

# Tổng quan về Microsoft.NET & Visual Studio.NET

TS. Trần Minh Triết  
Bộ môn Công Nghệ Phần Mềm  
Khoa Công Nghệ Thông Tin  
Đại học Khoa Học Tự Nhiên



# Thế hệ thứ nhất

Mục tiêu

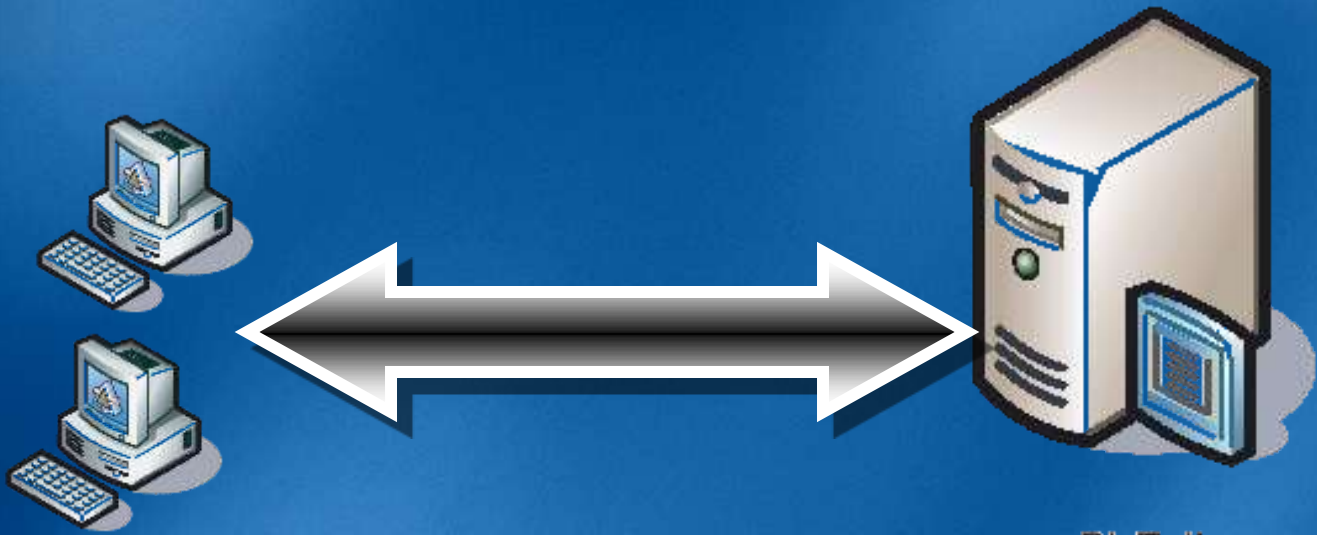
Basic Automation  
/Computerization

Kỹ năng

Mainframes, COBOL, Oracle,  
SQL Server, VB

Kiến trúc

Monolithic, Client/Server



# Thế hệ thứ hai

**Mục tiêu**

**Web Enabling, Online Presence**

**Kỹ năng**

**HTML, DHTML, CORBA, COM, EJB**

**Kiến trúc**

**Phân tán / Multi Tier**



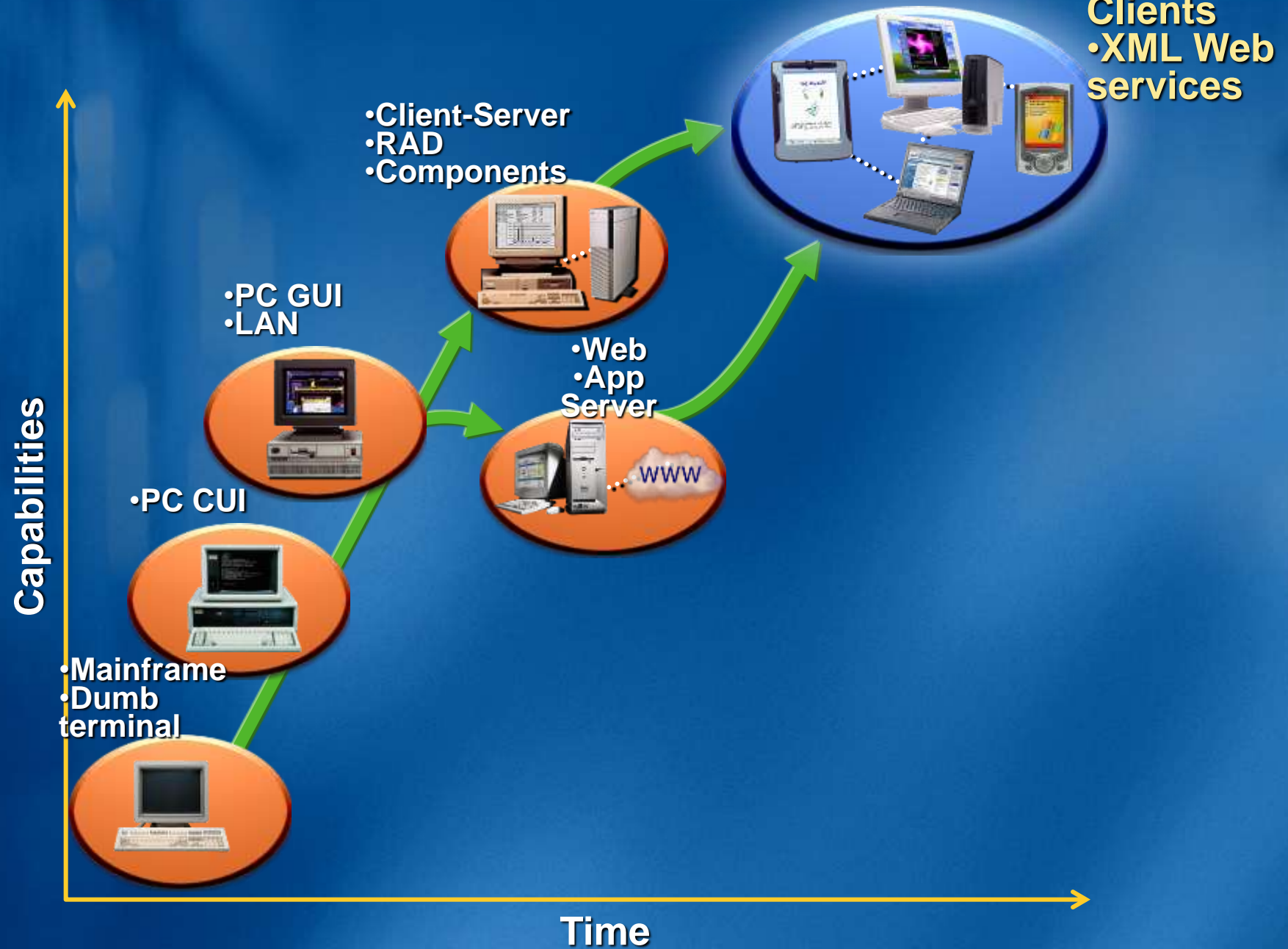
# Web Services

## Mô hình ứng dụng trong tương lai





# Smart Clients



# Thế hệ tiếp theo....

Mục tiêu

Tích hợp ứng dụng và tính di động

Kỹ năng

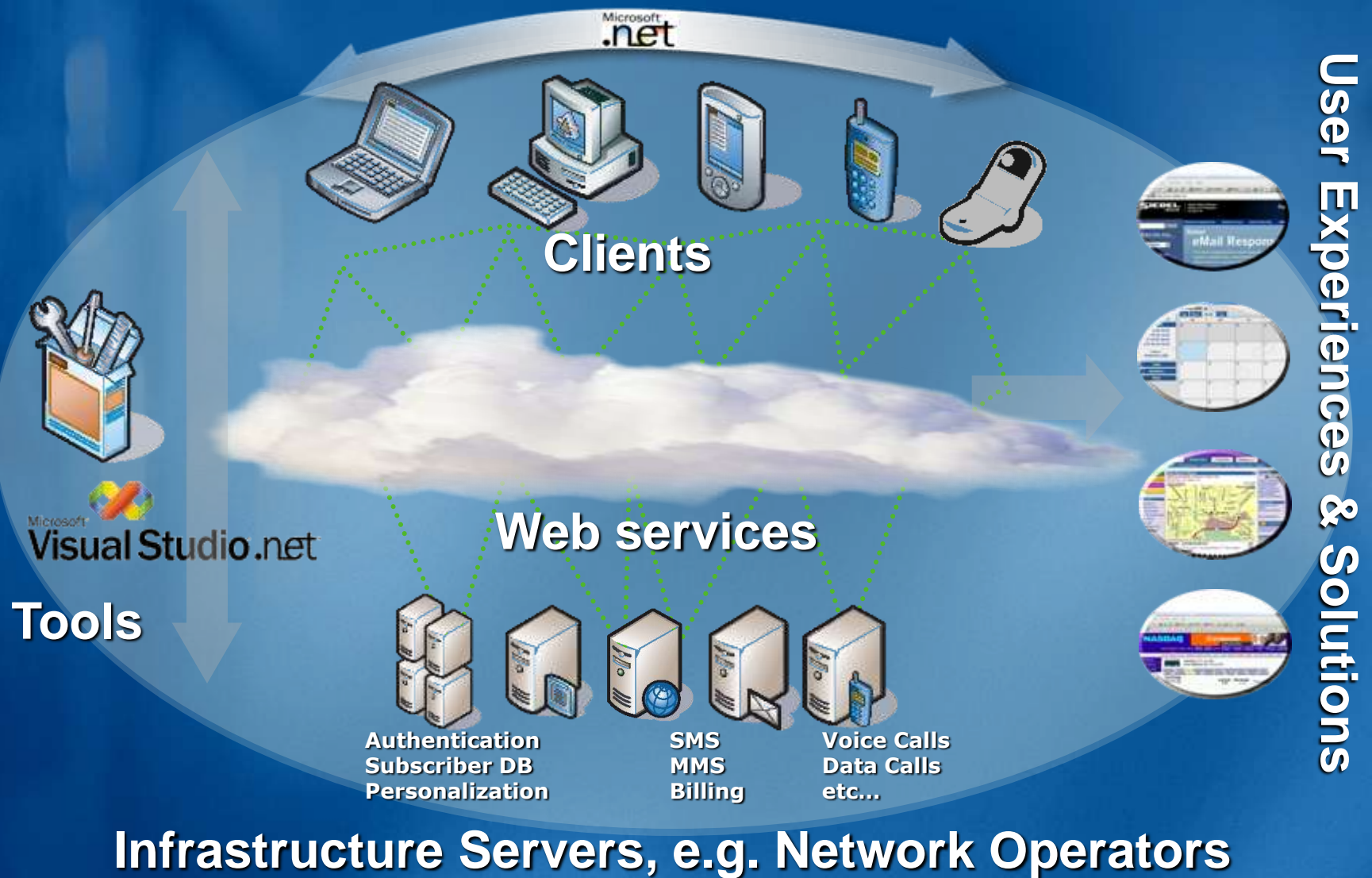
XML, SOAP, Mobile Programming Framework

Kiến trúc

Dynamic Service, Device Based

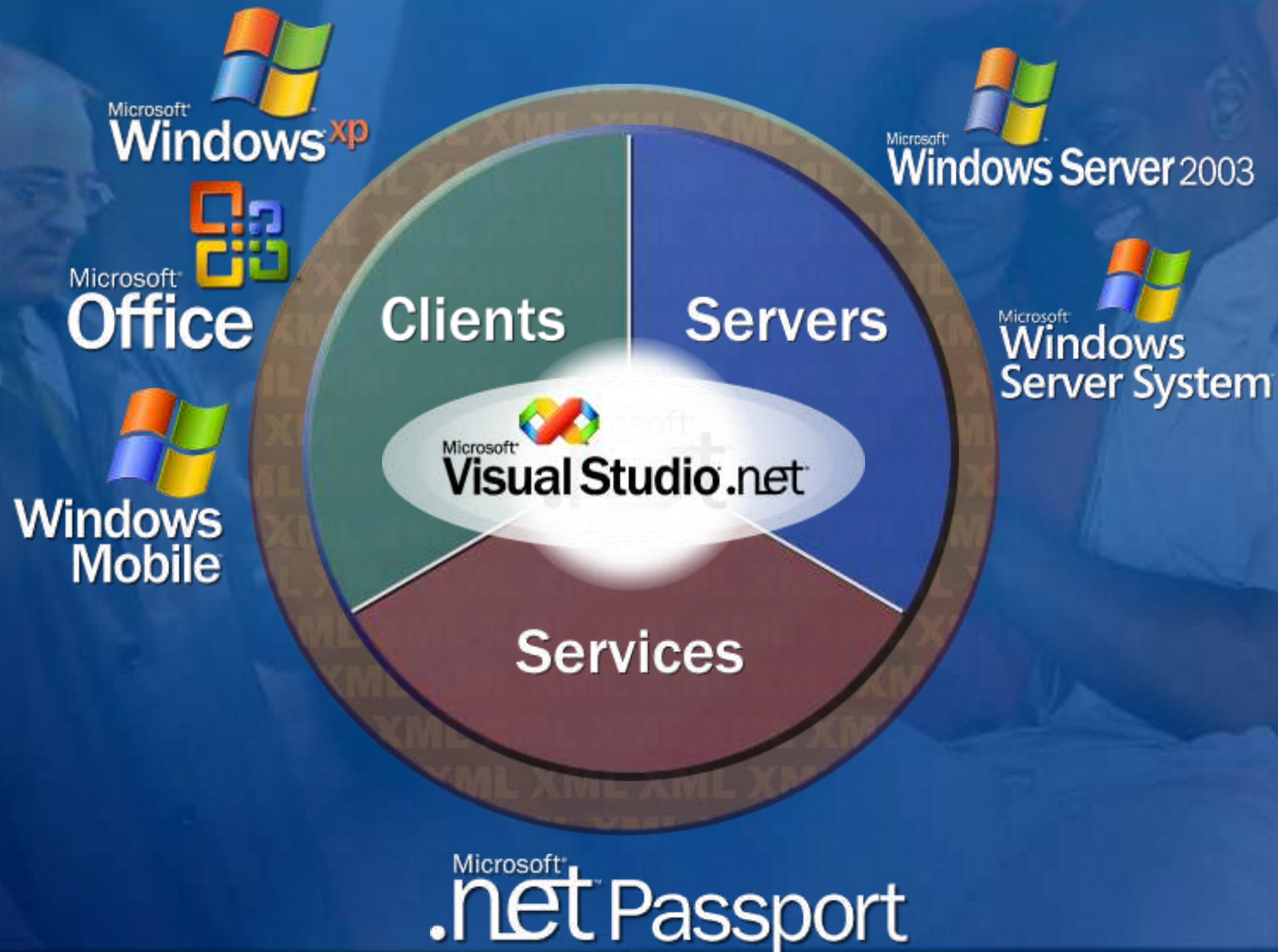


# The Mobile Device Universe





# Microsoft .NET Platform





# Các mô hình lập trình

**VB**

**VC++**

**VJ++**

**VB Lang. API**

**MFC / WIN32 API**

**Java SDK**

**MSVBVM**

**MSVCRT**

**MSJVM**

# Mô hình lập trình trong .NET



# .NET Framework & Visual Studio.NET

VB

C++

C#

JScript

...

Common Language Specification

ASP.NET: Web Services  
and Web Forms

Windows  
Forms

ADO.NET: Data and XML

NET Framework Base Class Library

Common Language Runtime

Visual Studio.NET

# .NET Framework & Visual Studio.NET

## Base Class Library Support

Thread Support

COM Marshaler

Type Checker

Exception Manager

Security Engine

Debug Engine

MSIL to Native  
Compilers

Code  
Manager

Garbage  
Collector

Class Loader

Common Language Runtime



# .NET Framework & Visual Studio.NET

VB

C++

C#

JScript

...

Com

System

System.Security

System.Runtime.  
InteropServices

System.Net

System.Text

System.Globalization

System.Reflection

System.Threading

System.Configuration

System.IO

System.Diagnostics

System.Collections

**NET Framework Base Class Library**

Common Language Runtime

# .NET Framework & Visual Studio.NET

VB

C++

C#

JScript

...

Common Language Specification

System.Data

System.Xml

DataSet

DataRow

System.Xml.Schema

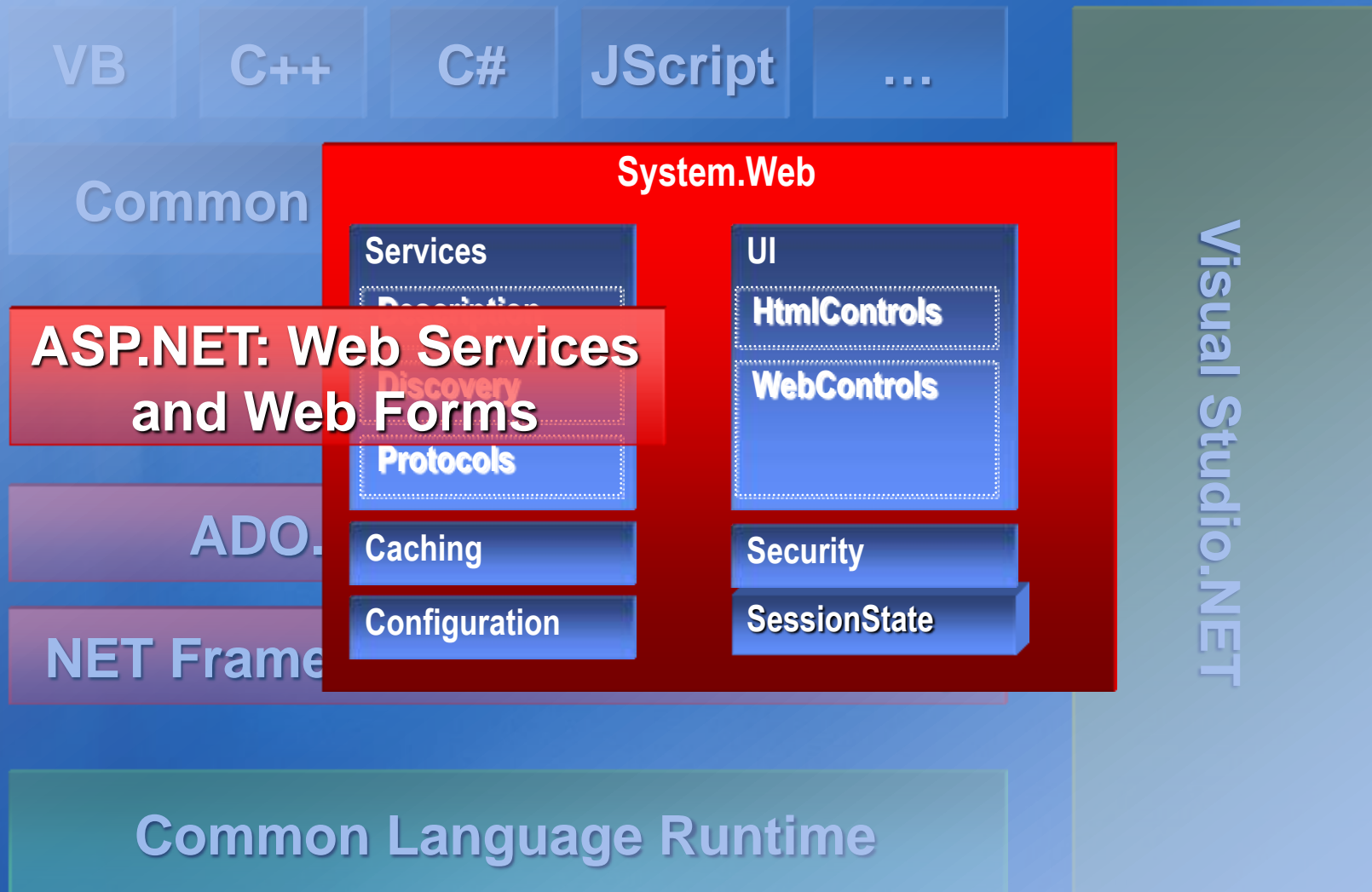
**ADO.NET: Data and XML**

System.Xml.Serialization

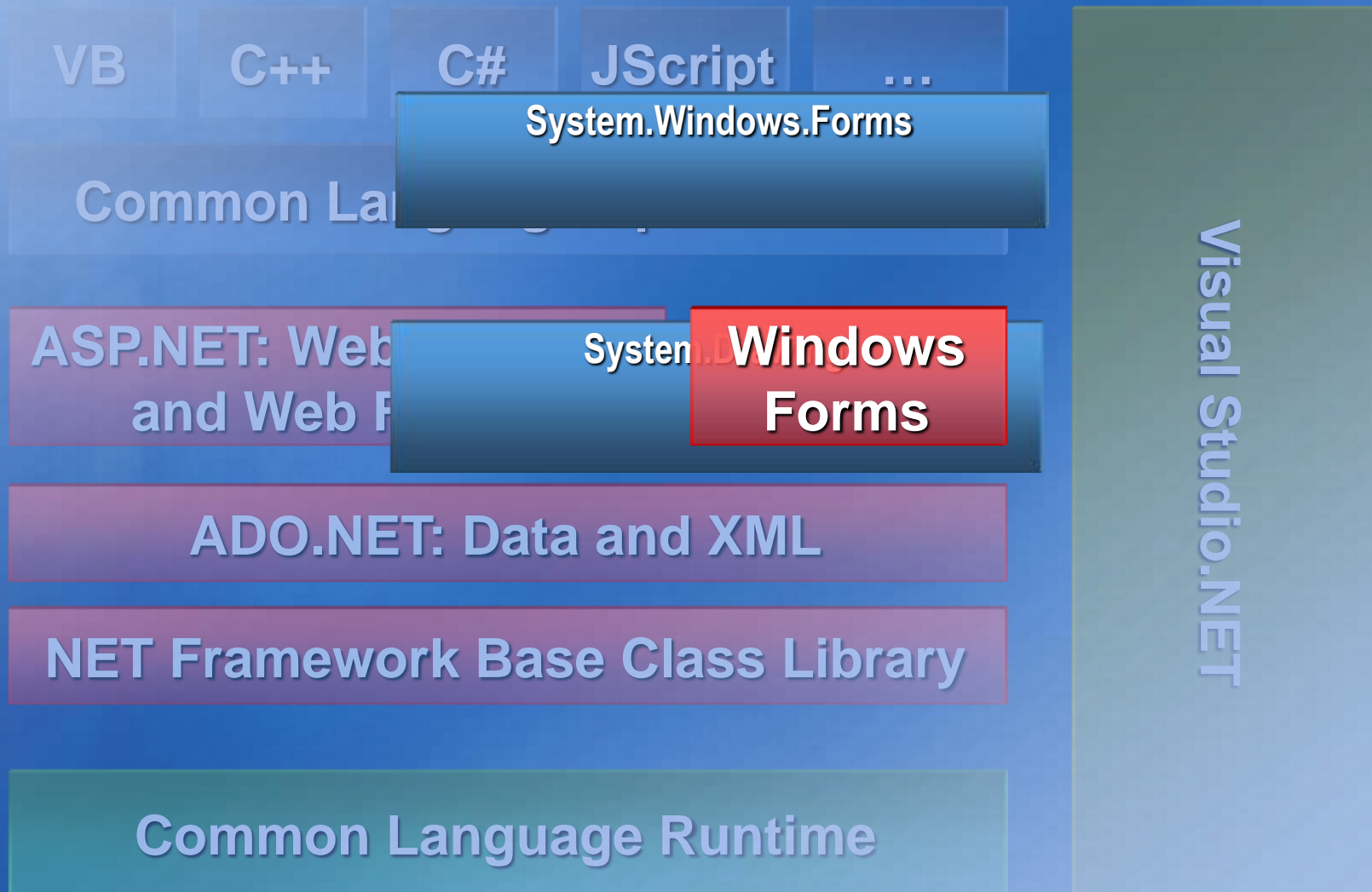
NET Framework Base Class Library

Common Language Runtime

# .NET Framework & Visual Studio.NET



# .NET Framework & Visual Studio.NET

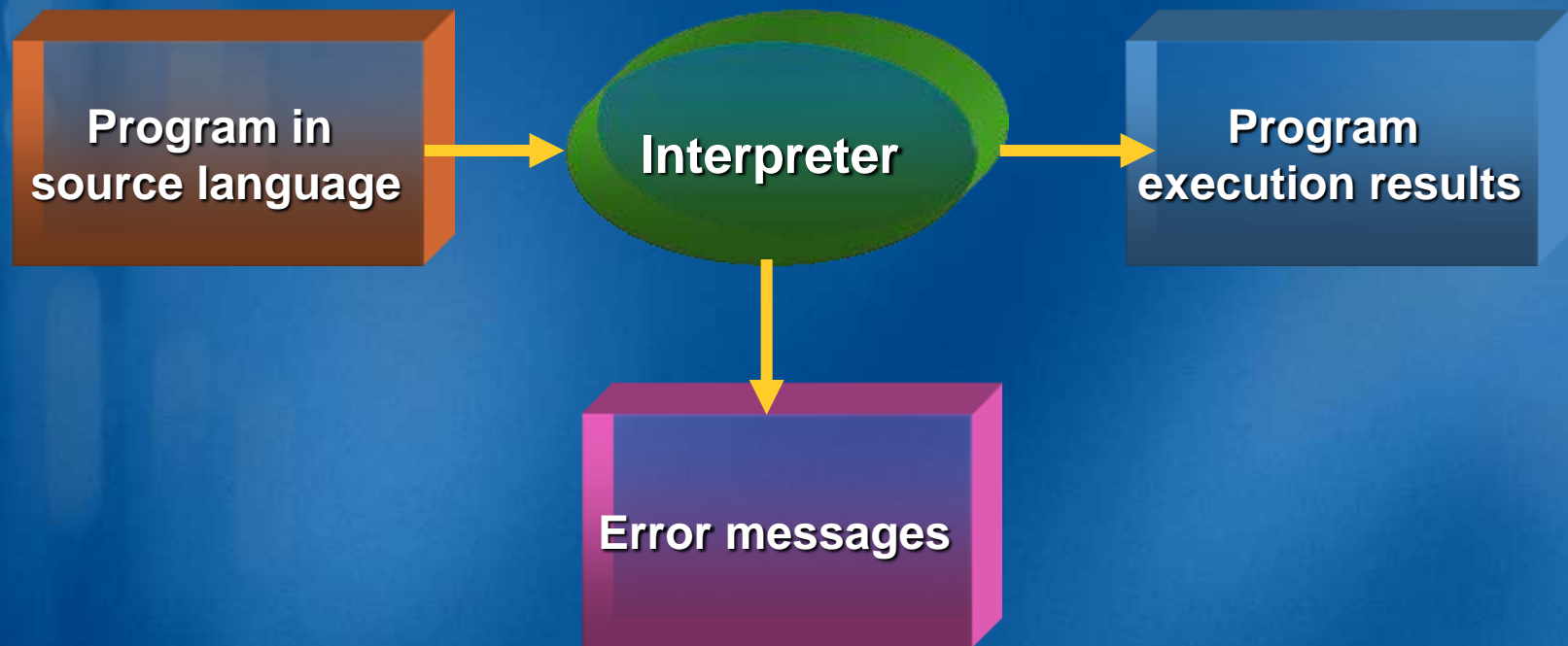




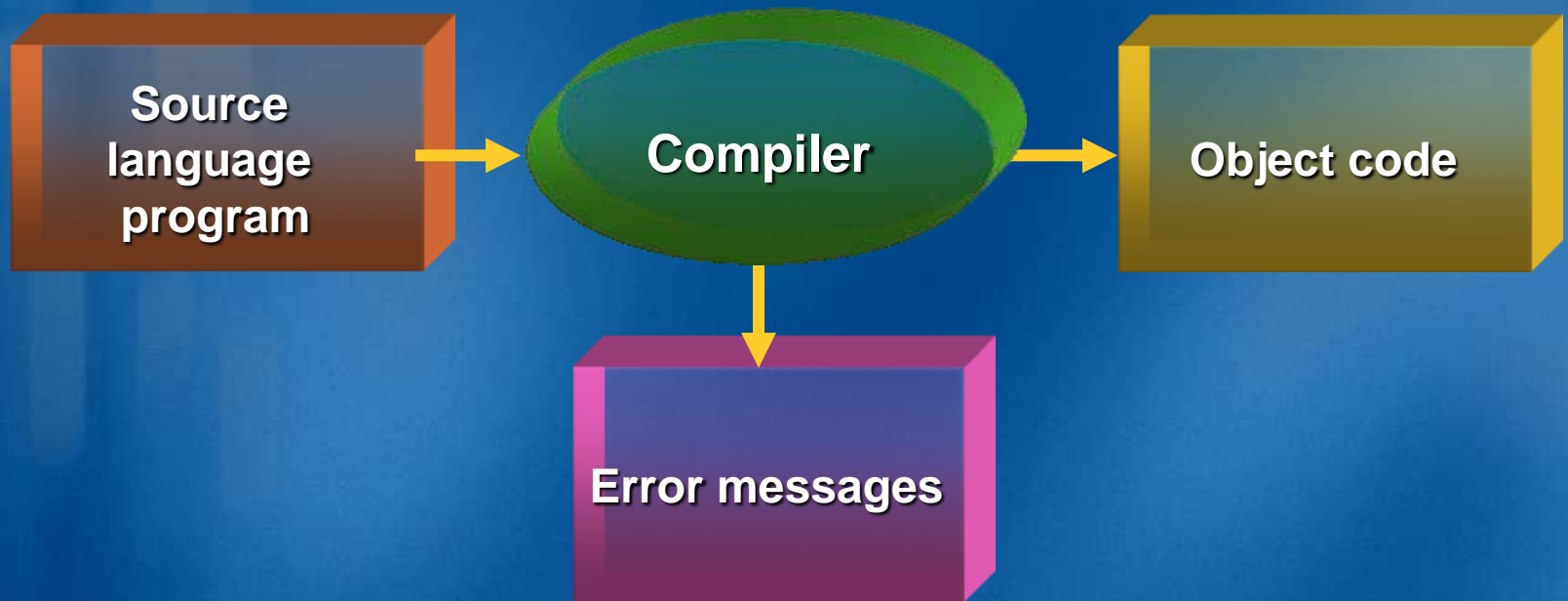
# Các ngôn ngữ hỗ trợ .NET

- ◆ Visual Basic
- ◆ C#
- ◆ Jscript
- ◆ C++
- ◆ Visual J#
- ◆ Perl
- ◆ Python
- ◆ COBOL
- ◆ Haskell
- ◆ ML
- ◆ Ada
- ◆ Pascal
- ◆ C
- ◆ SmallTalk
- ◆ Oberon
- ◆ Scheme
- ◆ Mercury
- ◆ APL
- ◆ Eiffel
- ◆ Oz
- ◆ Objective Caml

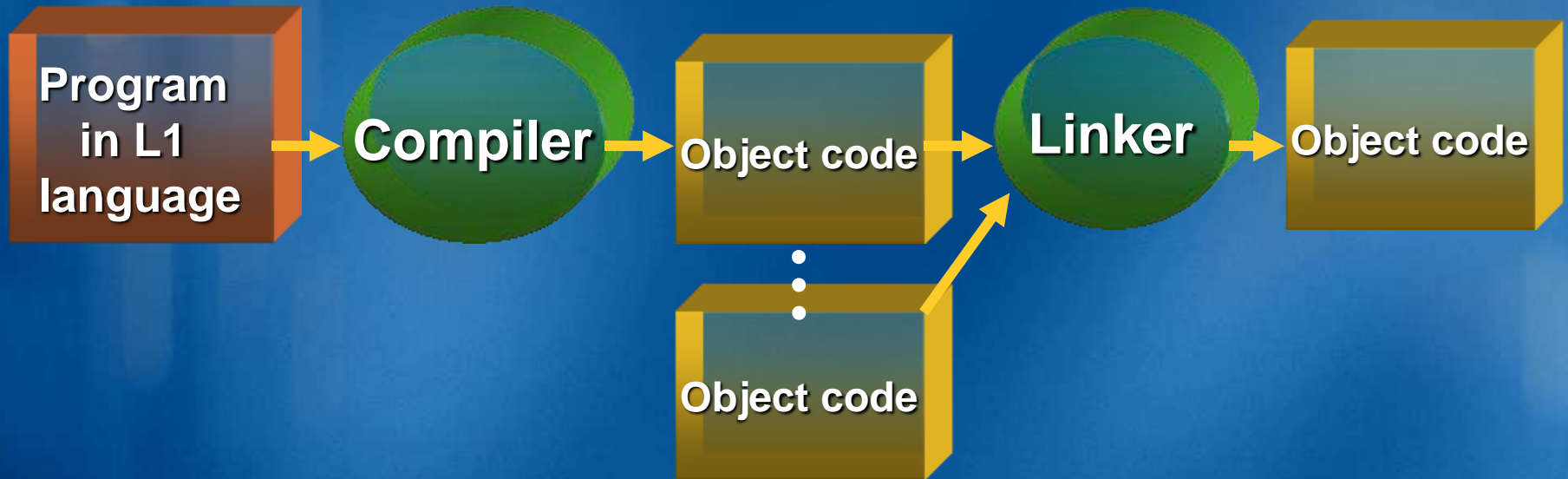
# Quá trình thông dịch



# Quá trình biên dịch

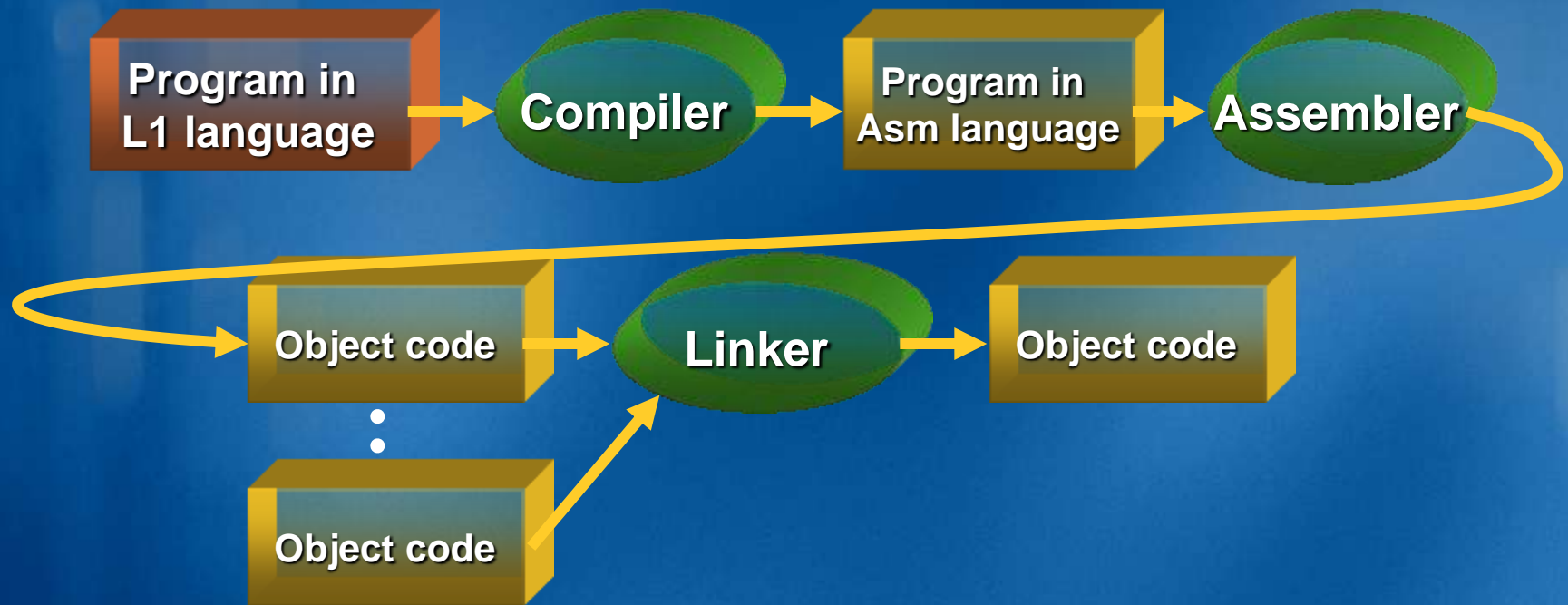


# Object code

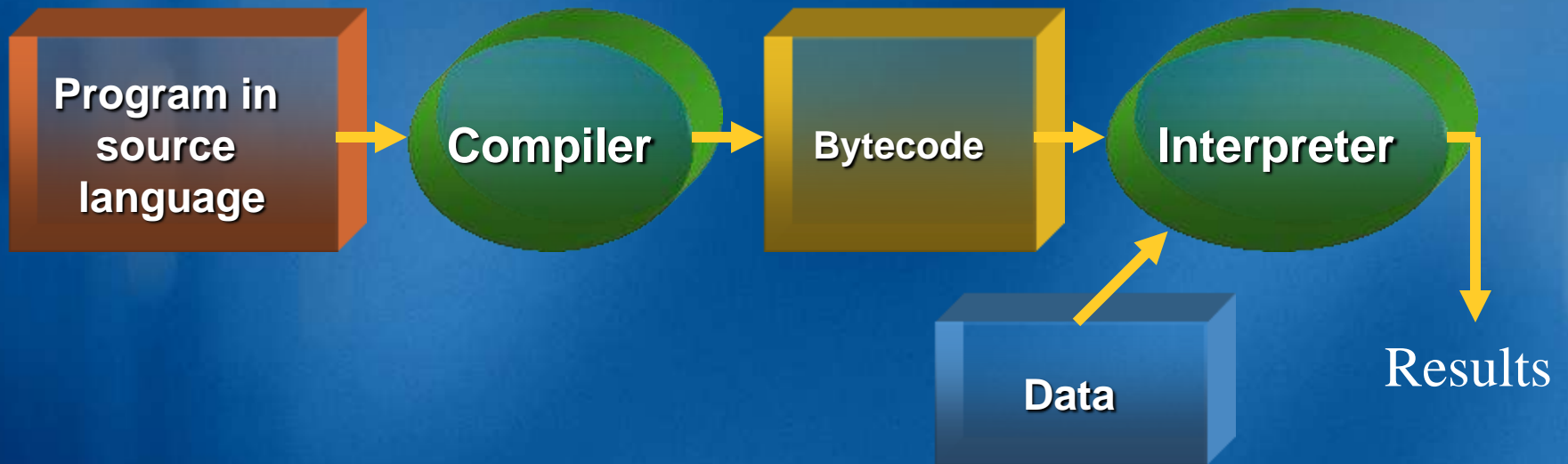




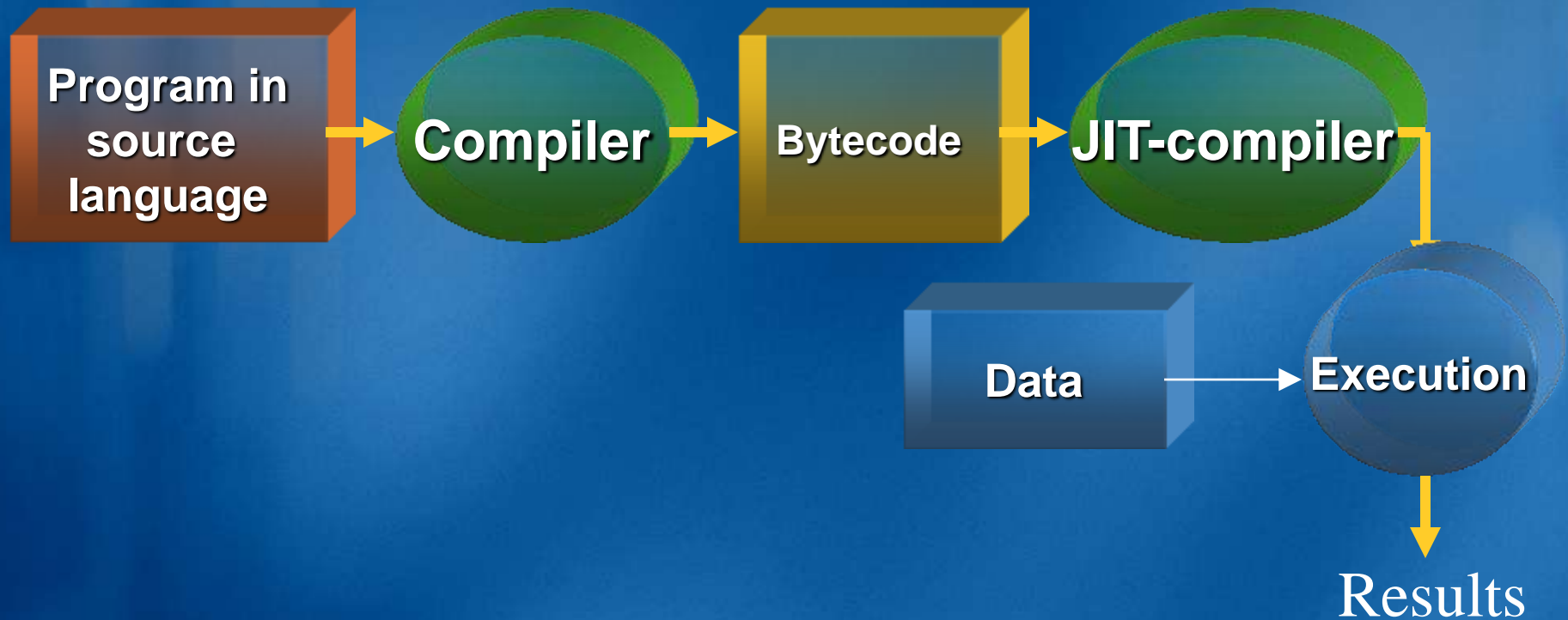
# Dịch sang hợp ngữ



# Máy ảo



# Biên dịch Just-in-time



# Mô hình thực thi trong Microsoft .NET

