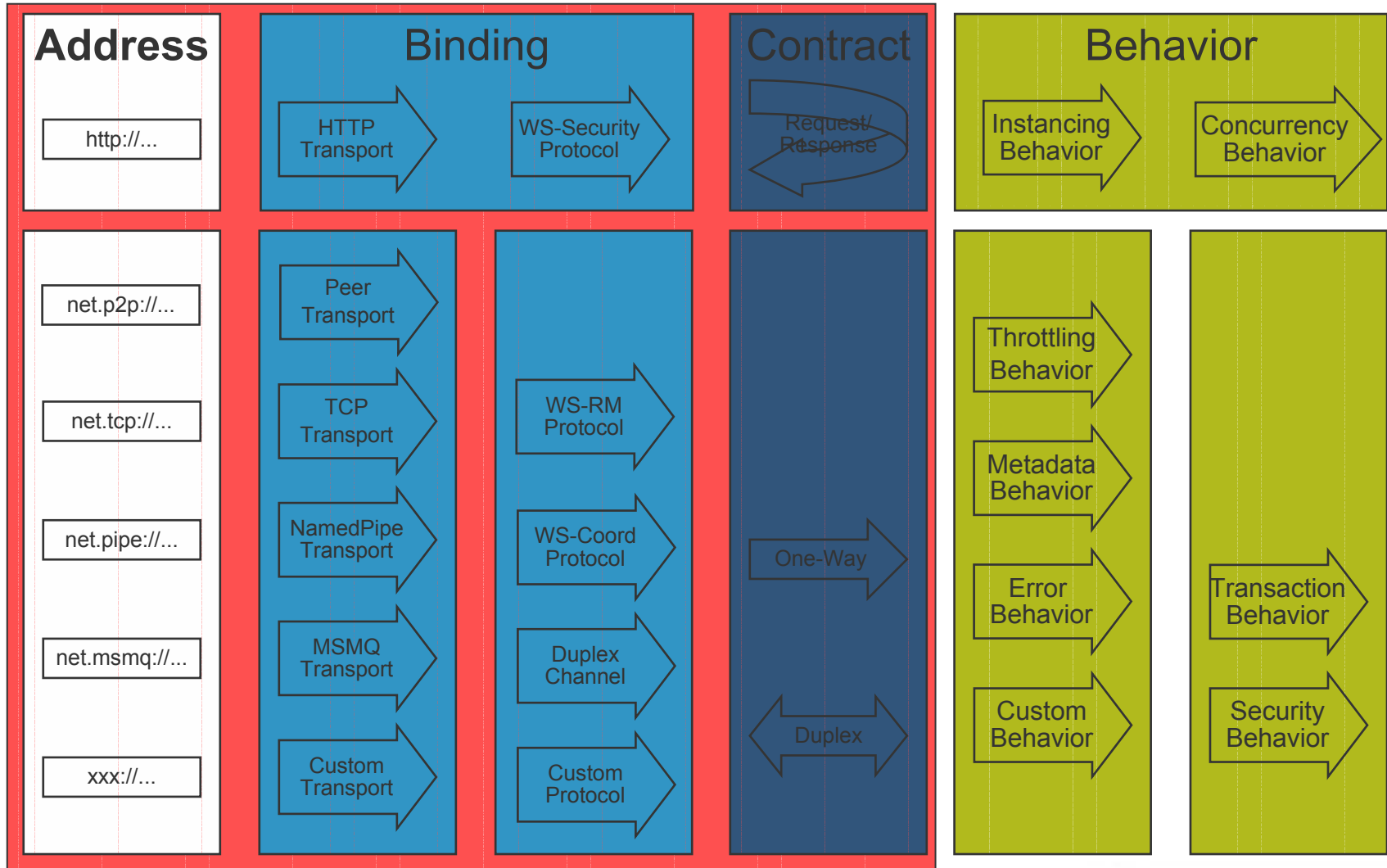
```
<system.serviceModel>
  <client>
    <endpoint
      address="http://localhost:8080/OrderService/service.svc"
      binding="wsHttpBinding"
      contract="IOrderService"/>
    </client>
  </system.serviceModel>
```

2 - Consumo do Serviço

```
public static OrderResult Order(string login, string password, int itemId)
{
  using (OrderServiceProxy proxy = new OrderServiceProxy())
  {
    return proxy.Order(login, password, itemId);
  }
}
```




WCF – ABC





Aplicação - DB Clients

Client			
	Column Name	Data Type	Allow Nulls
	ClientId	int	<input type="checkbox"/>
	Login	nvarchar(50)	<input type="checkbox"/>
	Password	nvarchar(50)	<input type="checkbox"/>
	Email	nvarchar(50)	<input type="checkbox"/>
			<input type="checkbox"/>

Aplicação – DB Orders

Order

	Column Name	Data Type	Allow Nulls
	OrderId	int	<input type="checkbox"/>
	ItemId	int	<input checked="" type="checkbox"/>
	ItemName	nvarchar(50)	<input checked="" type="checkbox"/>
	ClientId	int	<input checked="" type="checkbox"/>
	ClientLogin	nvarchar(50)	<input checked="" type="checkbox"/>
	OrderStatusId	char(1)	<input type="checkbox"/>
	OrderMessageId	nvarchar(20)	<input type="checkbox"/>
	OrderDate	datetime	<input type="checkbox"/>

OrderMessage

	Column Name	Data Type	Allow Nulls
	OrderMessageId	nvarchar(20)	<input type="checkbox"/>
	Description	nvarchar(100)	<input type="checkbox"/>
			<input type="checkbox"/>

OrderStatus

	Column Name	Data Type	Allow Nulls
	OrderStatusId	char(1)	<input type="checkbox"/>
	Description	nvarchar(20)	<input checked="" type="checkbox"/>
			<input type="checkbox"/>





Aplicação – DB Stocks

ItemPart			
	Column Name	Data Type	Allow Nulls
🔑	ItemPartId	int	<input type="checkbox"/>
	ItemId	int	<input type="checkbox"/>
	PartId	int	<input type="checkbox"/>
	RequiredUnits	int	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

Item			
	Column Name	Data Type	Allow Nulls
🔑	ItemId	int	<input type="checkbox"/>
	Name	nvarchar(50)	<input type="checkbox"/>
	Promotion	bit	<input type="checkbox"/>
			<input type="checkbox"/>

Part			
	Column Name	Data Type	Allow Nulls
🔑	PartId	int	<input type="checkbox"/>
	Name	nvarchar(50)	<input type="checkbox"/>
	Units	int	<input type="checkbox"/>
			<input type="checkbox"/>

Setting			
	Column Name	Data Type	Allow Nulls
🔑	Module	nvarchar(50)	<input type="checkbox"/>
🔑	Name	nvarchar(50)	<input type="checkbox"/>
	Value	nvarchar(50)	<input checked="" type="checkbox"/>
			<input type="checkbox"/>