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# Getting Started with Oracle and .NET



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# Program Agenda

- 1 Oracle and Microsoft
- 2 Oracle and .NET – Getting Started
- 3 Oracle Developer Tools for Visual Studio
- 4 Oracle Data Provider for .NET
- 5 Additional Oracle .NET Features

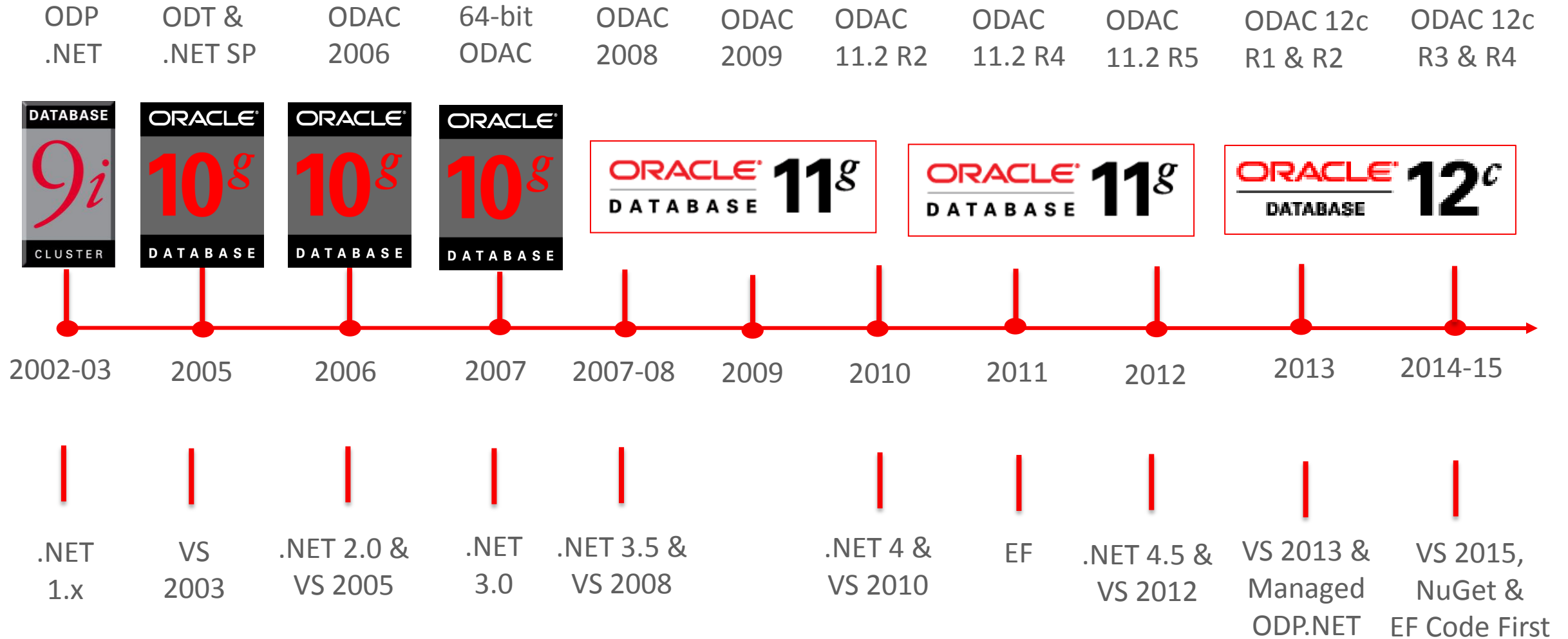
A woman with long brown hair and glasses is sitting at a wooden table in a cafe. She is wearing a brown leather jacket over a blue patterned scarf. She is holding a black mobile phone to her ear with her left hand and looking down at a newspaper or magazine on the table with her right hand. The background is a bright, modern cafe with large windows and other people sitting at tables.

# Oracle and Microsoft

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# Oracle's Commitment to .NET



# Relationship with Microsoft

## Engineering

- Close collaboration with Microsoft Engineering teams
- Access to pre-release Microsoft product drops

## Marketing

- Visual Studio Industry Partner (VSIP)
- Event sponsorship – Microsoft TechEd/Ignite and Worldwide Partner Conference
- Joint training, road shows, collateral, etc.

## Support

- Microsoft Premier Support Agreement
- Collaboration of support teams



# Oracle and .NET

## Getting Started

# Oracle .NET Development Environment

## Oracle Developer Tools for Visual Studio



Visual  
Studio

App  
Development

## Oracle Data Provider for .NET

.NET  
Framework

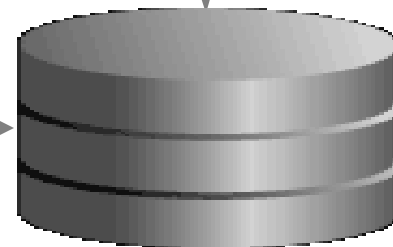
Deploy

## Oracle Providers for ASP.NET



Database  
Development

Deploy



Web or  
Client/Server

## Oracle Database Extensions for .NET



# Develop on Windows

## Run Database on any Platform



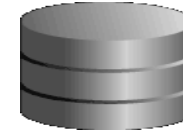
ODT and  
ODP.NET 12c

Visual  
Studio

Windows



Windows



Linux



Solaris



Other

Oracle DB 12c or 11g

A woman with long brown hair and glasses is sitting at a wooden table in a cafe. She is wearing a brown leather jacket over a blue patterned scarf. She is holding a black mobile phone to her ear with her left hand and looking down at a magazine or newspaper on the table with her right hand. The background is a blurred cafe interior with other tables and chairs.

# Oracle Developer Tools for Visual Studio

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D E M O N S T R A T I O N

# Visual Studio Integration



# Oracle Data Provider for .NET

# ODP.NET Overview

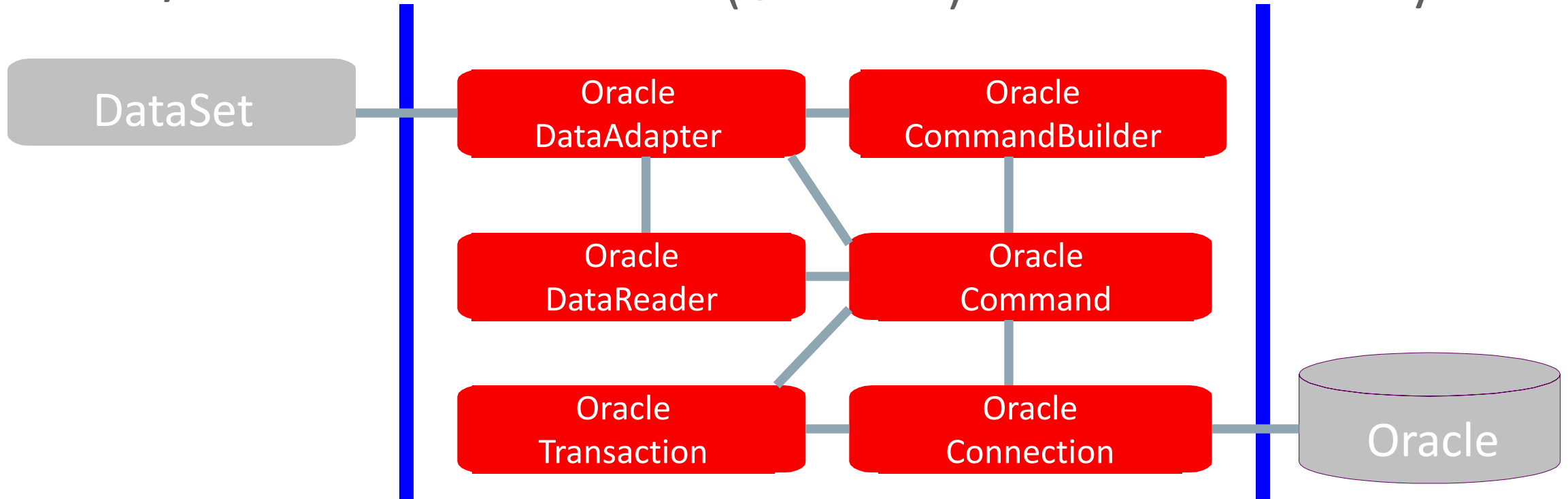
- Implements standard ADO.NET
  - In addition, includes Oracle DB-specific capabilities
- Easy to use and intuitive
- Native access to Oracle Database
  - Utilize advanced Oracle Database features
  - E.g. RAC, performance, security, data types, XML, etc.
- Download from OTN website or from NuGet
  - Note: NuGet download alone does not provide support for VS Designers

# ODP.NET Object Model

Disconnected Layer

Connected Layer  
(ODP.NET)

Data Layer

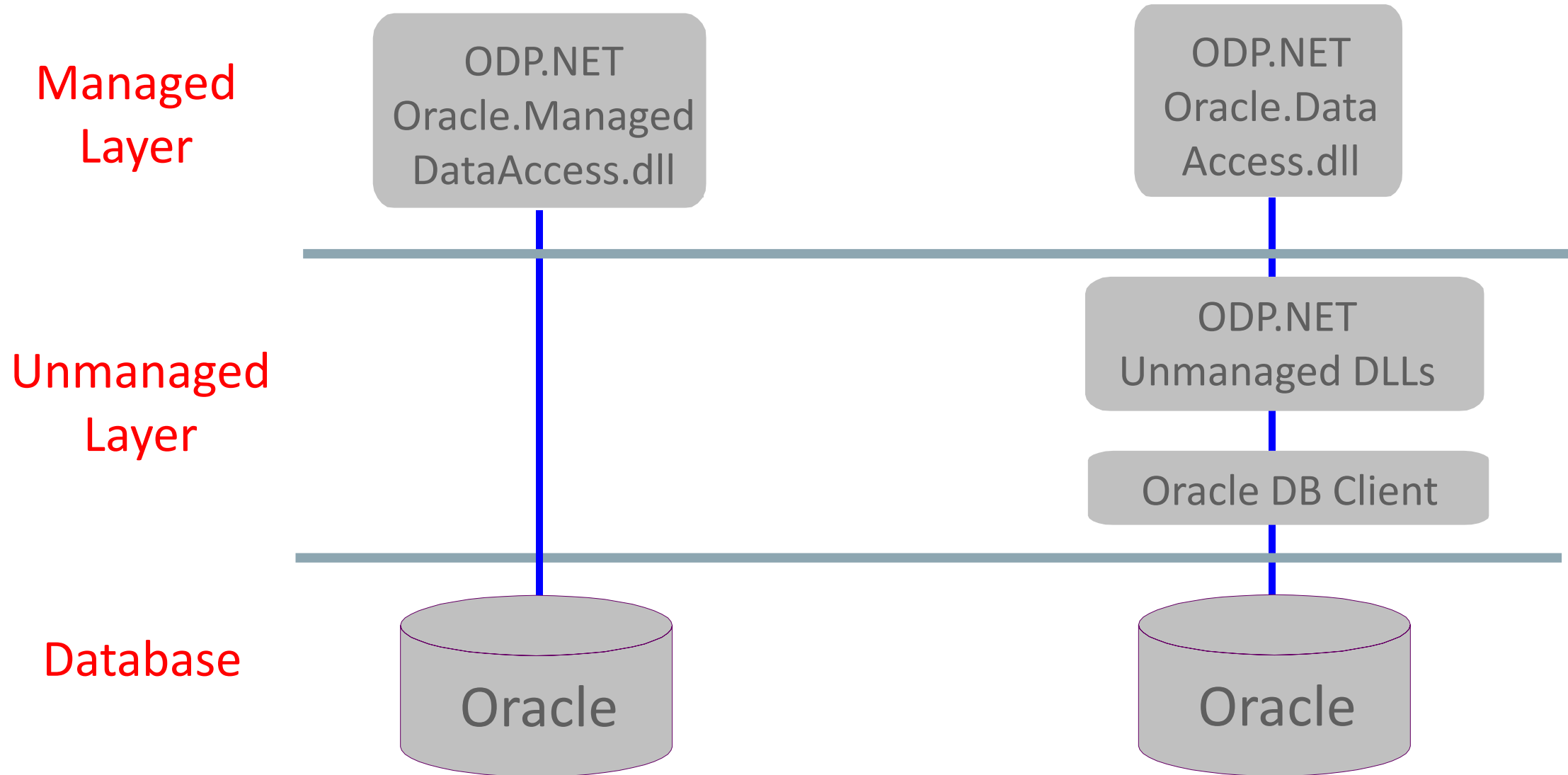


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D E M O N S T R A T I O N

**ODP.NET**

# ODP.NET Architecture – Managed vs. Unmanaged





# Key ODP.NET Features

- Connection pooling and performance counters
- Runtime Load Balancing: RAC and GDS
- Fast Connection Failover: RAC and GDS
- Transaction Guard
- Planned Outage
- Full PL/SQL support
  - Packaged, non-packaged, anonymous, autonomous
  - Batch SQL available with anonymous PL/SQL

# Key ODP.NET Features

- Native Oracle data types
  - REF Cursors, LOBs, XMLType, UDTs, arrays, etc.
  - Boolean and Identity – New in ODAC 12c
- Performance
  - Self-tuning statement cache
  - FetchSize and RowSize
  - Client Result Cache
  - Continuous Query Notification
  - TimesTen In-Memory Database

# Key ODP.NET Features

- Entity Framework and LINQ
  - Entity Framework 6 certification
  - Code First and Code First Migrations
- Install/Deployment
  - Oracle Universal Installer – great for individual installs
  - Xcopy – great for large deployments
  - NuGet (ODP.NET, Managed Driver)
  - MSI (ODP.NET, Managed Driver)

# Microsoft OracleClient Migration to ODP.NET

- Microsoft OracleClient (MSOC)
  - Microsoft's ADO.NET provider for Oracle database
- Deprecation announced June, 2009
  - Microsoft strongly recommends using another Oracle provider

# Microsoft OracleClient Migration to ODP.NET

- MSOC to ODP.NET migration
  1. Add ODP.NET reference
  2. Add ODP.NET namespace
  3. Update connection string (if necessary)
  4. Add one line of code for binding parameters
    - *OracleCommand.BindByName = true; //C#*
- More information
  - <http://www.oracle.com/technetwork/topics/dotnet/index-085703.html>



# Additional Oracle .NET Features

# Oracle Providers for ASP.NET

- Pre-built services to store website state into databases
  - Easy to configure for any DB, including Oracle
- Tightly integrated with existing ASP.NET services, controls, and tools
  - DB use is nearly transparent to developer
- Easy to learn
  - Based on standard ASP.NET provider APIs and schema
- Installation
  - Run PL/SQL scripts to create provider schemas

# Oracle Database Extensions for .NET

- Database feature
- Windows only
- Must have .NET Framework on DB server



# Additional Oracle .NET Capabilities

- Coherence
- Oracle Application Testing Suite
- Berkeley DB
- Oracle Business Process Management
- Grid Control Plug-Ins
- And more....

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# Additional Oracle .NET Resources



OTN

[otn.oracle.com/dotnet](http://otn.oracle.com/dotnet)



Twitter

[twitter.com/OracleDOTNET](https://twitter.com/OracleDOTNET)



YouTube

[youtube.com/OracleDOTNETTeam](https://youtube.com/OracleDOTNETTeam)



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# Integrated Cloud

## Applications & Platform Services

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