

LA CISD Tech Day

Presented by: Microsoft

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A green right-angled triangle is located in the bottom right corner of the slide.

Agenda



Introduction



Some Q & A

- What roles do you represent?
- Areas of expertise - .net?
- How many are on Facebook?

History of Computing

"I wish to God these calculations had been executed by steam."





As software has evolved
basic functions = plumbing,
advanced (intelligent) functions
have moved up.

Emergence of Frameworks



Which framework are you?



Why frameworks are like TVs?



The .Net Framework Journey

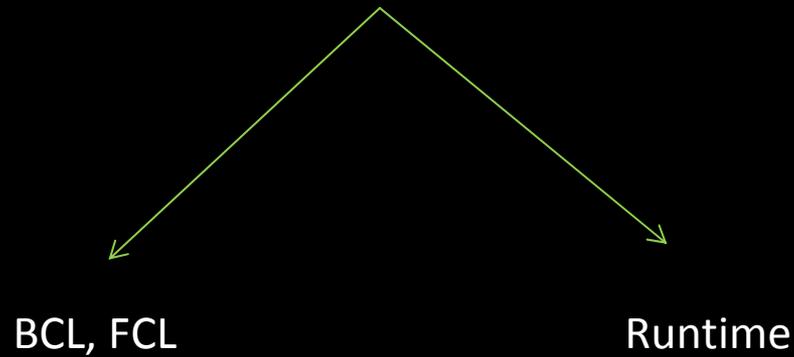
When did it start?

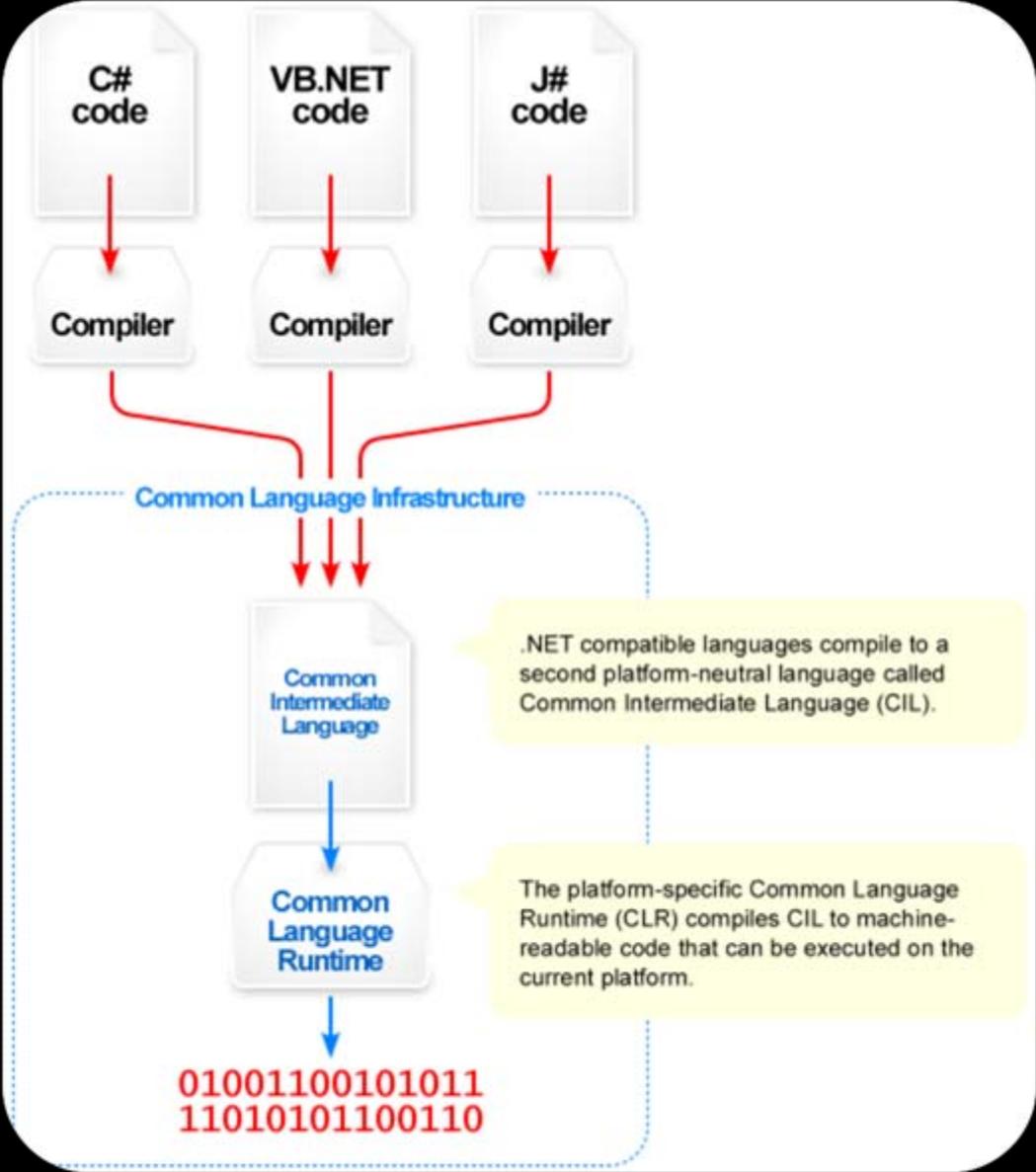


Speed Dating

Year	Version
2000/2001	Beta
2002	1.0
2005	2.0
2006	3.0
2007	3.5
2009	4.0

What is .Net?

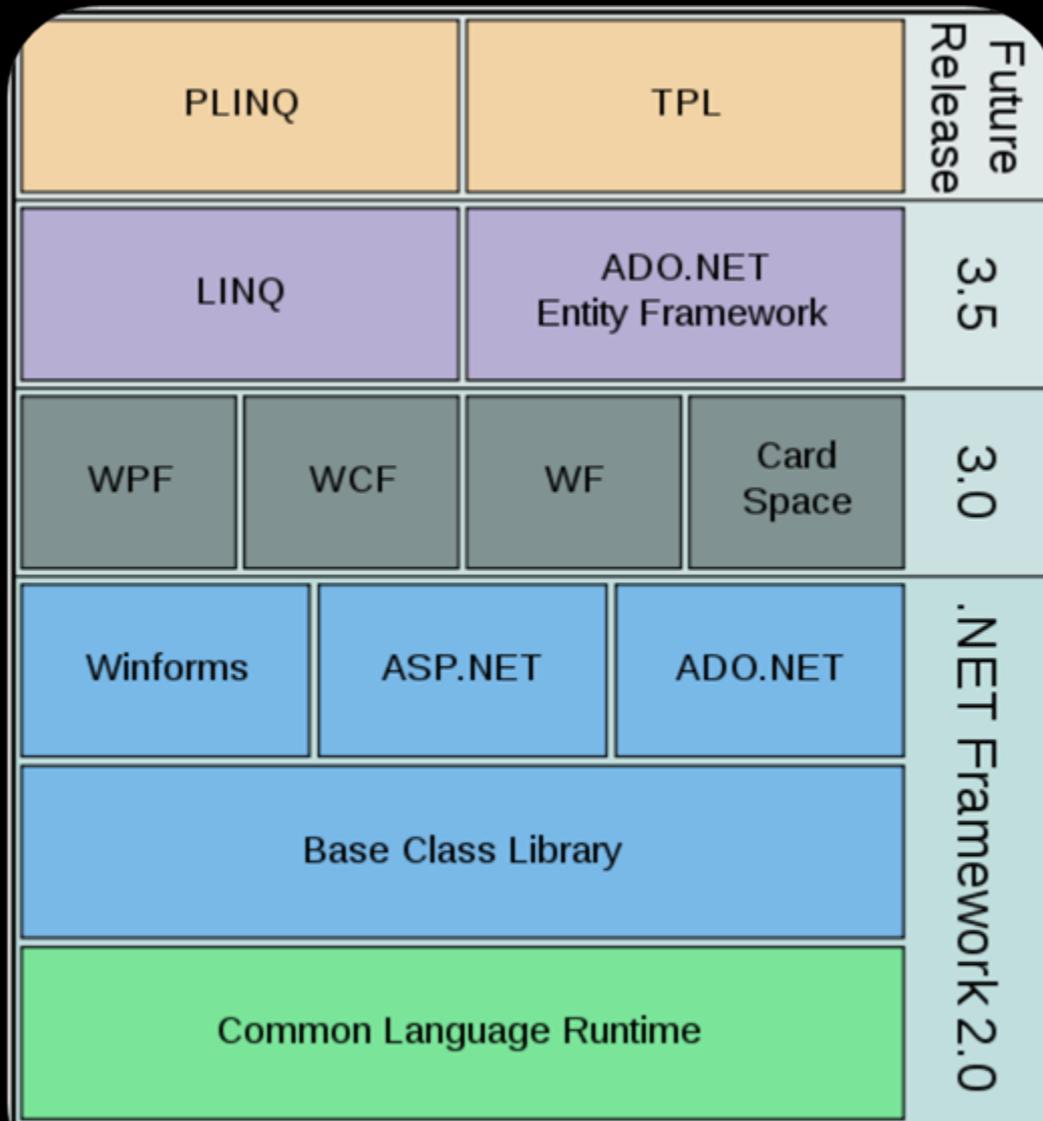




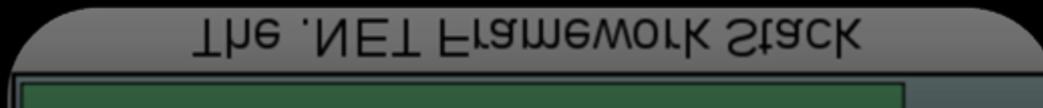
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Why upgrade?

- Enhancements & Improvements
 - Security
 - Language Improvements
 - Tools
 - Support
 - Rewriting Existing Apps
 - Cost of maintenance > Cost of rewriting
 - Standardizing/Migrating to platform
- 



The .NET Framework Stack



Development of UI technology @ Microsoft

Raw to Ruby to Trident to WinForms to WPF

Hello World – User32 (50 LoC); WinForms (10 LoC); WPF (10 LoC)



Let's extol WPF

Comprehensive (Media), Platform, Imperative (code), Declarative (markup)



Markup

XAML = eXtensible Application
Markup Language

initialize objects in XML

separate content from code

XAML elements <-> .net types



Microsoft®
Silverlight™



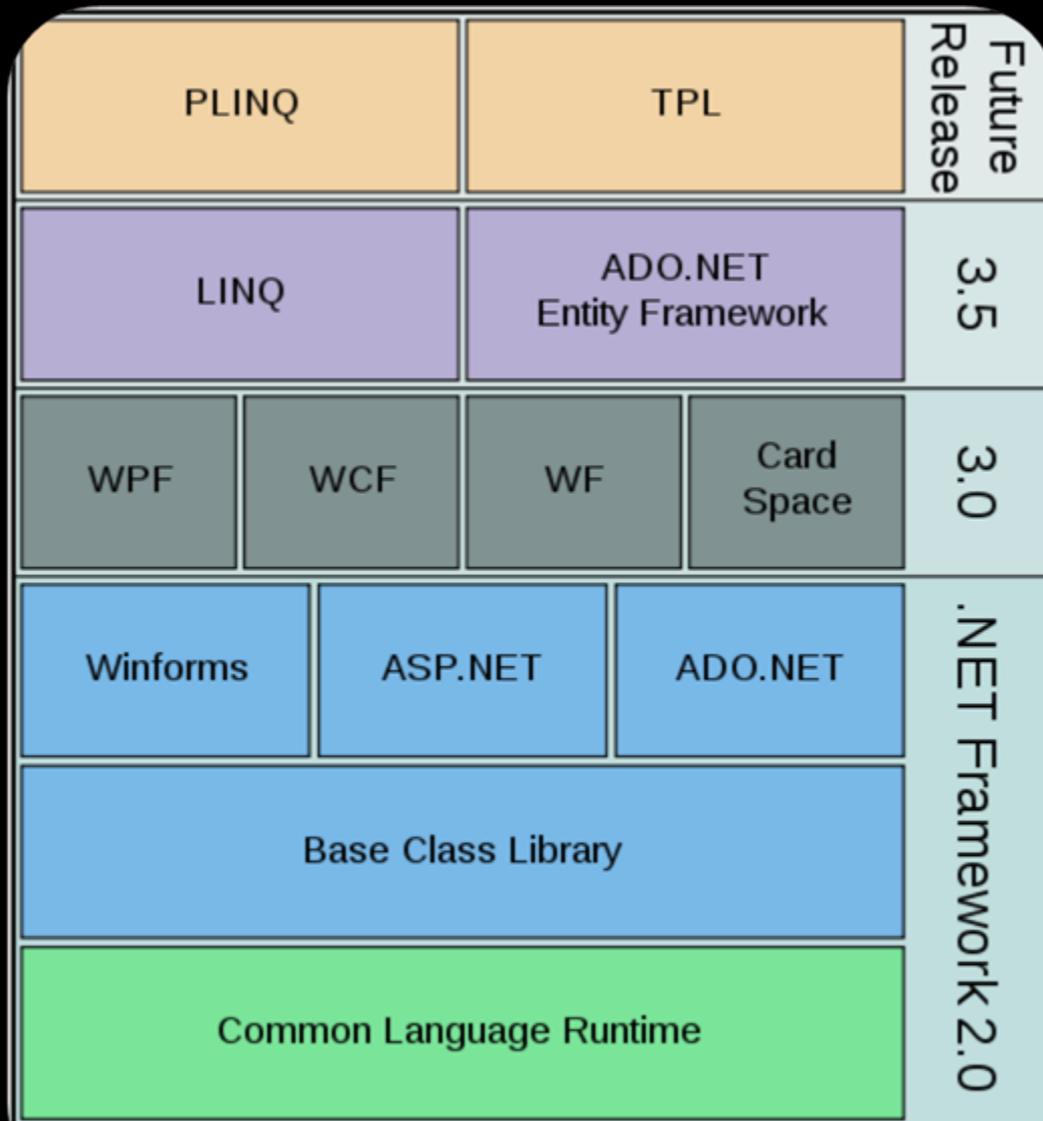
March Madness on Demand

CBSsports.com will be providing live coverage of the NCAA Men's Basketball Tournament using Silverlight.

NCAA Men's Basketball Tournament using Silverlight.
CBSsports.com will be providing live coverage of the

March Madness on Demand





The .NET Framework Stack

The .NET Framework Stack



Application Lifecycle Management

Visual Studio Team System

A green right-angled triangle is located in the bottom right corner of the slide, pointing towards the top-left.

Top Boring/Hated Activities

#1 = ?

#2 = ?



Top Boring/Hated Activities

#1 = Process

#2 = Meetings

Guidance for Developers.

Please document everything.

[Must include heart rate, pulse, perspiration]

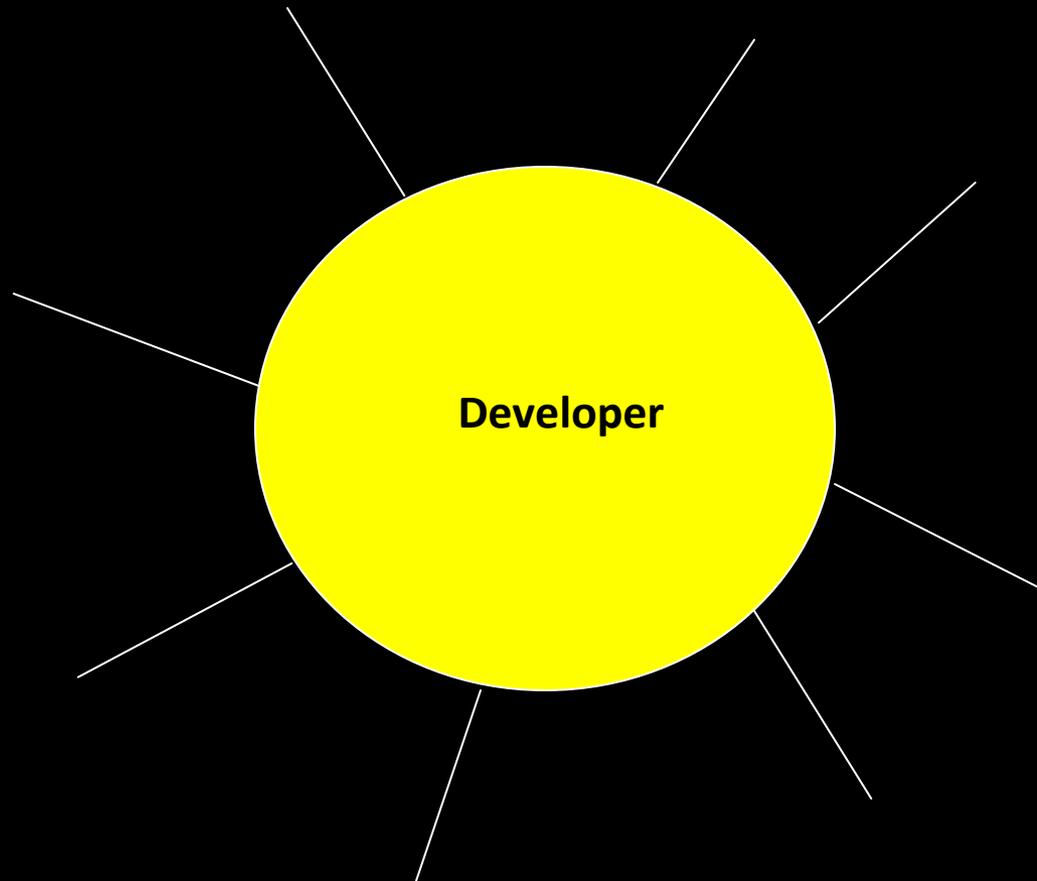
Kam, it's been 73 seconds since the last meeting. What progress has been made?

Roles in VSTS

TFS (C & C hub)

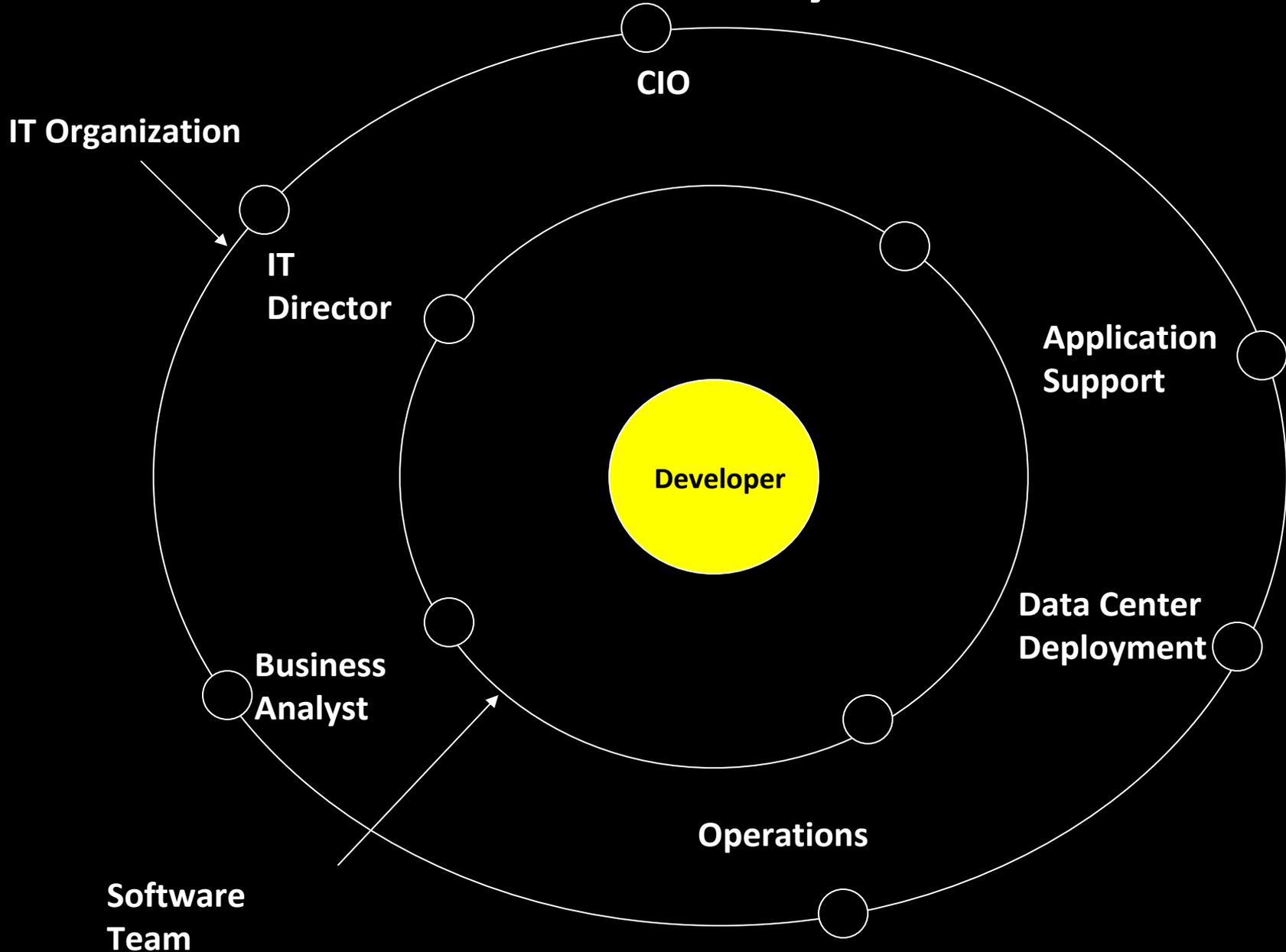


IT is a solar system



Focus of Visual Studio 2003 and previous versions

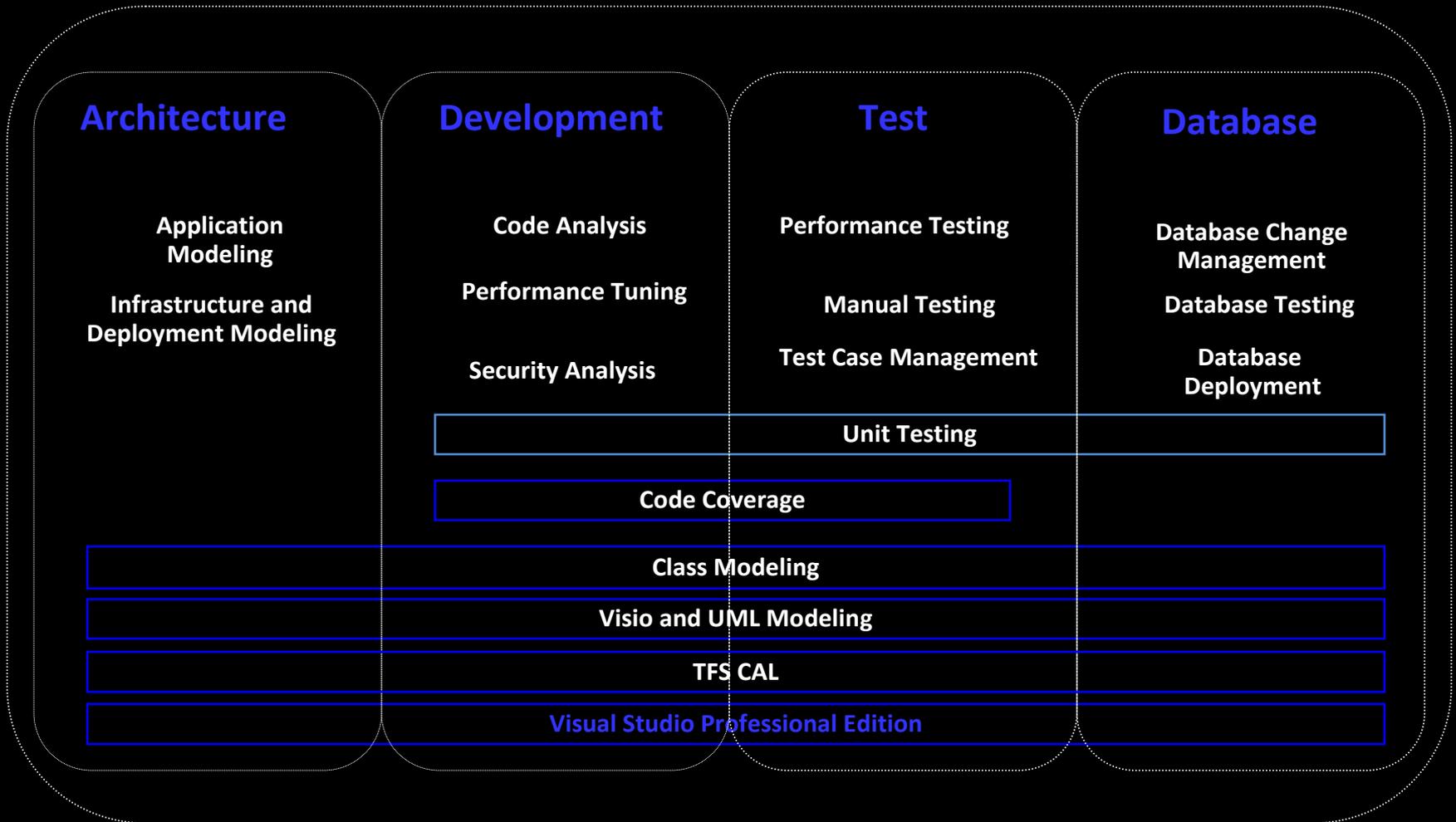
IT is a solar system





Visual Studio Team System

Team Suite



TFS Architecture

Client Tier



Visual
Studio
2005



Office
Products
(Excel, Project)



Others

Team Foundation Client API

Application Tier

TF Integration
Services

Team Portal

Team
Reporting

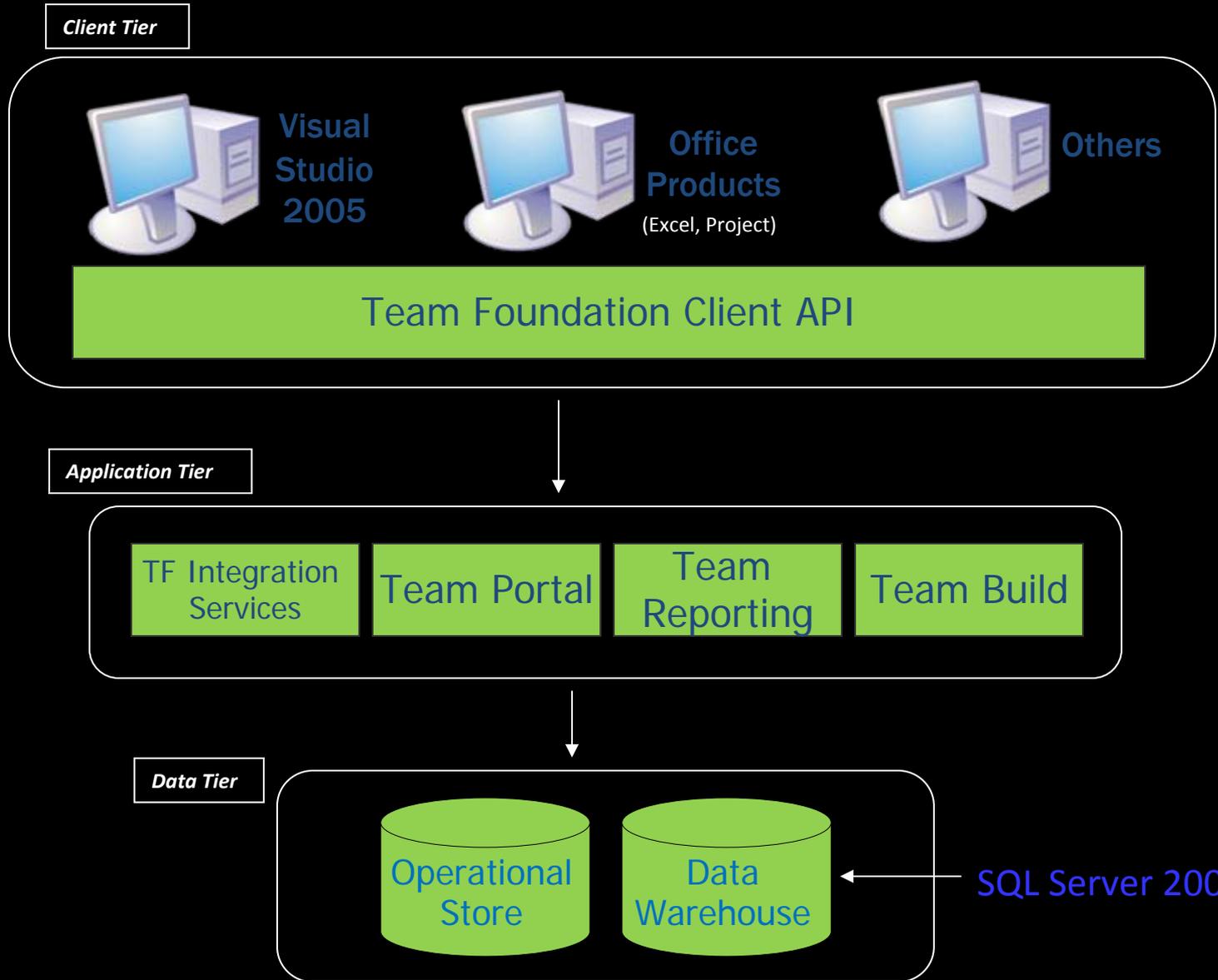
Team Build

Data Tier

Operational
Store

Data
Warehouse

SQL Server 2005





Architecture

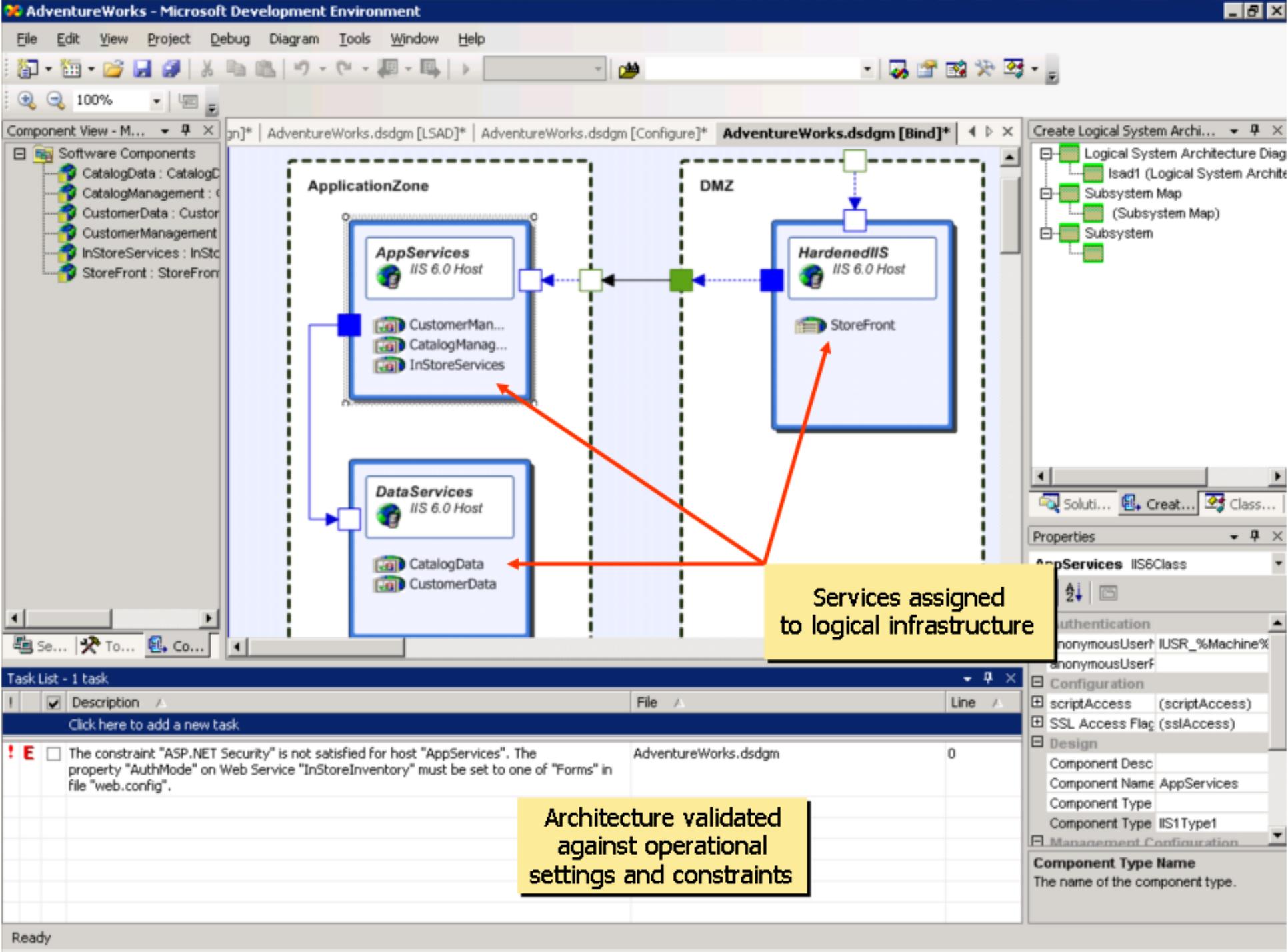
Your Needs

- Design
 - Applications, Infrastructure
- Communicate design
- Constraints & settings
- Ensure deployment
 - Deployment Report

- *Sleep*

Visual Studio

- Logical Datacenter Designer
- Application Designer
- Deployment Designer
- Class Designer



Services assigned to logical infrastructure

Architecture validated against operational settings and constraints



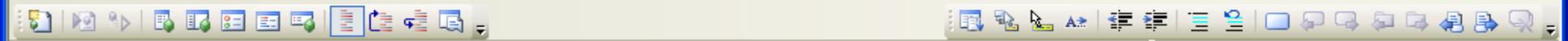
Developer

Your Needs

- Understand design
- Write better code
- No duplication
- Reports (Bug, Build)
- Builds
- Self-evaluation
- *Coffee*

Visual Studio

- Class Designer
 - 2-way code sync
- Static Analysis
- Code Profiling
- Code Coverage
- Unit Testing
- TDD (Test-Driven Development)
- Automated Build



LuhnValidator.cs CreditCardValidatorTest.cs

CreditCardValidation.LuhnValidator Validate(CardType cardType, string creditCardNumber)

```

// Fast path some validation
//
if (creditCardNumber.Length > _maxLength)
{
    return false;
}

//
// Credit card to validate
//
int[] number = new int[_maxLength];

int length = 0;
foreach (char c in creditCardNumber.ToCharArray())
{
    if (char.IsDigit(c))
    {
        number[length++] = (int)c - '0';
    }
}

//
// Validate based on card type

```

Test View

[All Columns] <Type keyword>

Item(s) selected: 1

Test Name	Project
LoadTest1	TestProject1
WebTest1	TestProject1
GetInventoryTest	TestProject1
ConstructorTest	TestProject1
GetInventoryTest1	TestProject1
ProcessOrderTest	TestProject1
ConstructorTest	TestProject1
SearchForProductsTest	TestProject1
LuhnValidationTest	TestProject1

Code Coverage Results

darwin@VSTSRC1 2006-03-24 17:19:21

Hierarchy	Not Covered (Blocks)	Not Covered (% Blocks)	Covered (Blocks)	Cove
CreditCardValidation	61	70.93 %	25	29
LuhnValidator	61	70.93 %	25	29
.ctor()	0	0.00 %	2	10
Validate(value type CreditCardValidation 61)		72.62 %	23	27



Tester

Your Needs

- Test the application
- Performance
- Integrate/Manage tests
- Record output
- Feedback loop - bugs

- *Fewer bugs*

Visual Studio

- Create Tests
 - Load tests
 - Web tests
 - Manual tests
 - Generic tests
- Test Reports
- Bug Tracking
- Test Run Configuration

Load Testing

Server Explorer

- public web site
 - Machines
 - edglas-It
 - Active Server Pe
 - Memory
 - Network Interfac
 - PhysicalDisk
 - Process
 - Processor
 - System
 - Threads
 - Processes
 - Context Switch
 - Processor O...



Solution Explorer - Solution '...

- ProductStatus.vb
- Store.vb
- Data
- HoldInventory.aspx
- Store.aspx
- ShoppingCartService
- TestCurrencyConverter
- TestShoppingCart
- TestStoreInventory
 - My Application
 - AssemblyInfo.vb
 - FindStore.webtest
 - HoldInventory.webtest
 - OrderFromStore.loadtest

Perf Counter integration and monitoring

Test Results - All Results

TestRun04 12/10/03 11:41:12:07 AM All Results By Category Filter Group By: (None) Customize... Filter By: (None)

Title	Result	Test Type
OrderFromStore	Completed	Load and Stress Test

All Runs Completed, No Tests Selected

Title	Owner
TestAddMethod	Mort Gain
TestAdd_PriceProperty	Mort Gain
TestSearchMethod	Mort Gain
TestSubmitPaymentM	Mort Gain
Currency	Renee Da
SubmitOrder	Renee Da
TestFindMethod	Mort Gain
FindStore	Mort Gain
HoldInventory.webtest	Mort Gain
OrderFromStore	Mort Gain

Database

Your Needs

- DB Version Control
- Schema Compare
- Database Unit Testing
- Create/analyze scripts/queries
- *Collaborate*

Visual Studio

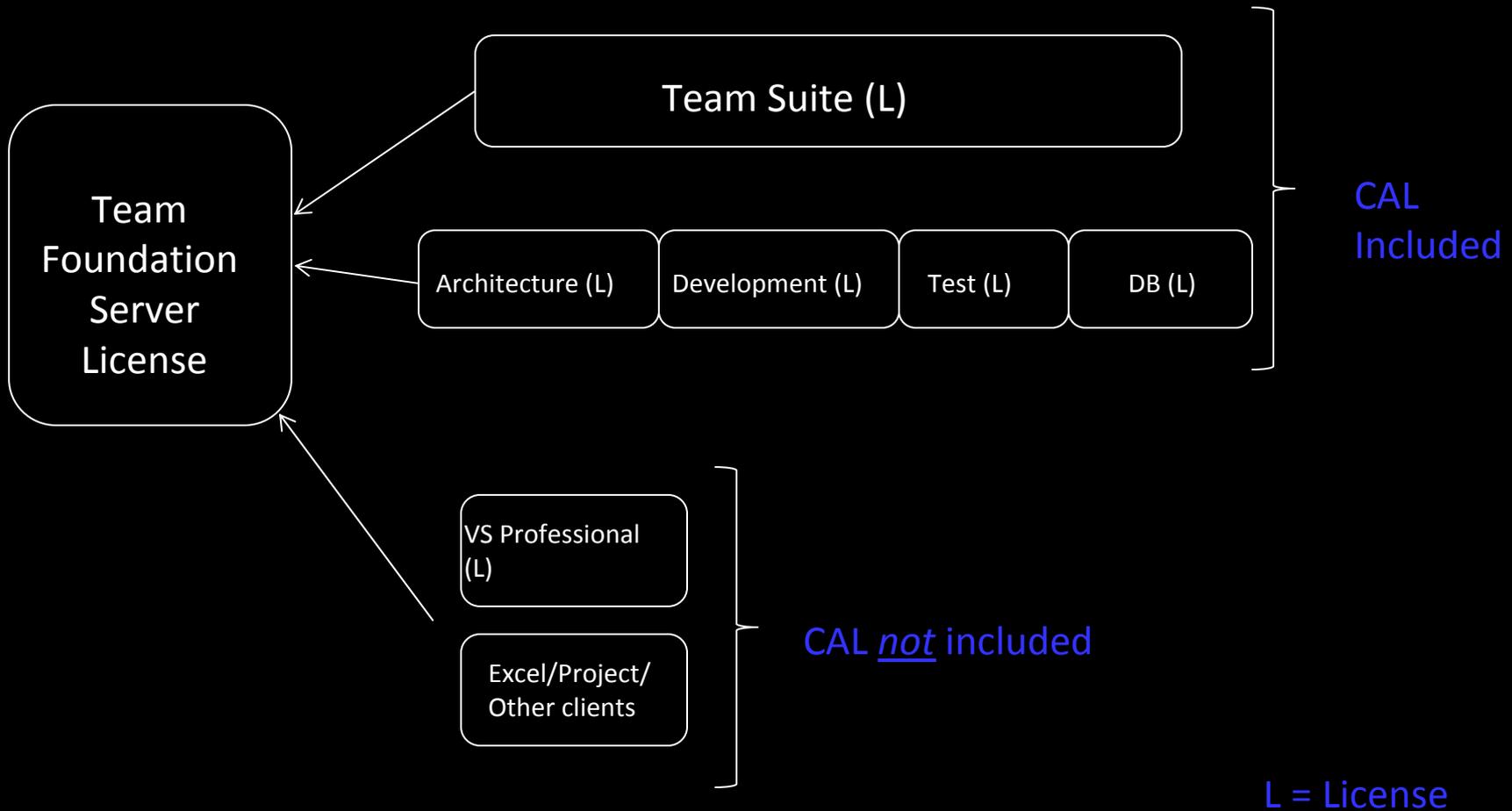
- Offline Schema Control
- Create Unit Tests
- Data generator
- T-SQL Editor
- Integration with TFS

	A	B	C	D	E	F	G	H	I	J
1	Project: AdventureworksCMMI Server: VSTSRC1 Query: All My Team Project Work Items									
2	ID	Title	Work Item Type	State						
3		Add Search Functionality to AdventureWorks	Requirement	Proposed						
4		Validate credit card numbers as they are entered	Requirement	Proposed						
5	*									
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List

List | Toggle Total Row

Licensing





Expression Web 2

Design tool to create modern, standards-based sites.



Expression Media 2

Management tool to catalog and organize all your digital assets.



Expression Blend™ 2

Create engaging experiences for Windows & Silverlight.



Expression Encoder 2

Encoding tool to produce live webcasts & publish with Silverlight.



Expression Studio 2

Make your vision real with Microsoft® Expression® Studio.



Expression Design 2

Illustration and graphic design tool.



Utility Computing

S+S



SaaS

Web 2.0

Virtualization

Azure Services Platform

 Live Services

 Microsoft
.NET Services

 Microsoft
SQL Services

Microsoft
SharePoint Services

Microsoft Dynamics
CRM Services

 Windows Azure™

Your Applications

 Microsoft
 .NET Services

Service
Bus

Workflow

Access
Control

...

 Microsoft
 SQL Services

Database

Analytics

Reporting

...

 Live Services

Identity

Contacts

...

Devices

...

Compute

Storage

Manage

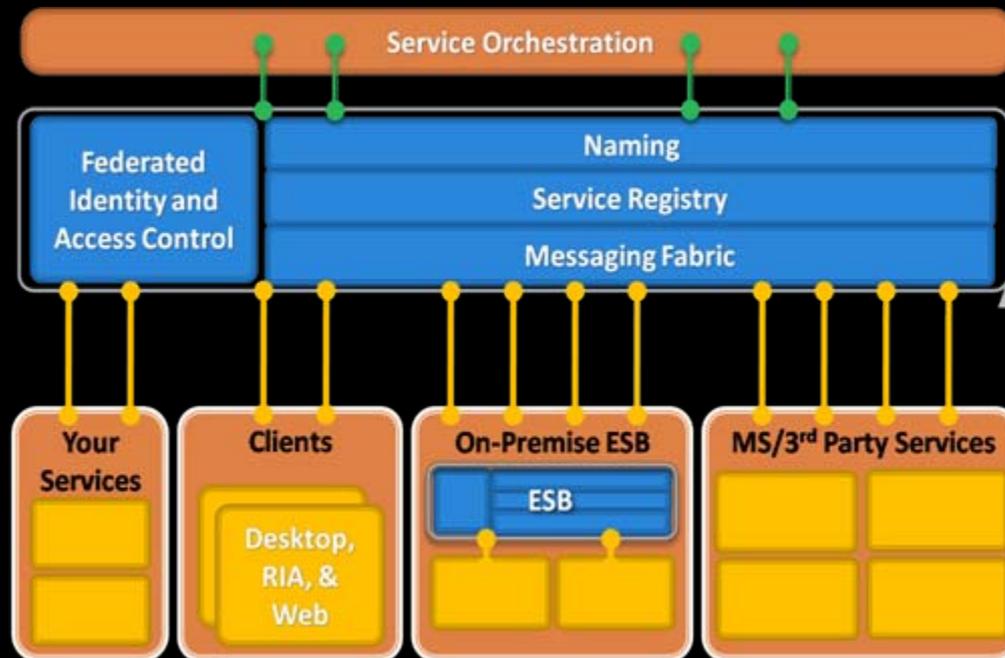
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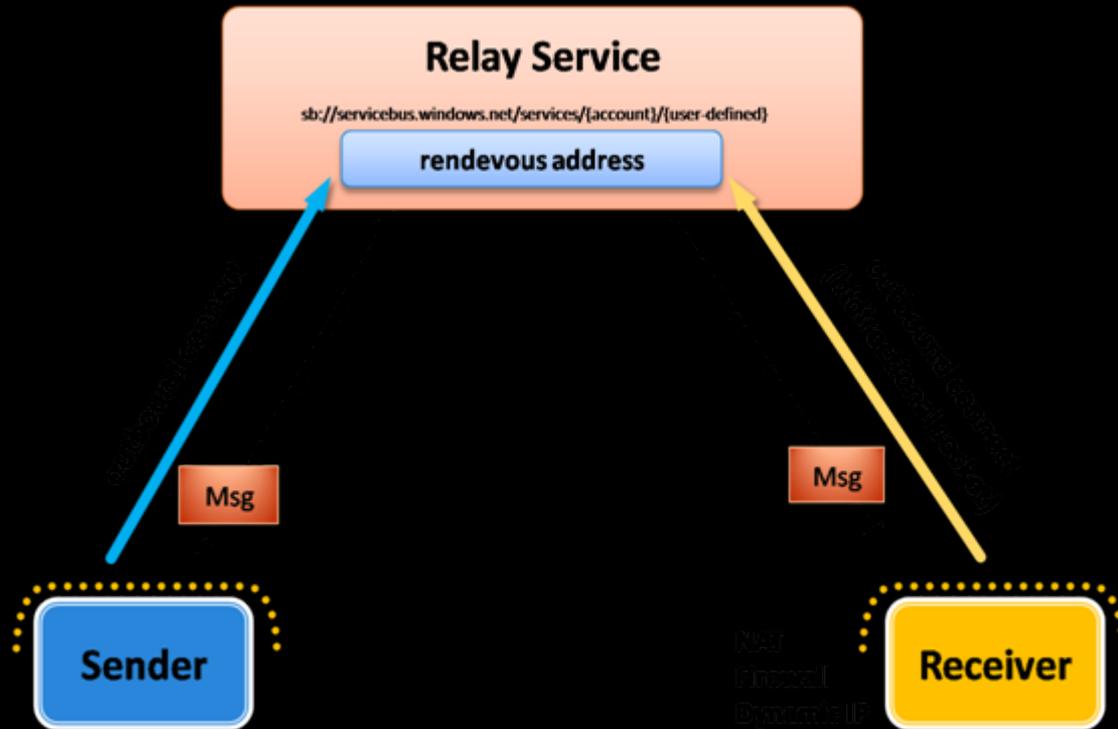
 Windows Azure™

Microsoft[®] .NET Services

Service Bus

Access Control





The 4 Magic Questions

- Degree of Isolation – OS or VM
- Level of resource consumption
- Degree of scale
- Level of control

To cloud or not

