

Microsoft®

DevDays 2008

Bring your
ideas to life



SPONSORS:



ADO.NET ENTITY FRAMEWORK

Mike Taulty

Developer & Platform Group

Microsoft UK

Mike.Taulty@microsoft.com

<http://www.miketaulty.com>

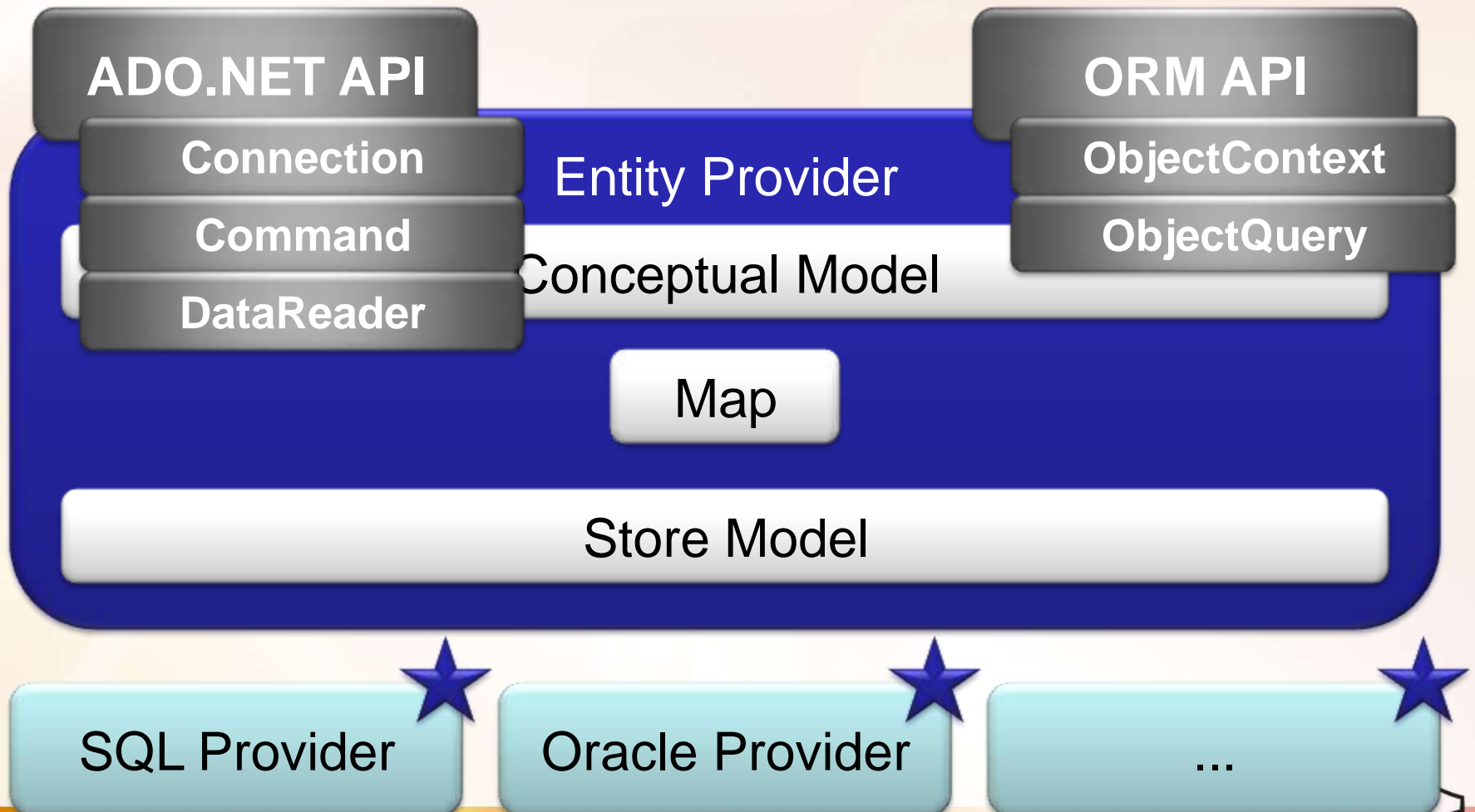


Entity Framework – Key Facts

- **Extension to the ADO.NET Provider Model**
 - Pluggable to support any database
- **Functionality**
 - Abstracts a model from your store schema
 - Offers Object Relational Mapping/LINQ and ADO.NET APIs
- **Status**
 - Coming in Visual Studio 2008 Sp1, Summer 2008
 - Currently in VS 2008 Sp1 Beta 1
 - 3 previous independent betas



ADO.NET Entity Framework



ADO.NET Entity Framework

ADO.NET API

ORM API

Entity Provider

Conceptual Model

Map

Store Model

SQL Provider

Oracle Provider

...



LINQ to SQL? LINQ to Entities?

	LINQ to SQL	LINQ to Entities
Database Support	SQL Server	Many
Object Relational Mapping Capabilities	Simple	Complex
Requires Attributed .NET Code	No	Yes
Status	Released	Beta

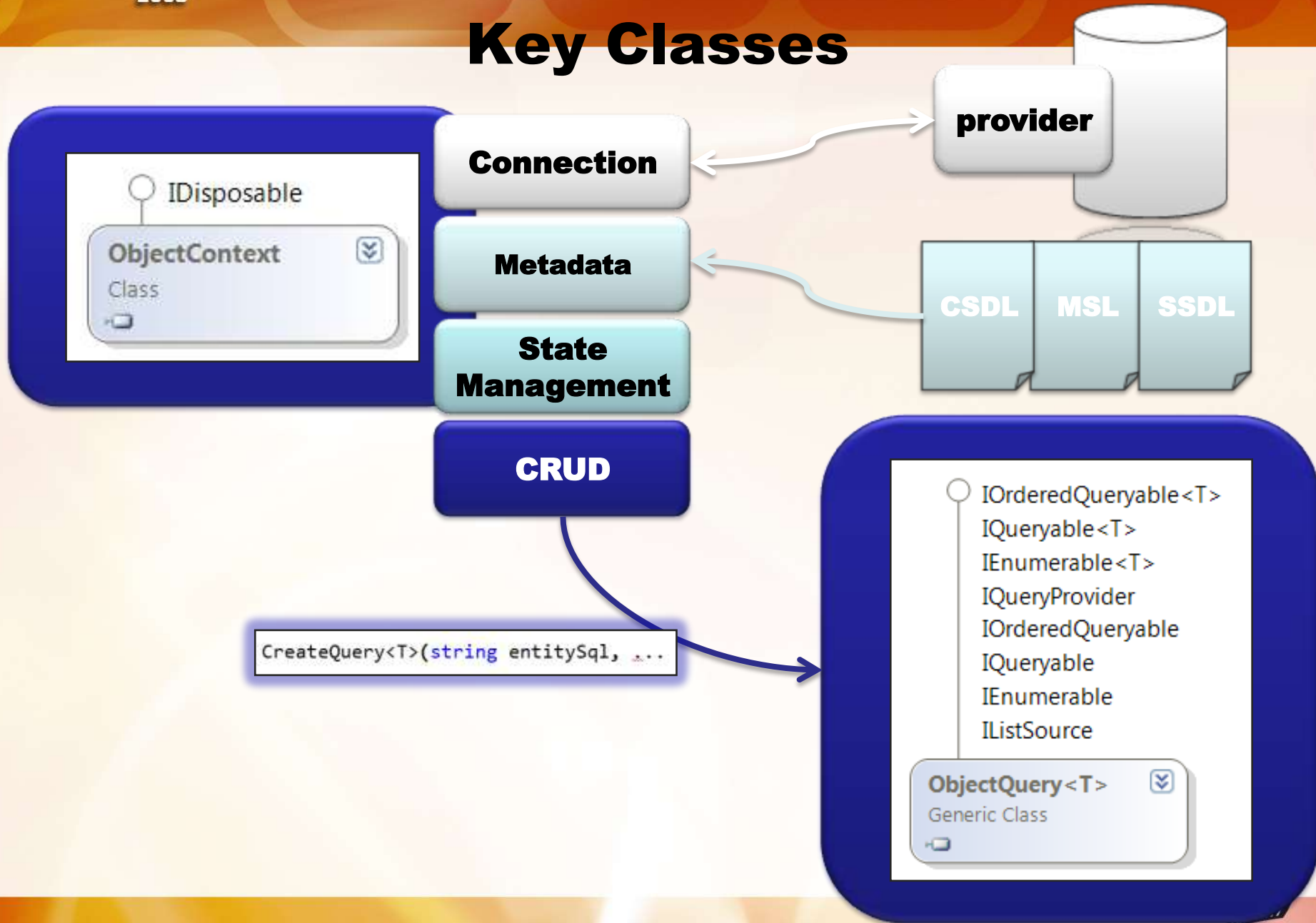


DEMO

Programming Entity Framework with LINQ



Key Classes



LINQ to Entities – Lots of Topics

**Change
Tracking**

Concurrency

Transactions

(i)POCO

**Stored
Procs**

Inheritance

**Customising
Code-Gen**

Metadata

N-Tier

**Compiled
Queries**

Performance



ADO.NET Entity Framework

ADO.NET API

ORM API

Entity Provider

Conceptual Model

Map

Store Model

SQL Provider

Oracle Provider

...



DEMO

Manipulating our Conceptual Model



ADO.NET Entity Framework

ADO.NET API

ORM API

Entity Provider

Conceptual Model

Map

Store Model

SQL Provider

Oracle Provider

...



DEMO

Programming with Entity SQL and ADO.NET



EF Providers in Progress

Vendor	DB Support
Microsoft	SQL Server
Core Lab	Oracle, MySQL, PostgreSQL, SQLite
IBM	DB2, Informix Dynamic Server
MySQL AB	MySQL
Npgsql	PostgreSQL
OpenLink	Many via OpenLink ODBC or JDBC
Phoenix	SQLite
DataDirect	Oracle, Sybase, SQL Server, DB2
Firebird	Firebird



Resources

- **New Data Developer Site**
 - <http://www.datadeveloper.net>
- **ADO.NET Team Blog**
 - <http://blogs.msdn.com/adonet>
- **My website ☺**
 - <http://www.miketaulty.com> (search Entity)



ADO.NET ENTITY FRAMEWORK

Mike Taulty

Developer & Platform Group

Microsoft UK

Mike.Taulty@microsoft.com

<http://www.miketaulty.com>



Microsoft®

DevDays 2008

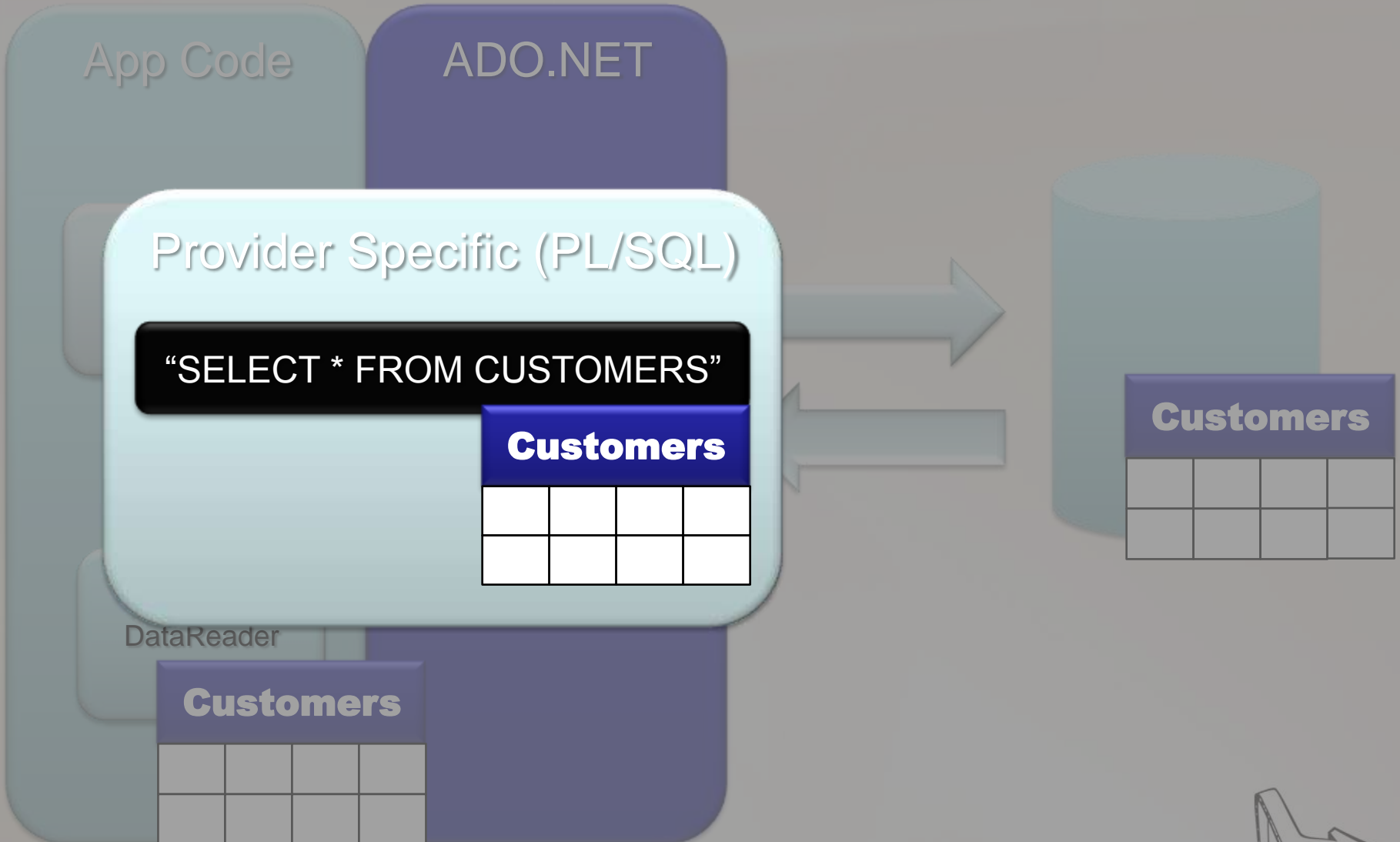
Bring your
ideas to life



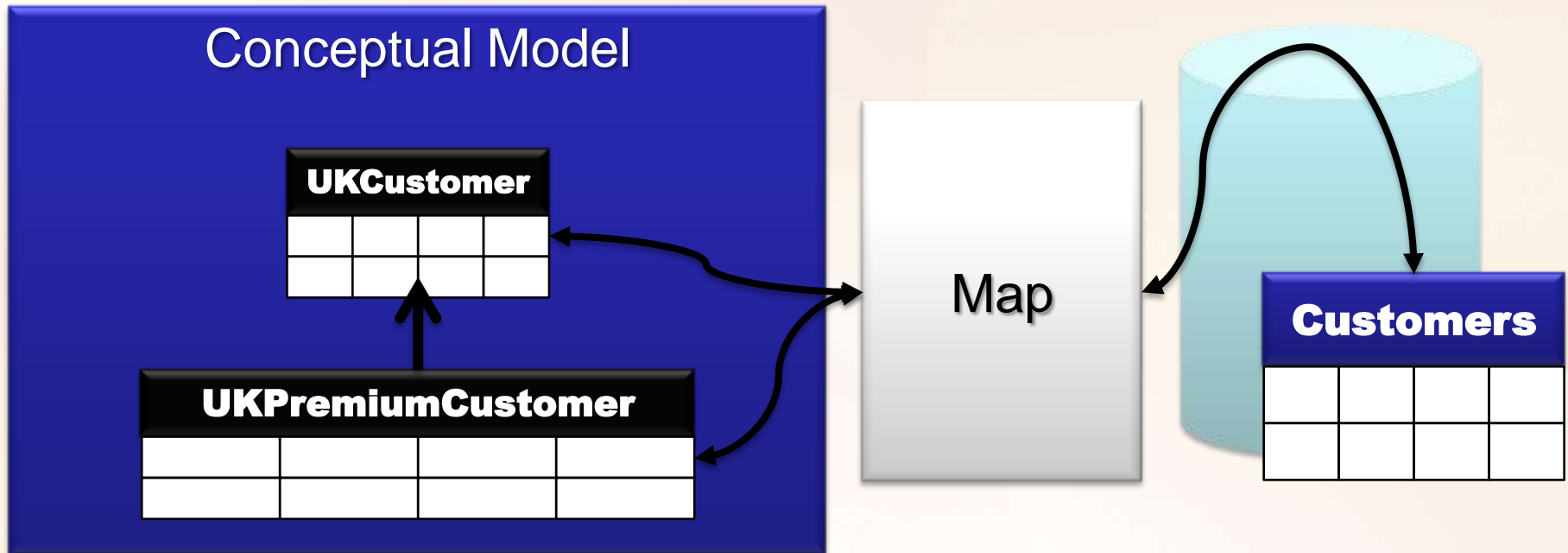
SPONSORS:



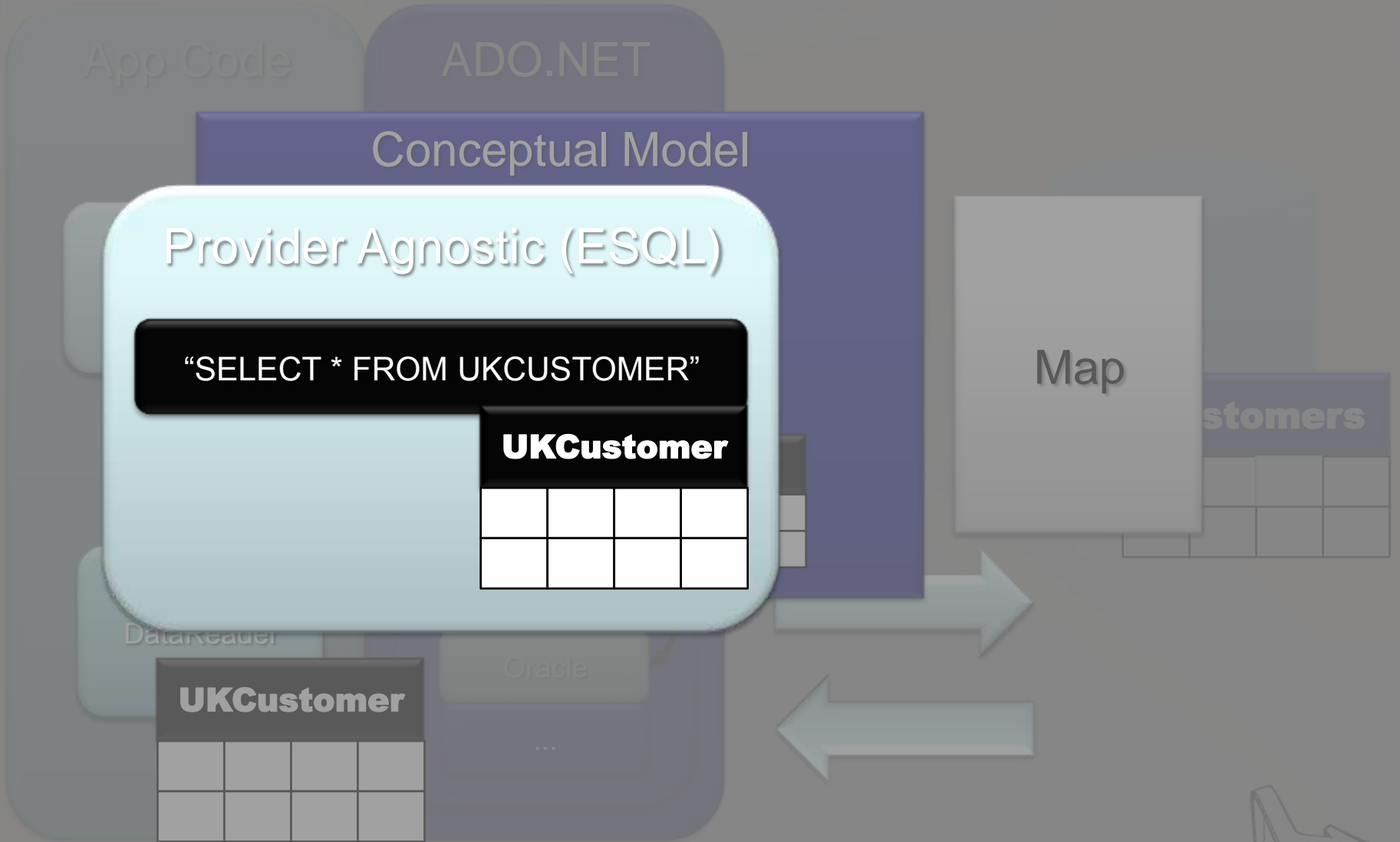
ADO.NET Today



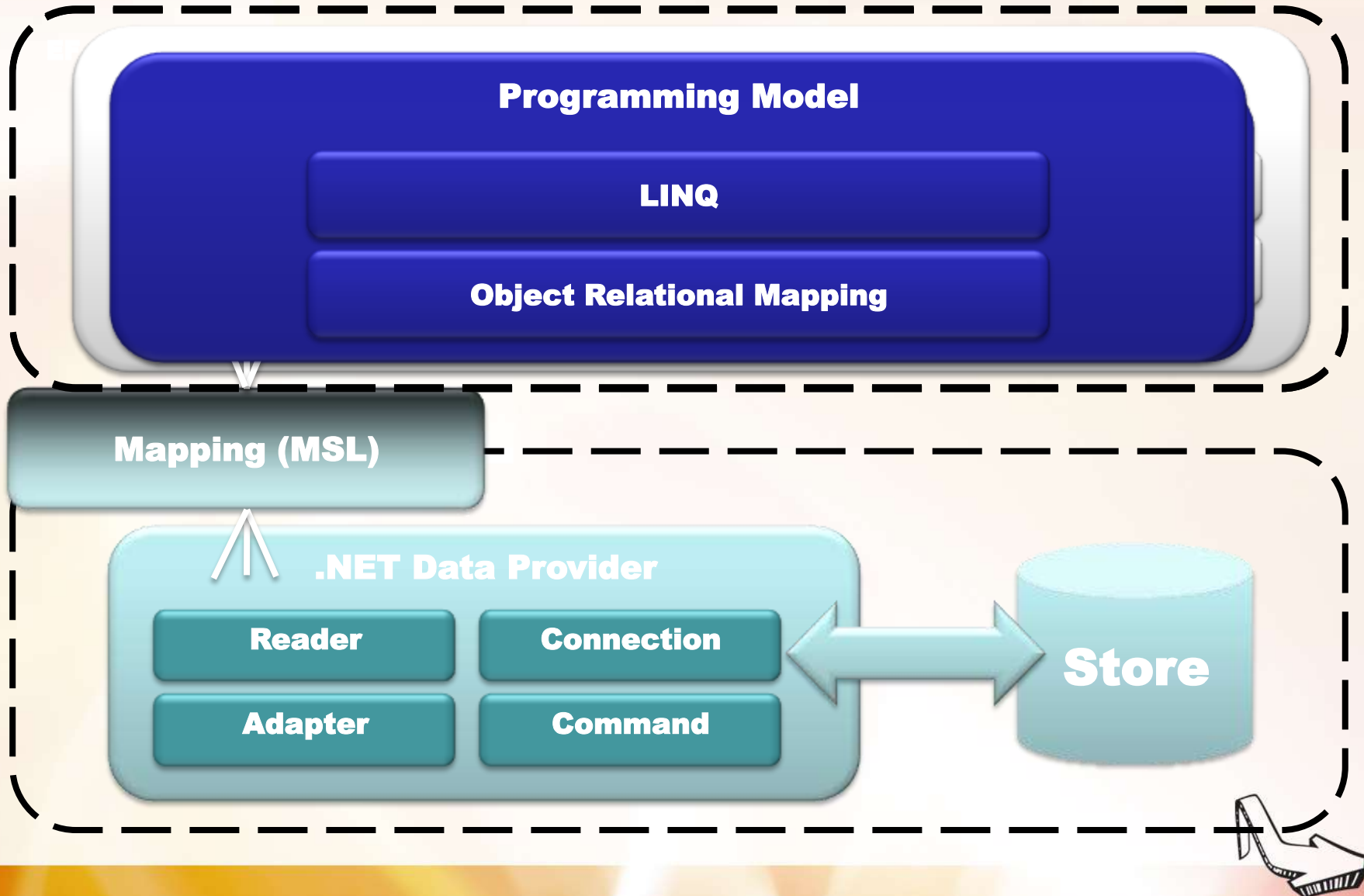
ADO.NET Entity Framework



ADO.NET Entity Framework



ADO.NET Entity Framework



Programming with Entity SQL

- **The EntityClient provides the usual**
 - Connection, Command, DataReader
- **There is no EntityDataAdapter**
 - V1.0 the model is read-only
- **Entity SQL has some additional constructs to expose the underlying conceptual model**



DEMO

Programming with Entity SQL

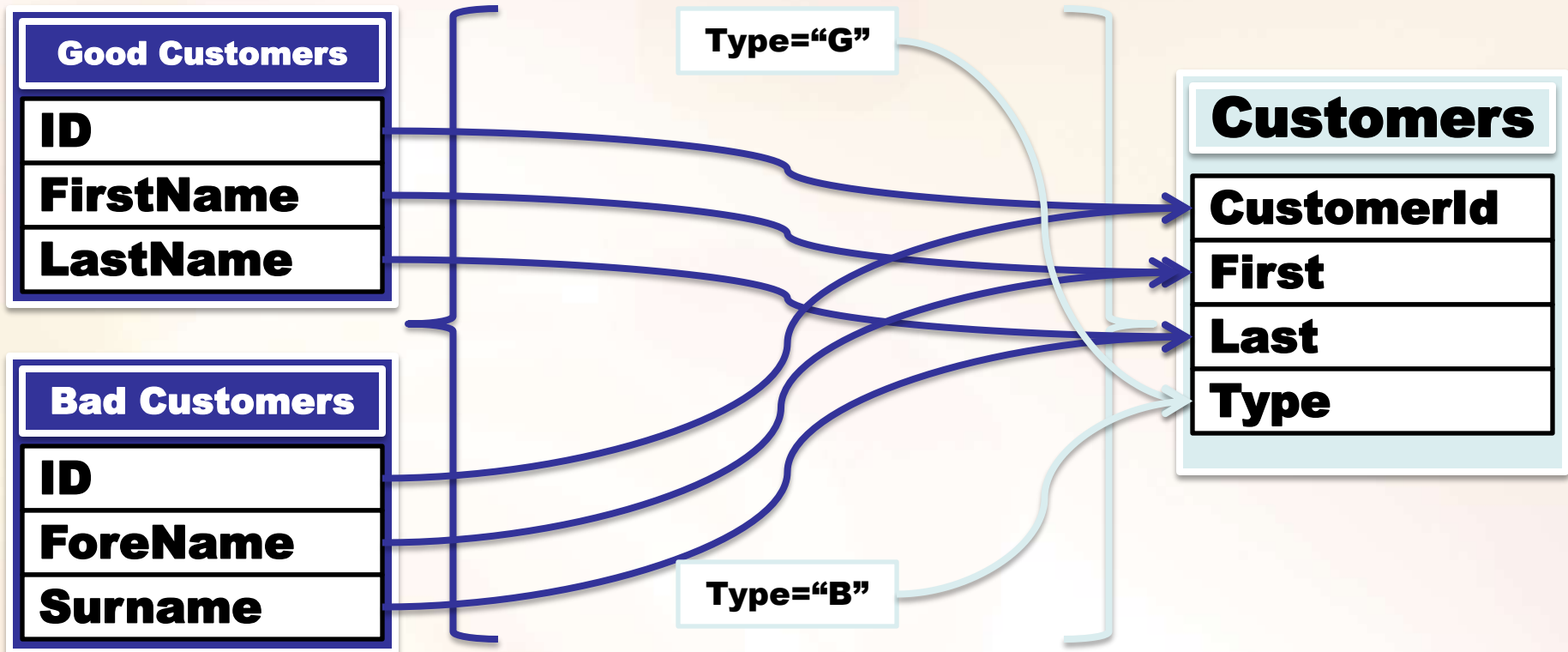


Mapping Examples (1 - Splitting)

Store

Mapping

Entities

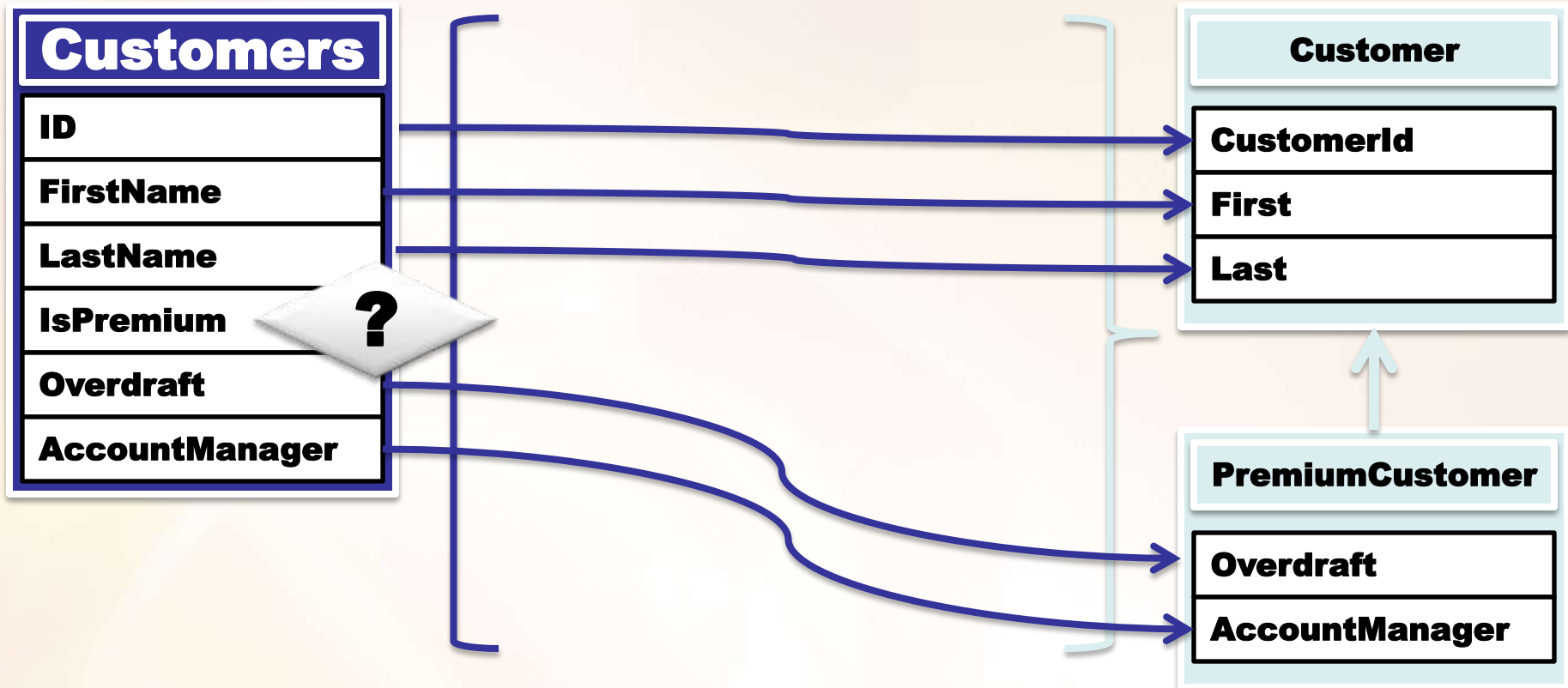


Mapping Examples (2 - TPH)

Store

Mapping

Entities



* Framework also supports TPT

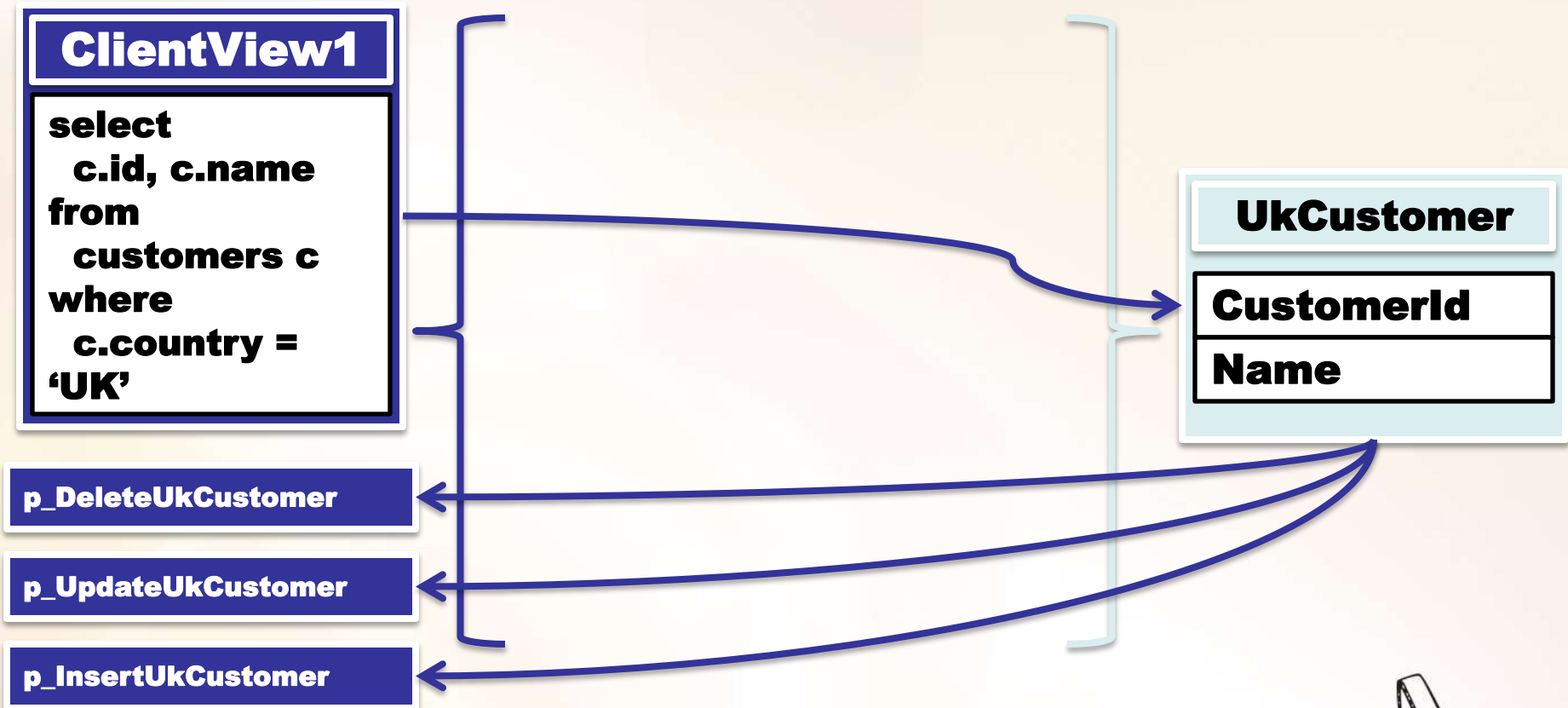


Mapping Examples (3 - View + SPs)

Store

Mapping

Entities



DEMO

Querying Different Models with Entity SQL



Programming with LINQ to Entities

- **New Data Access ORM API implemented in assembly**
 - System.Data.Entity.dll
- **Many Namespaces**
 - System.Data.Entity
 - System.Data.Objects
 - ...
- **Object Relational Mapping API can be used with or without LINQ**



DEMO

Programming with LINQ to Entities

