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A banner image for Oracle Developers. The left side has a red background with the text 'ORACLE DEVELOP' in white. The right side shows two men in a modern office setting, one holding a laptop. A word cloud of various programming languages and technologies is positioned between the red background and the office scene.

ORACLE DEVELOP

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Getting Started with Oracle and .NET

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Principal Product Manager, Oracle

Program Agenda

- Oracle and Microsoft partnership
- Oracle and .NET – getting started
 - Latest features and announcements
- Oracle Developer Tools for Visual Studio
- Oracle Data Provider for .NET
- Oracle Providers for ASP.NET
- Oracle .NET stored procedures
- Future Directions
- Additional Oracle .NET features



Oracle and Microsoft Partnership



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A N N O U N C E M E N T

ODAC and Visual Studio 2010 Ship Simultaneously

Visual WebGui

QUEST
SOFTWARE

00000

PreEmptive Solutions
The Best Solutions are PreEmptive.™

K2

Object Consulting

CODING & BUILD TOOLS

Gizmoz

Visual WebGui is a unique develop, migrate, run and manage platform for Ajax data intensive business applications that could not be ported to web or cloud, otherwise.

ORACLE

Koreax
Advanced Grid Solutions

MICRO FOCUS
Learning the Evolution

jo software
My code is faster than yours

xtelerik
deliver more than expected

M

intel

CODING & BUILD TOOLS

Quest Software

Visual Studio 2010 - Now available for Oracle professionals! Establish REAL application lifecycle management with Toad® Extension for Visual Studio.

Xoreax

Speed up Visual Studio C/C++ builds by up to X30 with IncrediBuild's distributed compilation Grid Solutions.

JCX Software

VS.Php is a PHP IDE for Visual Studio 2010 providing tight integration with Silverlight and IIS7.

Micro Focus

Micro Focus launches next generation developer tools integrated with VS2010 that greatly simplify the tasks and challenges of application developers.

Infragistics

コンディショナー

COMPONENTS AND LIBRARIES

Telerik

Telerik offers advanced tools for Microsoft .NET, that maximize developers' productivity in all stages of the project development lifecycle.

Infragistics

Infragistics® NetAdvantage® for .NET is a full-featured toolset for quickly building and styling application user interfaces for: Windows Forms, ASP.NET, WPF and Silverlight.

APPLICATION LIFECYCLE MANAGEMENT TOOLS

PreEmptive Solutions

PreEmptive Solutions Dotfuscator and Runtime Intelligence provides application monitoring, management, and protection improving software quality, user satisfaction, and application security.

Object Consulting

Object Consulting's Process Mentor provides governance, process, and reporting support to assist development teams produce robust quality software, on-time, to-budget.

K2 (SourceCode)

K2 Designer for Visual Studio 2010 enables developers to create or extend sophisticated BPM processes while remaining in Visual Studio.

PERFORMANCE TOOLS

Intel

Intel is a software industry leader with development products that help software developers make their applications more reliable, secure and efficient.

LOOK WHAT
WE DID
WITH VISUAL
STUDIO 2010!

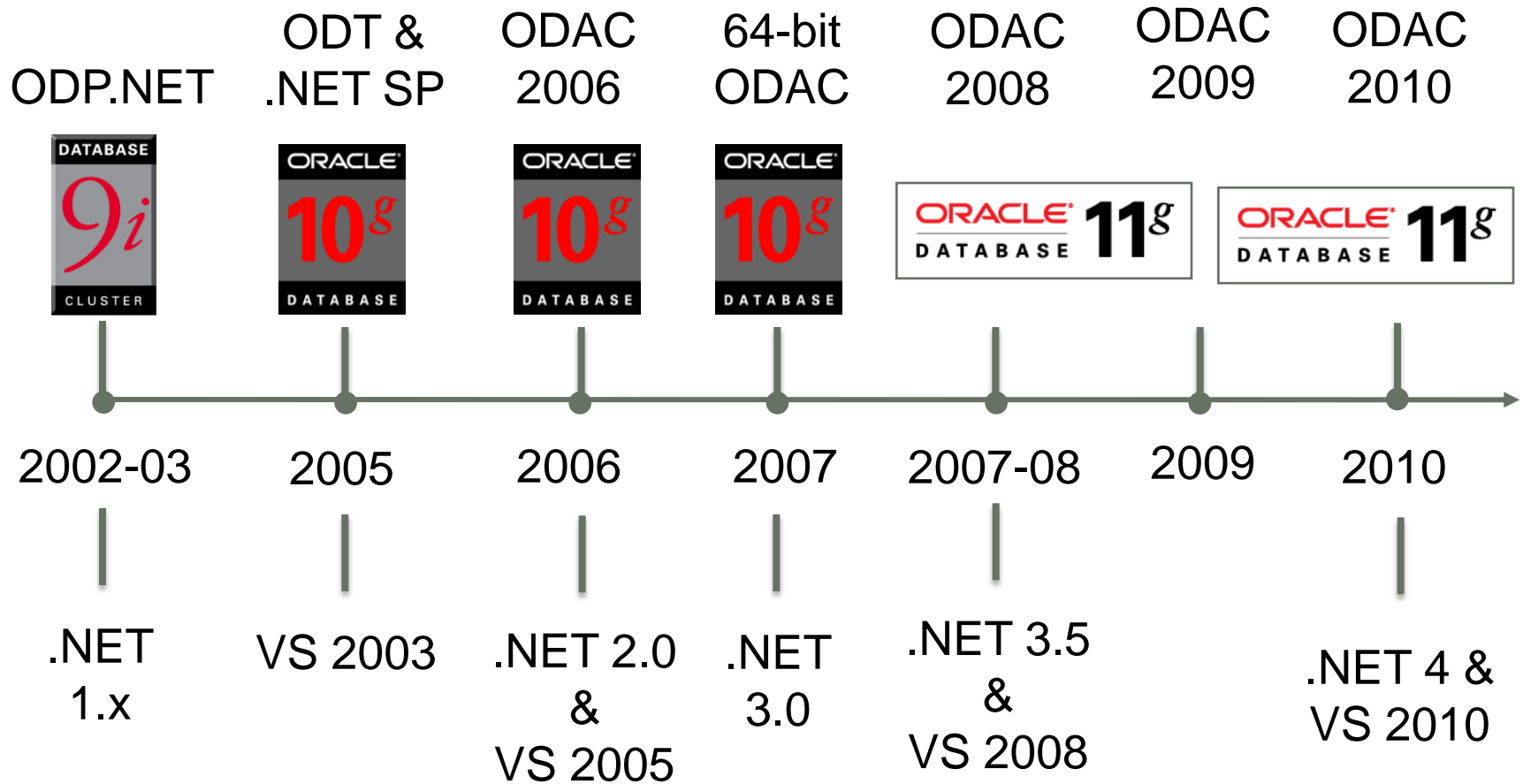
/*SHOWCASE YOUR INNOVATION*/

Find extensions on the Visual Studio Gallery
www.visualstudiogallery.com

Join the Wave of Innovation
<http://msdn.com/vsip>

Microsoft®
Visual Studio

Oracle's Commitment to .NET



Relationship with Microsoft

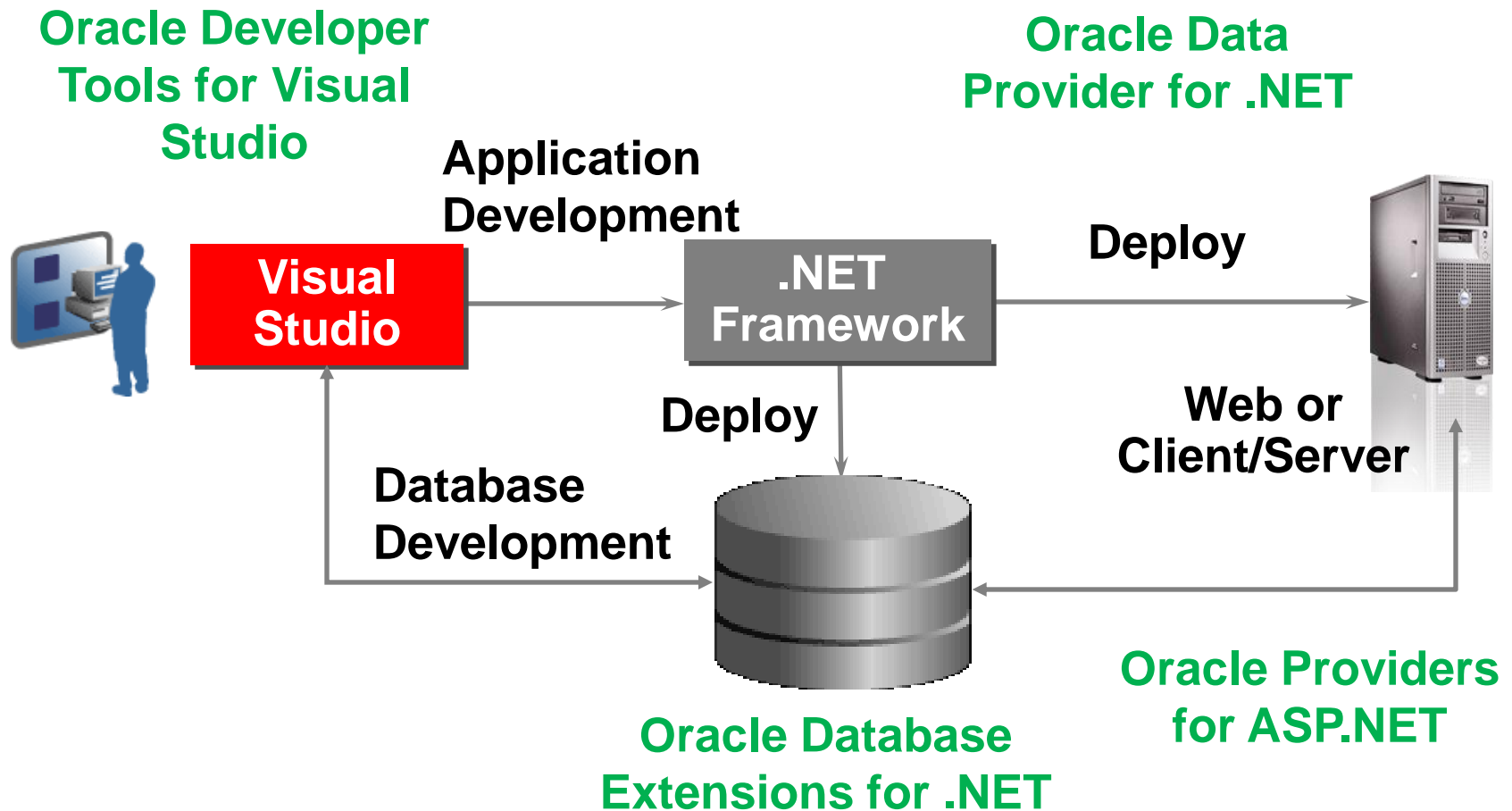
Engineering	<ul style="list-style-type: none">• Close collaboration with Microsoft Engineering teams• Access to pre-release Microsoft product drops
Marketing	<ul style="list-style-type: none">• Visual Studio Industry Partner (VSIP)• Sponsorship at respective events – TechEd, PDC, OpenWorld• Joint training, road shows, collateral, etc.
Support	<ul style="list-style-type: none">• Microsoft Premier Support Agreement• Collaboration of support teams

Oracle .NET – Large Developer Community

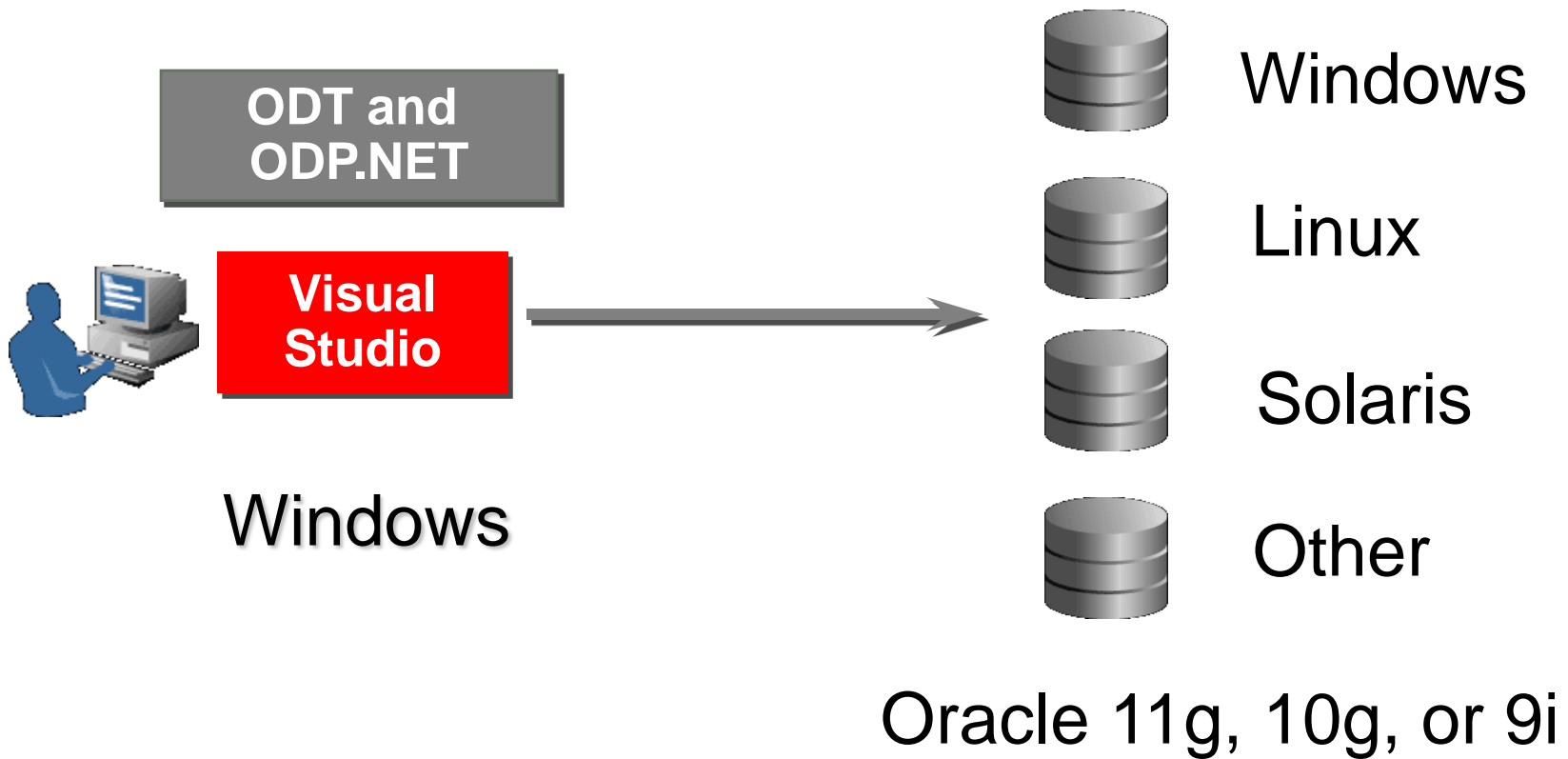
- Over 750K Oracle .NET developer community
- Microsoft MVP endorsements of ODAC
 - Bill Evjen, founder of INETA
 - Andrew Brust
 - John Cook
- Top ten most downloaded OTN software
 - ODAC downloads
- 3rd most visited OTN tech and architect center
 - OTN .NET Developer Center
 - Right behind Java and Linux pages

Oracle and .NET Getting Started

Oracle .NET Development Environment



Develop on Windows – Run Database on any Platform



Visual Studio 2010 and .NET Framework 4

- ODAC 11.2.0.1.2 supports Visual Studio 2010 and .NET Framework 4
 - Including ODP.NET, ODT, ASP.NET providers, and ODE
 - Free OTN download
- Key ODAC 11.2.0.1.2 features
 - Supports Client Profile and full .NET Framework
 - 32-bit ODAC now on OTN
 - OUI and xcopy
 - 64-bit ODAC available with Oracle patchset 11.2.0.2
 - OUI and xcopy on OTN soon afterwards



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

ODT Feature Overview

- Fully integrated with Visual Studio 2010, 2008, and 2005
 - Server Explorer
 - Data Sources Window
 - Dataset Designer
 - TableAdapter Configuration Wizard
 - Query Builder/Query Designer
 - More
- Automatic code generation – WinForm and ASP.NET
 - Makes ASP.NET web application development very easy

ODT Feature Overview

- Oracle Wizards and Designers
 - Table/View Designer
 - Stored Procedure/Function/package Wizards
 - Grant/Revoke Privileges Wizard
 - UDT Designers
 - UDT Custom Class Code Generation Wizard
 - Table/View Migration Wizard
- Oracle Data Window
- Oracle Database Project
 - Edit and Run SQL scripts
 - SQL*Plus is built in
 - Source control integration
- Integrated PL/SQL Editor and Debugger

ODT Feature Overview

- Oracle Query Window
 - Ad Hoc SQL
 - Explain Plan
- .NET Stored Procedure Deployment
- Integrated help system – SQL, PL/SQL keywords

ODT 11.1.0.7.20 – What's New

- Performance analysis and tuning
 - Oracle Performance Analyzer
 - Tune your running application's use of the database
 - SQL Tuning Advisor
 - Tune ad-hoc queries in Query Window
 - Tune inefficient application SQL detected by Oracle Performance Analyzer
- Messaging
 - Advanced Queuing (AQ) designers
 - Create, modify, and administer your queues and queue tables

ODT 11.1.0.7.20 – What's New

- Application development lifecycle
 - Selection and operation on multiple Server Explorer (SE) nodes
 - Generate SQL scripts on any Oracle schema object or group of objects
 - Compile any number of stored procedures at once
 - SE collection node filtering
 - Fine grain control over which schema objects to display
 - SE node paging
 - Improves performance when there are many database objects
 - User and role designers and users and roles SE nodes
 - Grant/Revoke Privileges Wizard support for system privileges and roles

Oracle Data Provider for .NET

ODP.NET - Basics

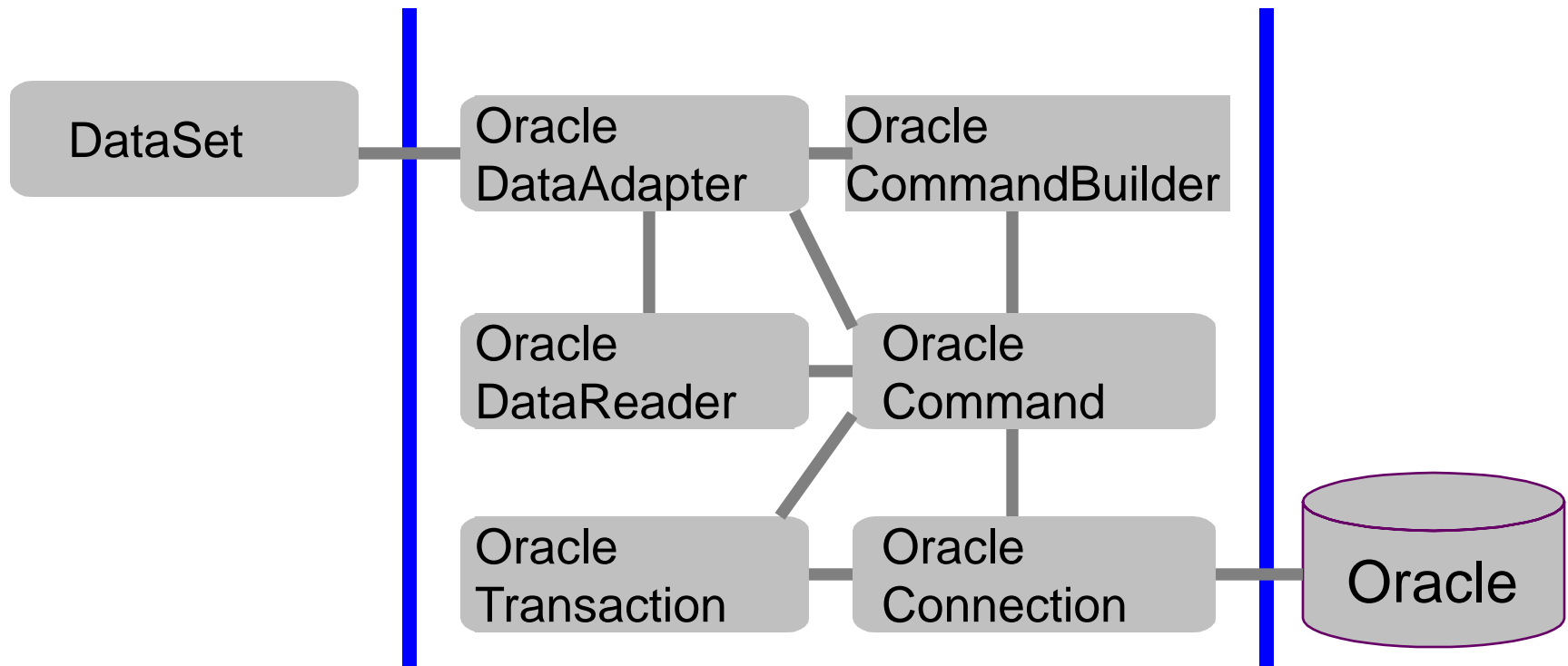
- Implements standard ADO.NET
 - Adds Oracle DB-specific capabilities
- Easy to use and intuitive
- Native access to Oracle Database
 - Utilize advanced Oracle Database features
 - E.g. RAC, performance, security, data types, XML, etc.
- DB server can be on any operating system
- DB client can be 32-bit or 64-bit
 - Supports .NET Framework 1.0 and higher
- DB client and server versions not need to match
- Free

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

Key ODP.NET Features

- Connection pooling
 - RAC: automatic load balancing
 - RAC and Data Guard: automatic “dead” connection cleanup
 - Performance counters
- Full PL/SQL support
 - Packaged, non-packaged, anonymous, autonomous
 - Batch SQL available with anonymous PL/SQL
- Native Oracle data types
 - REF Cursors, LOBs, XMLType, TimeStamp, etc.
 - Safe type mapping to .NET data types
 - Oracle data types in DataSet
 - `OracleDataAdapter.ReturnProviderSpecificTypes = true`

Key ODP.NET Features

- Transactions
 - Distributed
 - Local (Implicit and Explicit)
 - Promotable
 - Savepoints
- Parameters
 - PL/SQL Associative Array data type
 - LOBs and SecureFiles
 - Ability to pre-fetch or defer LOB retrieval

Key ODP.NET Features

- Database Change Notification
- Performance tuning
 - Statement caching
 - FetchSize and RowSize
- XML
 - XMLType data type
- Security and auditing
 - Proxy authentication
 - End-to-end tracing with Client Id, Action, and Module
- Deployment
 - Oracle Universal Installer – great for individuals
 - Xcopy Instant Client – great for large deployments

ODP.NET 11.1.0.7.20 – What's New

- Performance and throughput
 - Self-Tuning
 - Automatically optimizes statement cache size at run time
 - Faster Data Retrieval
 - For DataSet and OracleDataReader
 - Reduced Memory Usage
 - No code changes necessary – just upgrade ODP.NET
- Promotable Transactions
 - Promote local transactions to distributed during run time
 - Requires Oracle Database 11g and OraMTS 11.1.0.7.20

ODP.NET 11.1.0.7.20 – What's New

- Messaging
 - Oracle Streams Advanced Queuing API
 - Build .NET messaging applications with Oracle's database-integrated queue
- High availability event notification and callback
 - Create event handlers to respond to database status changes
- Code access security
 - Enforce imperative and declarative Oracle security
- Programmatic database startup and shutdown

Top Unique Oracle .NET Features

Features	Oracle	SQL 2008
RAC and Data Guard	Yes	No
Self-Tuning	Yes	No
Virtual Private Database	Yes	No
Client Result Cache	Yes	No
SecureFiles	Yes	No
Database Queue API	Yes	No
VS: ADDM and SQL Tuning Tools	Yes	No

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
- 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#*
- <http://www.oracle.com/technetwork/topics/dotnet/index-085703.html>

Oracle Providers for ASP.NET

Oracle Providers for ASP.NET: Concepts

- Pre-built services to store website state into databases
- Easy to learn
 - Based on standard ASP.NET provider APIs and schema
- Can be managed by IIS
 - Membership and role information
- Installation
 - Run PL/SQL scripts to create provider schemas

Oracle Providers for ASP.NET: Components

- Eight providers available
 - Cache Dependency Provider
 - Membership Provider
 - Profile Provider
 - Role Provider
 - Site Map Provider
 - Session State Provider
 - Web Parts Personalization Provider
 - Web Events Provider
- Administrators pick which providers to use
 - One or more in any combination

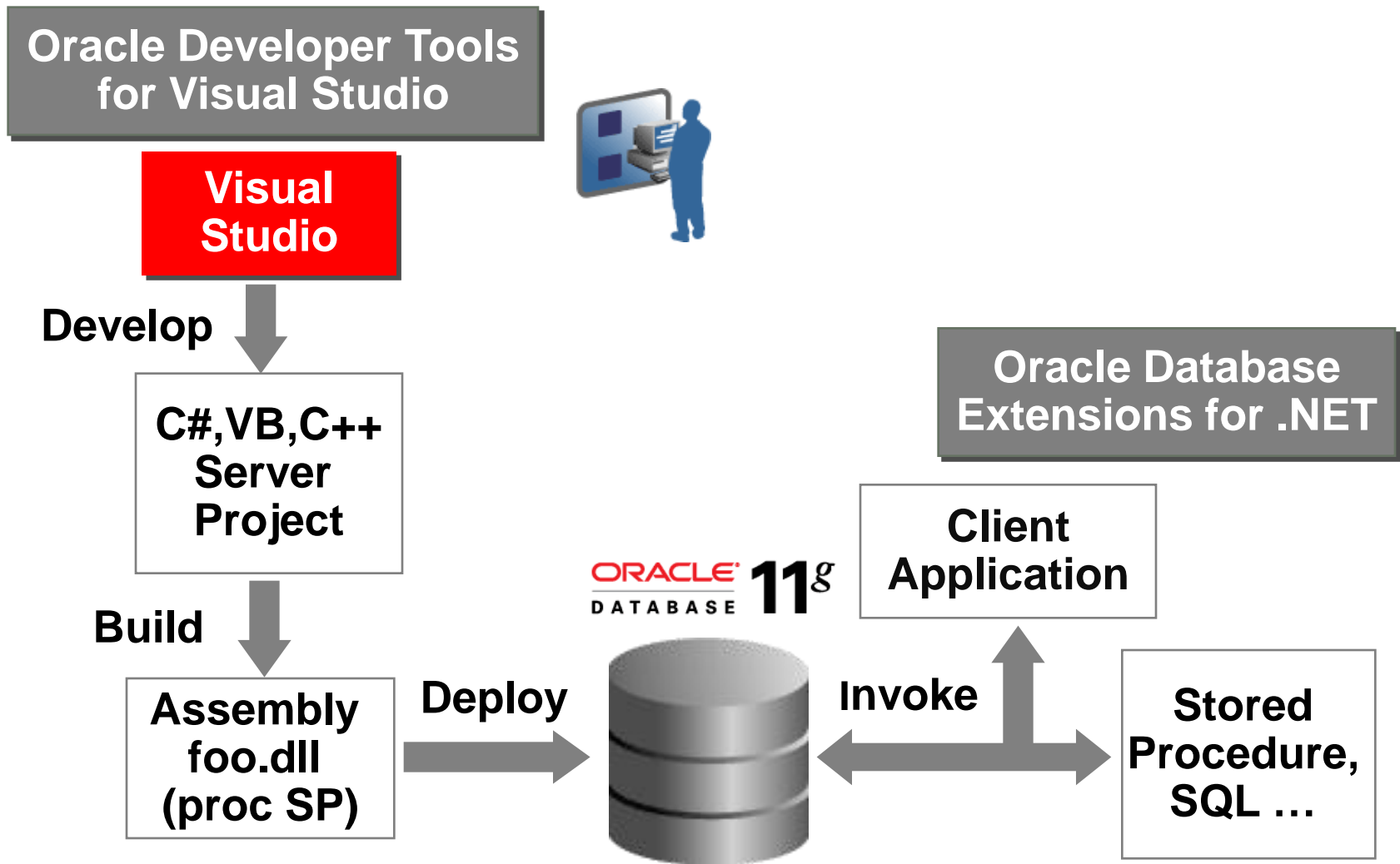


Oracle .NET Stored Procedures

Oracle Database Extensions for .NET

- Database option
 - Windows only
 - Both 32-bit and 64-bit supported
 - Must have .NET Framework
- Oracle Database 10g Release 2 or later

Oracle Database Extensions for .NET



Future Directions

Future Directions

- TimesTen Data Provider for .NET
 - What is TimesTen
 - Memory-optimized relational database for instant responsiveness and very high throughput
 - Deployed in application tier as an embedded or standalone DB
 - Available with 11.2.0.2
 - Supports ODP.NET classes, enumerations, interfaces, delegates, and structures
- Entity Framework and LINQ
 - Beta around the end of 2010
 - Production in 2011

Additional Oracle .NET Features

Additional Oracle .NET Capabilities

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

Appendix



More Oracle .NET Resources

- .NET Technology Center
 - <http://www.oracle.com/technetwork/topics/dotnet/>
- For more questions
 - alex.keh@oracle.com
 - christian.shay@oracle.com


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