



developer & platform evangelism
developer & platform evangelism

Microsoft
MICROSOFT

从JAVA看.NET

——.NET in Java Perspective

方国伟

微软开发和平台合作部 (DPE)

guoweif@microsoft.com

内容介绍

- 发展历史和方向
- 功能比较
- 架构比较
- 平台互操作性



.NET和JAVA 的历史和发 展方向

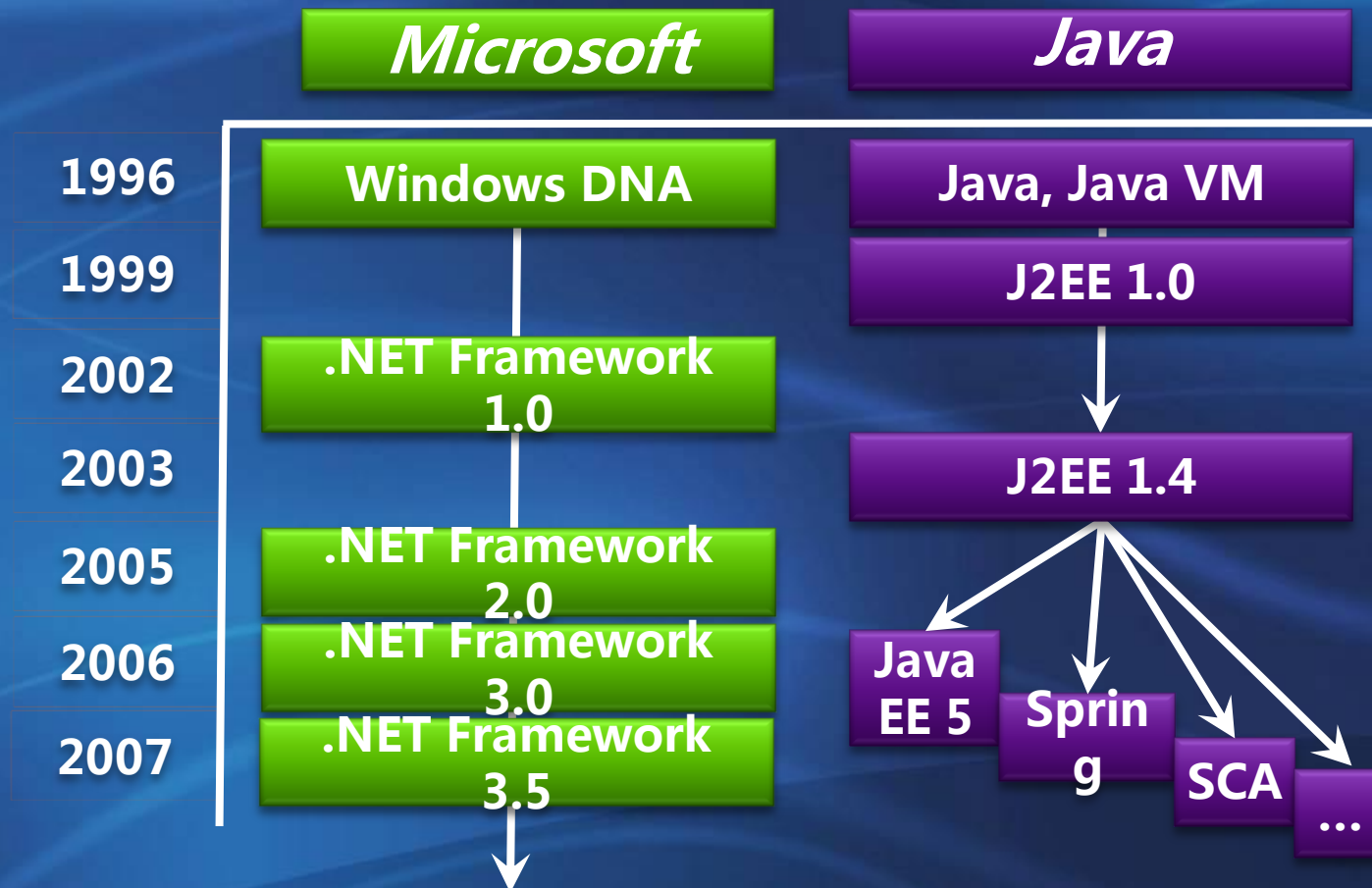
什么是.NET?

- .NET主要指下面两个部分
 - .NET Framework
 - 包括 Common Language Runtime (CLR) 和 .NET Framework类库 (FCL) .
 - Visual Studio
 - 一个构建应用的集成开发环境 (IDE)
- .NET的核心是.NET Framework



Microsoft vs. the Java World

A decade of competition



技术发展方向

.NET Framework 2.0

.NET Framework 3.0/3.5

*Java Community
Process (JCP)*

Java EE 5

J2EE 1.4

*Open SOA
Collaboration*

Open SOA (OSOA)

- *Service Component Architecture (SCA)*
- *Service Data Objects (SDO)*

*Various
processes*

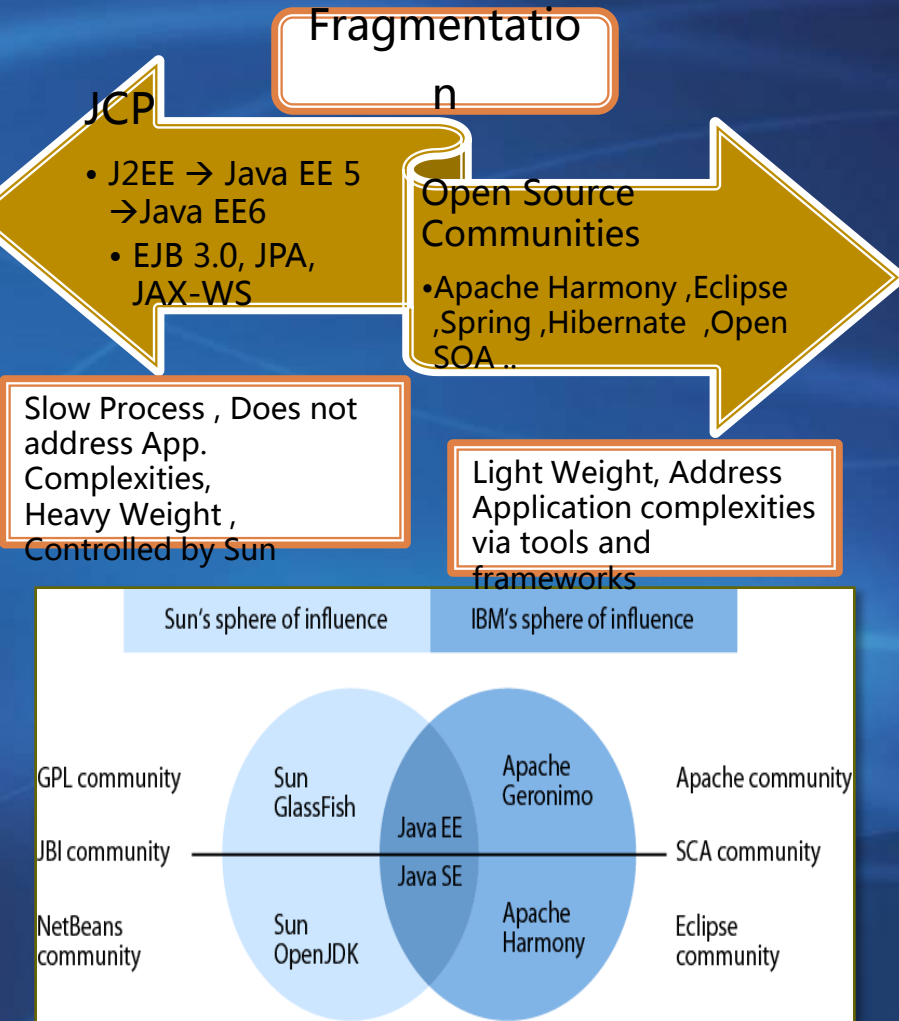
The open source world

- *Eclipse*
- *Spring Framework*
- *Hibernate*
- *More . . .*

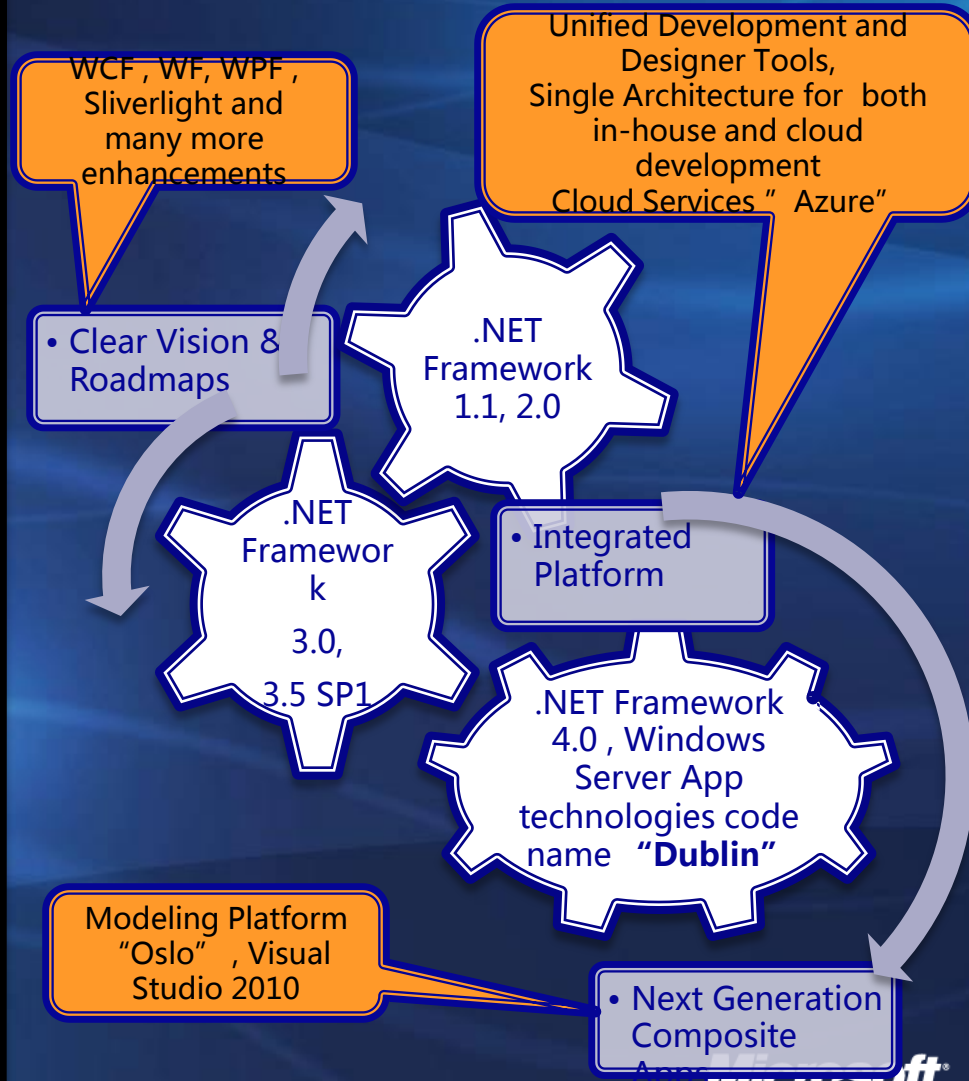


平台演变背景

Java Platform

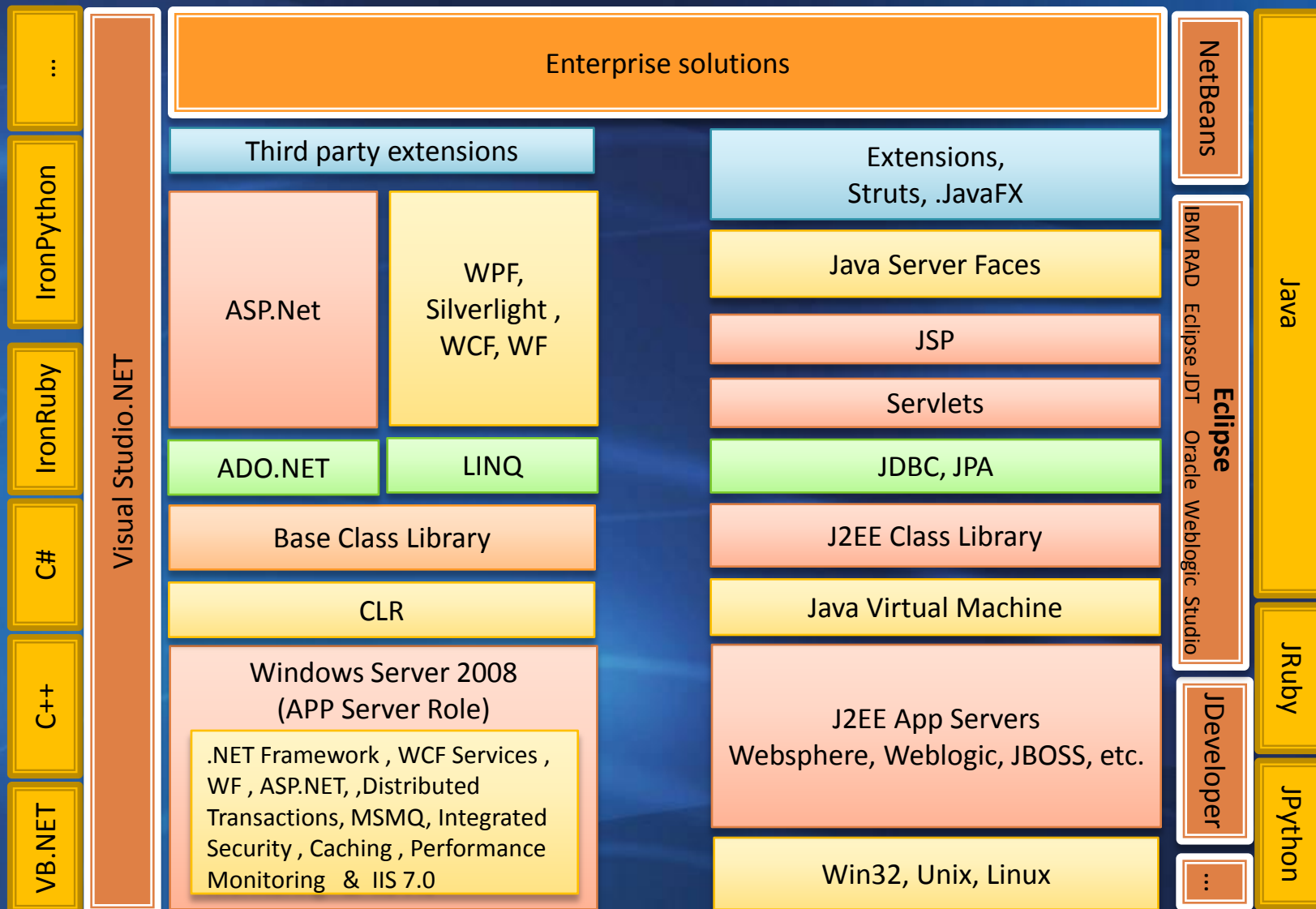


.NET Platform

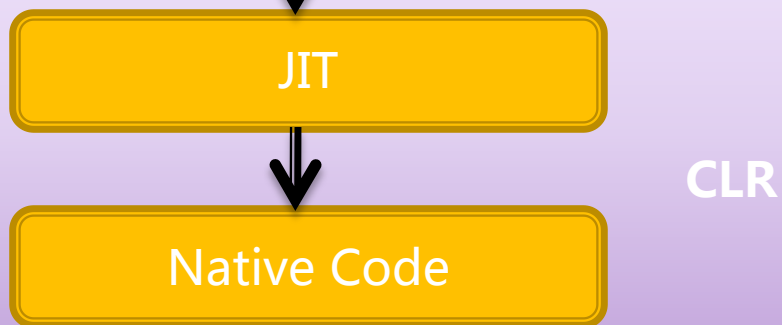
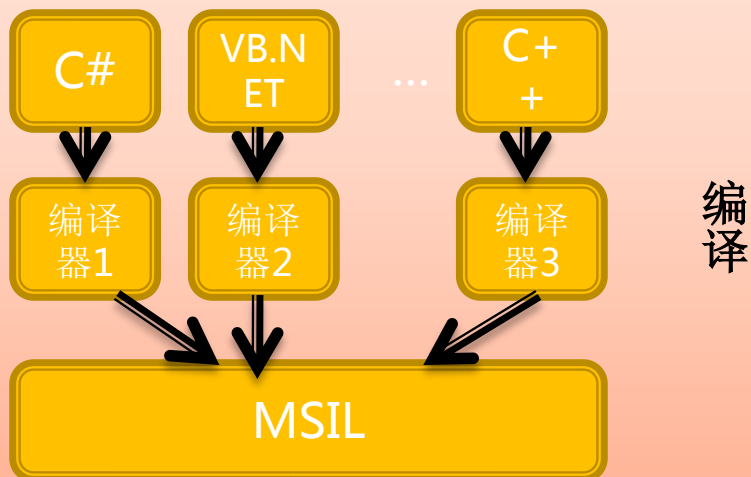


.NET和JAVA EE功能比较

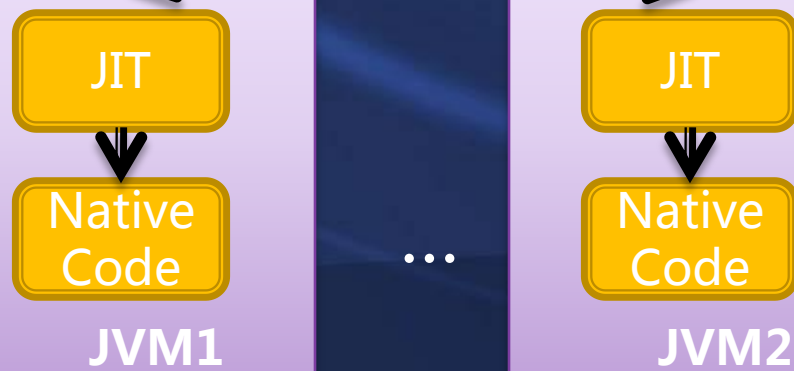
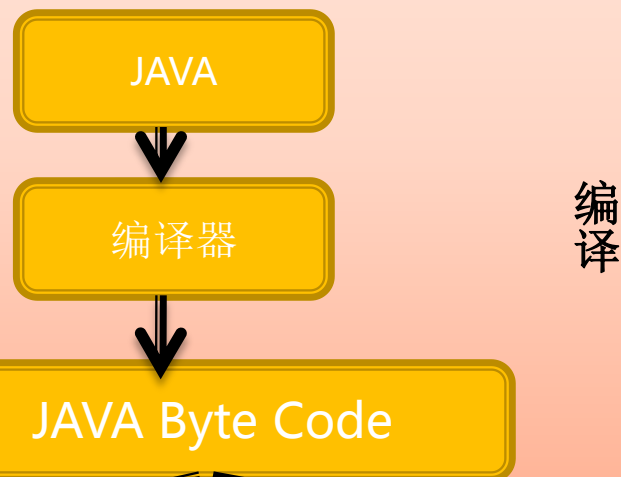
Java & .NET平台对比



平台无关性解释



Windows(32bit/64bit)



Windows

Linux

从应用架构看.NET和JAVA EE

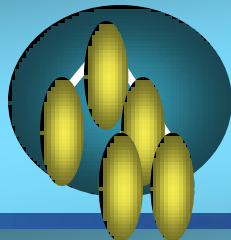
未来的企业应用平台

Accessing
Data

*Data
Access*

Defining
Logic

Objects



Workflows



Rules



Containing and
Connecting Logic

*Logic to Web
Browser*

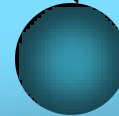
Logic to Logic



Web Browser



Standalone Client



Remote Logic

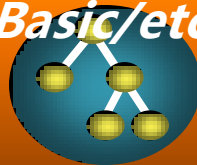
.NET Framework 2.0

Accessing
Data

ADO.NET

Defining
Logic

*C#/Visual
Basic/etc.*



Containing and
Connecting Logic

ASP.NET

*ASMX/
WSE*

*.NET
Remoting*

*Enterprise
Services*

*System.
Messaging*

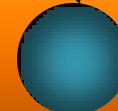
Using
Logic



Browser



Windows Forms



Remote Logic



.NET Framework 3.x

Accessing
Data

ADO.NET

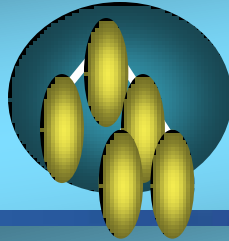
LINQ

Defining
Logic

C#, VB, etc.

Workflows

Rules



*Windows
Workflow
Foundation (WF)*

WF Rules Engine

Containing and
Connecting Logic

ASP.NET

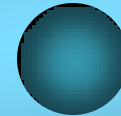
Windows Communication Foundation (WCF)

Using
Logic

**Browser/AJAX
Silverlight**

**Windows Presentation
Foundation (WPF)**

Remote Logic



Java EE 5

Accessing Data

JDBC

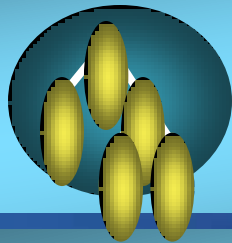
Java Persistence API (JPA)

Defining Logic

Java

Workflows

Rules



Containing and Connecting Logic

Servlets/Java Server Pages (JSP)

JAX-WS

Remote Method Invocation (RMI)

Enterprise JavaBeans 3.0

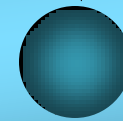
Java Message Service (JMS)



**Browser/AJAX
JavaFX**



SWING



Remote Logic



Open SOA

Accessing
Data

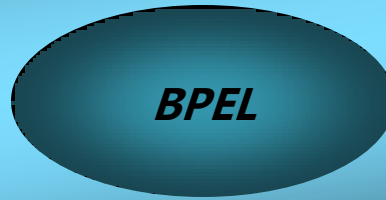
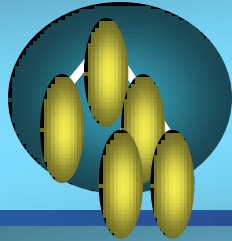
*Service Data
Objects (SDO)*

Defining
Logic

Java, C++, etc.

Workflows

Rules



Containing and
Connecting Logic

*Servlets/
Java Server
Pages (JSP)*

Service Component Architecture (SCA)

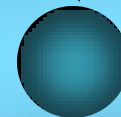


Using
Logic

*Browser/AJAX
JavaFX*

Standalone Client

Remote Logic



JAVA 供应商现在的实现

Accessing Data

JDBC

Java Persistence API (JPA)

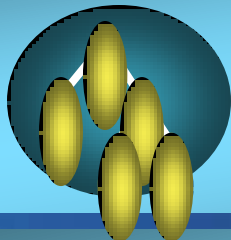
Service Data Objects (SDO)

Defining Logic

Java

Workflows

Rules



BPEL

Various

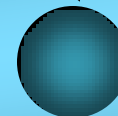
Containing and Connecting Logic

Servlets/
Java Server
Pages (JSP)

Service Component Architecture (SCA)



Using Logic



Browser/AJAX
JavaFX

Swing/Eclipse Client

Remote Logic

Azure & .NET 平台

Build, test, debug, and deploy using a single familiar toolset

Client

Desktop &
Mobile Experiences



Server

On-premises
& Hosted
Servers



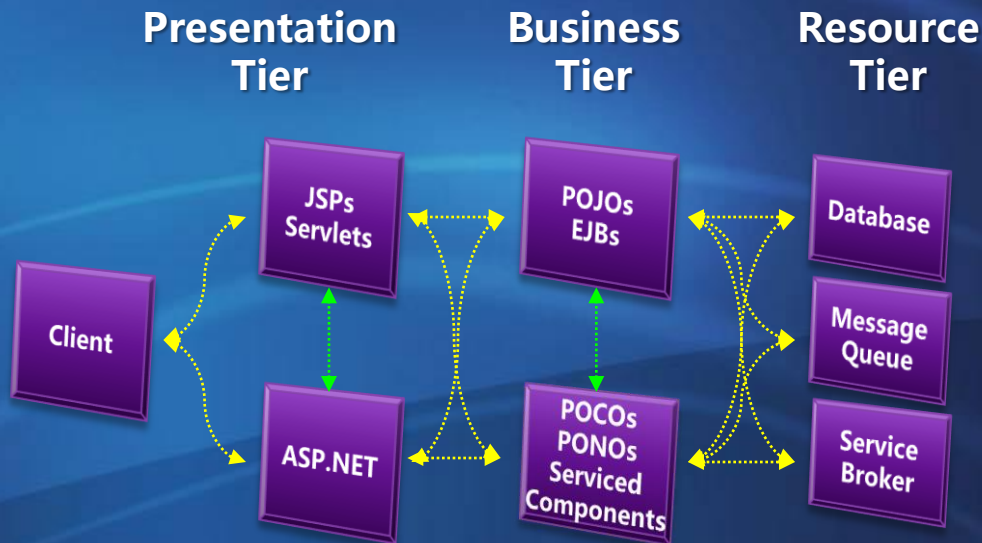
Services



平台互操作性

跨平台的互操作性

- .NET和JAVA EE在技术上是可以共存的
 - 每个都运行在独立的进程中
 - 典型的场景是分布式环境
 - 都有同步和异步方式
 - 都有多个互操作点/集成方式
- 多个层次的集成



集成方式

- Web Services
 - ASMX (WS-I)
 - WSE (WS-*) (类比JAX-WS 2.0)
- .NET Remoting
 - 类似RMI, 主要针对同一类型平台。与JAVA 需要中间代理, 如JNBridgePro
- 消息 (Messaging)
 - MSMQ
 - WebSphere MQ (带.NET客户端)
- WCF
- 集成产品
 - BizTalk, WPS

小结

- .NET平台和JAVA平台都是针对企业级应用设计
- 两个平台的发展目标类似，实现方式不同
- 竞争令所有人受益



Thank you!

Microsoft | developer & platform evangelism

© 2007 Microsoft Corporation. All rights reserved. Microsoft, Windows, Windows Vista and other product names are or may be registered trademarks and/or trademarks in the U.S. and/or other countries.

The information herein is for informational purposes only and represents the current view of Microsoft Corporation as of the date of this presentation. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information provided after the date of this presentation.

MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS PRESENTATION.



developer & platform evangelism

Microsoft