

12.–15.09.2010
in Nürnberg



Herbstcampus

Wissenstransfer
par excellence



Hitparade

Visual Studio und Team Foundation Server 2010

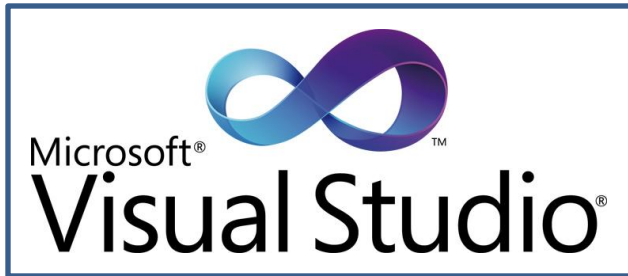
Beginn: 9:40

Referent: Neno Loje

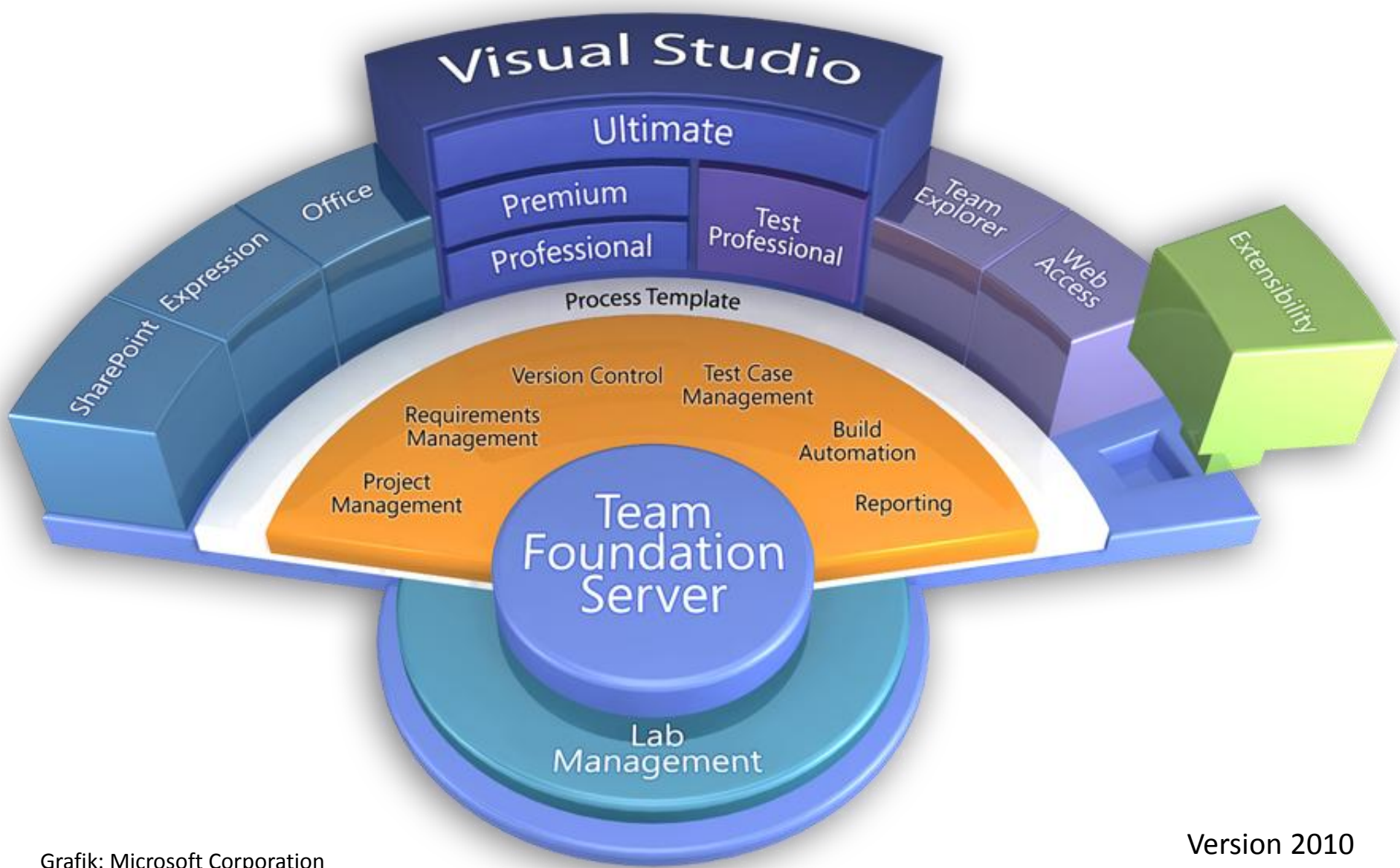
Freier Berater & MVP für Visual Studio ALM, TFS & Team System

www.teamsystempro.de





- Komplexität meistern
- "Code-Focused"
- Zusammenhänge verstehen
- "No More, No Repro"



 Microsoft®
Visual Studio® 2010
Ultimate



 Microsoft®
Visual Studio® 2010
Premium



 Microsoft®
Visual Studio® 2010
Professional



 Microsoft®
Visual Studio® 2010
Professional



Microsoft®

Visual Studio® Test Professional 2010

Microsoft Test Manager 2010

Test Case Management

Manual Testing

Team Explorer

Fast Forward for Manual Testing

Lab Mgmt Config.

Team Agents



Microsoft®

Visual Studio® Lab Management 2010

Virtual Env. Setup/Tear Down

Environment from Template

Checkpoint Environment



Microsoft®

Visual Studio® Team Foundation Server 2010

Version Control

Gated Check-in

Reporting

Build Automation

Branch Visualization

Test Case Management

Agile Planning Tools

Team Portal

Agenda

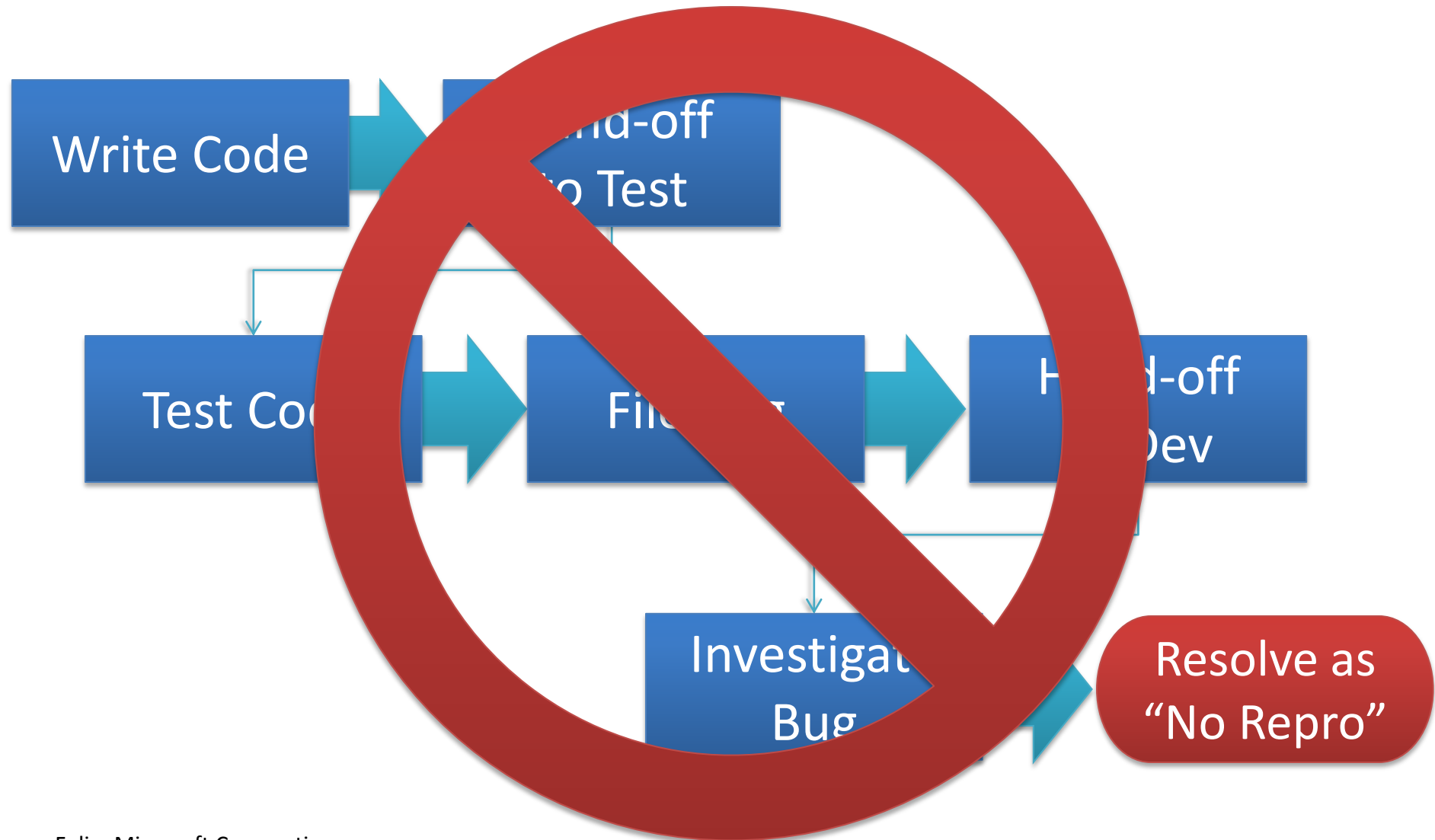
- Einleitung
- Highlight 1
- Highlight 2
- Highlight 3
- Highlight 4
- Highlight 5
- Highlight 6

DEMO

Tour durch die Visual Studio 2010-IDE

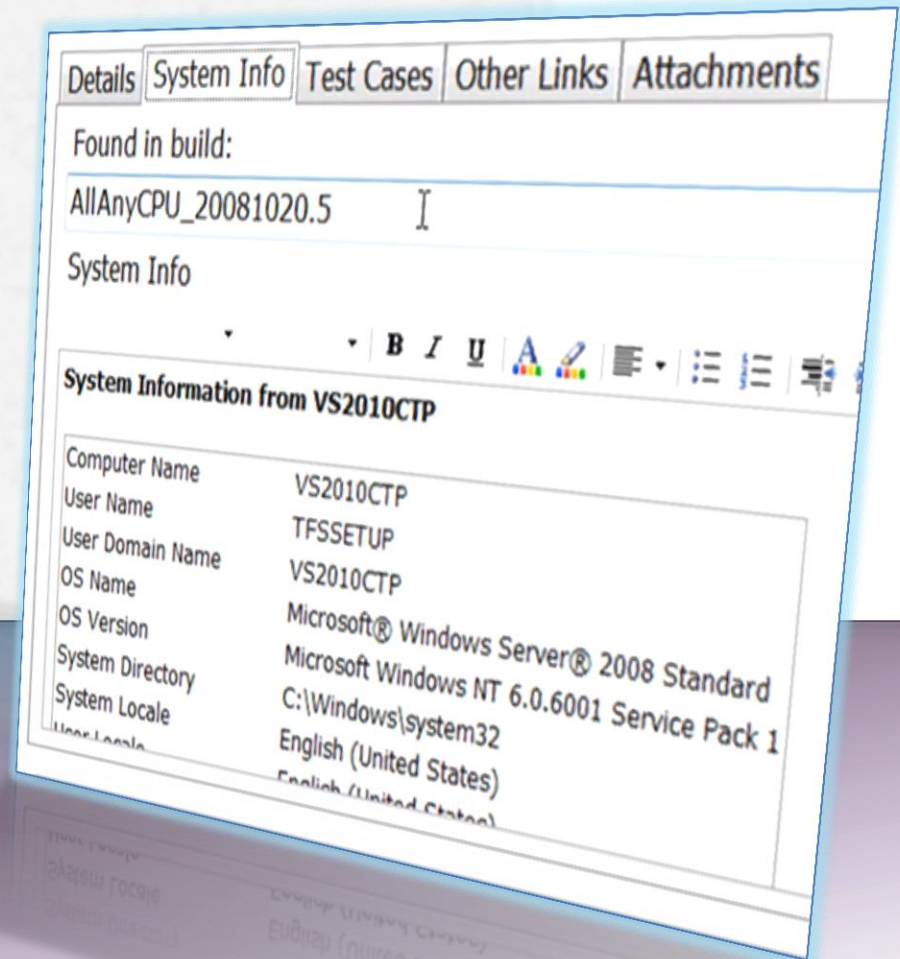
"No More No Repro"

It Works on My Machine!



A Better Solution – The Actionable Bug

- The tester files an “actionable” bug which includes:
 - Steps to reproduce
 - System information
 - Screen shots
 - Full screen video, indexed
 - IntelliTrace debug log
 - Test environment

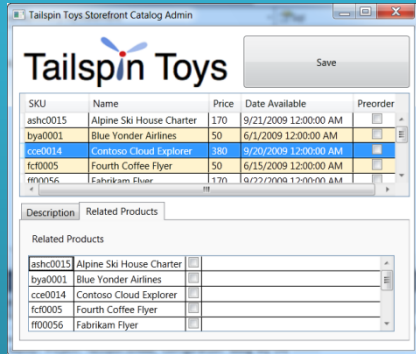


IntelliTrace®

Highlight #1

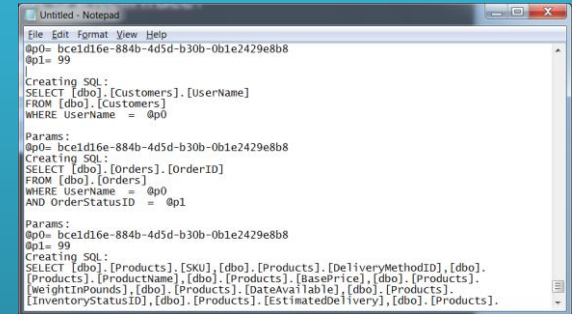
What is IntelliTrace?

Today



```
Debug.WriteLine("Creating SQL: ");
Debug.WriteLine(sb.ToString());

Debug.WriteLine("Params: ");
foreach (var p in paramQueue) {
    Debug.WriteLine(p.Key + " = " + p.Value);
}
```

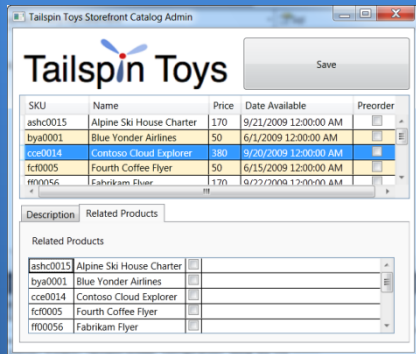


Application

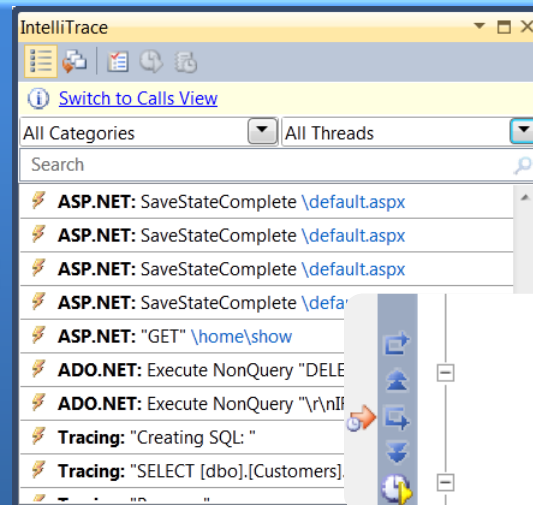
Instrumentation

Log File

IntelliTrace



IntelliTrace



- Record
- Playback
- Rewind

```
/// Adds a product to the
/// </summary>
public void AddItem(Product
    AddItem(product, 1);
}
/// <summary>
```

DEMO

Hello World mit IntelliTrace®

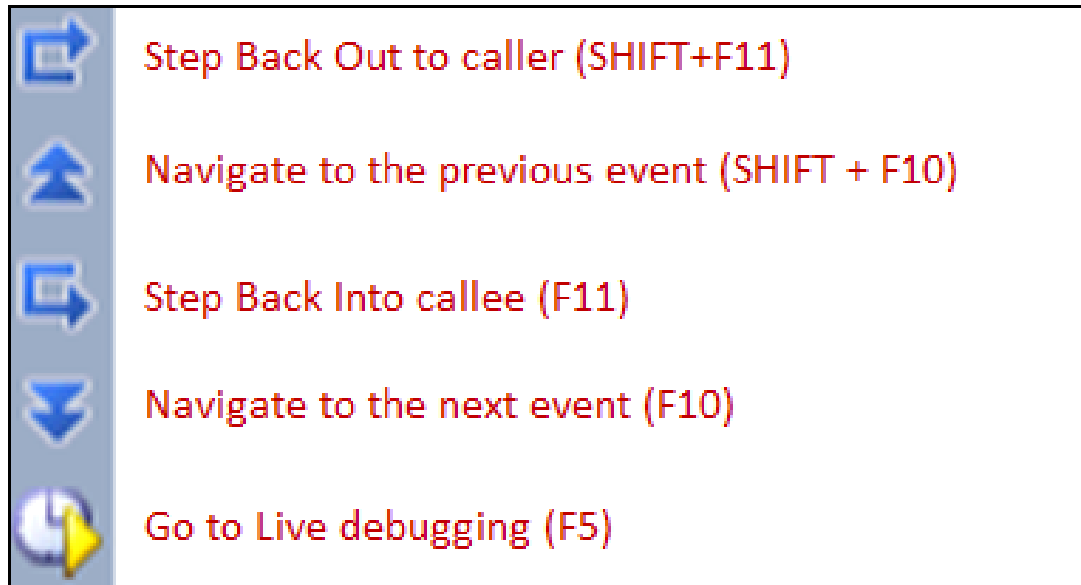
IntelliTrace[®]

- Aufnehmen
- Abspielen
- Zurückspulen

IntelliTrace[®]

- Aufnehmen
 - Visual Studio 2010
 - Microsoft Test Manager (MTM)
- Abspielen
 - Visual Studio 2010
- Zurückspulen
 - Visual Studio 2010

IntelliTrace Navigation Bar

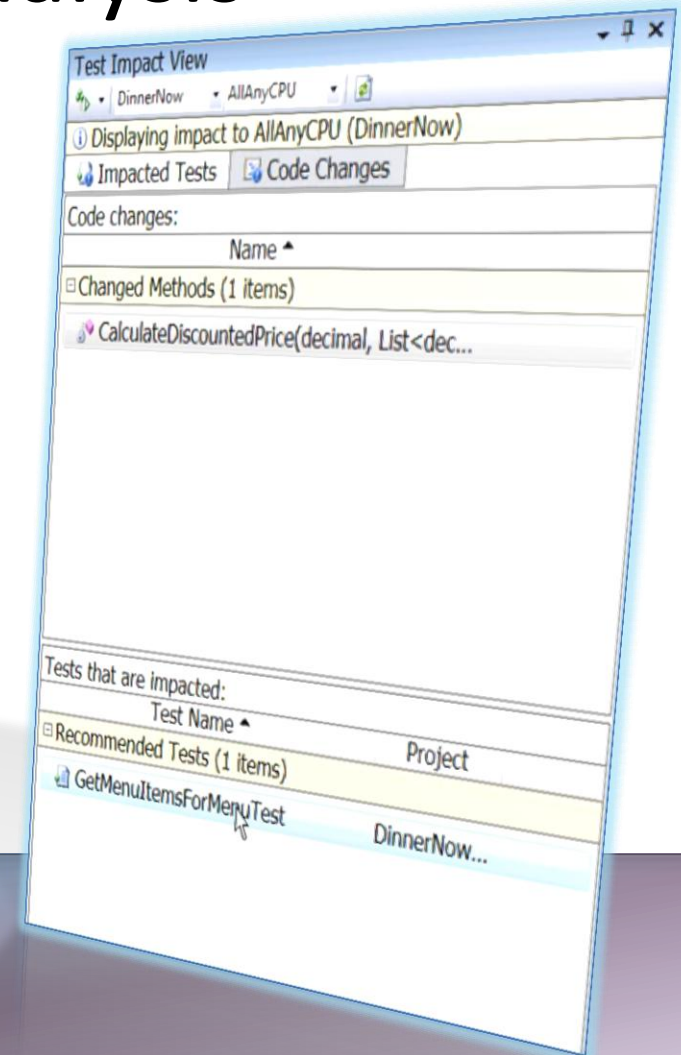


Test Impact Analysis

Highlight #2

Test Impact Analysis

- Works with Code Coverage data in TFS.
- Compares code changes with coverage data.
- Recommends tests to run based on coverage impacted.



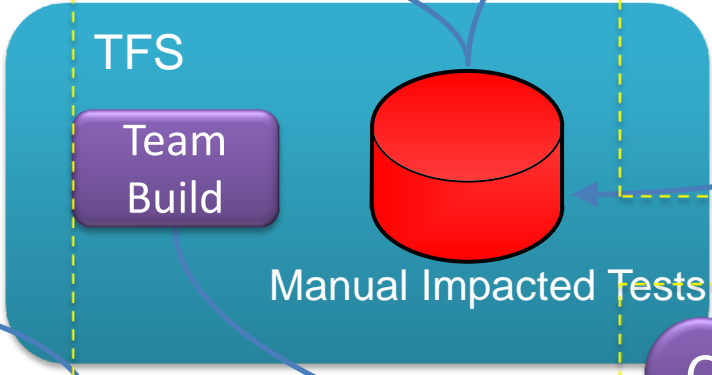
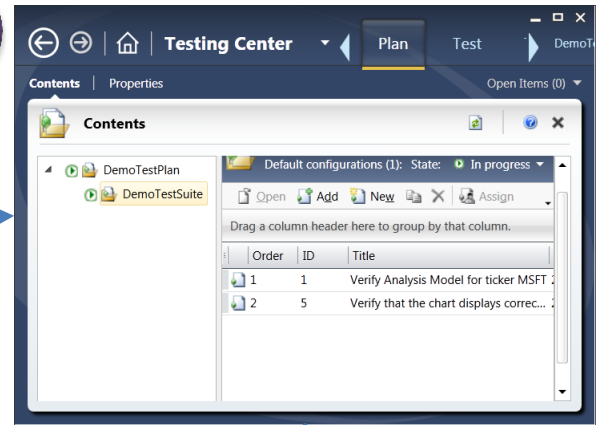
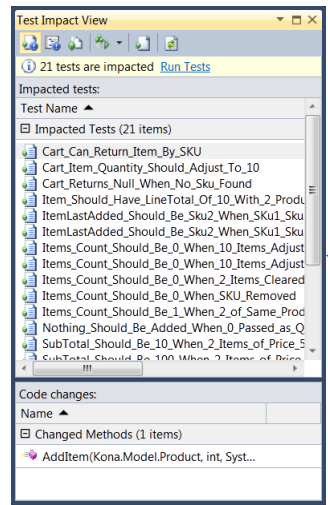
DEMO

Test Impact Analysis in Aktion

How Test Impact Analysis Works

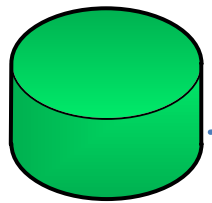
A

B



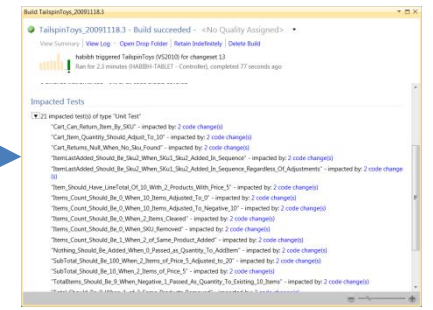
Test Impact View

Microsoft Test Manager



Automated Impacted Tests

C



Team Build Report

Branching Visualization

Highlight #3

Complexities with Parallel Development

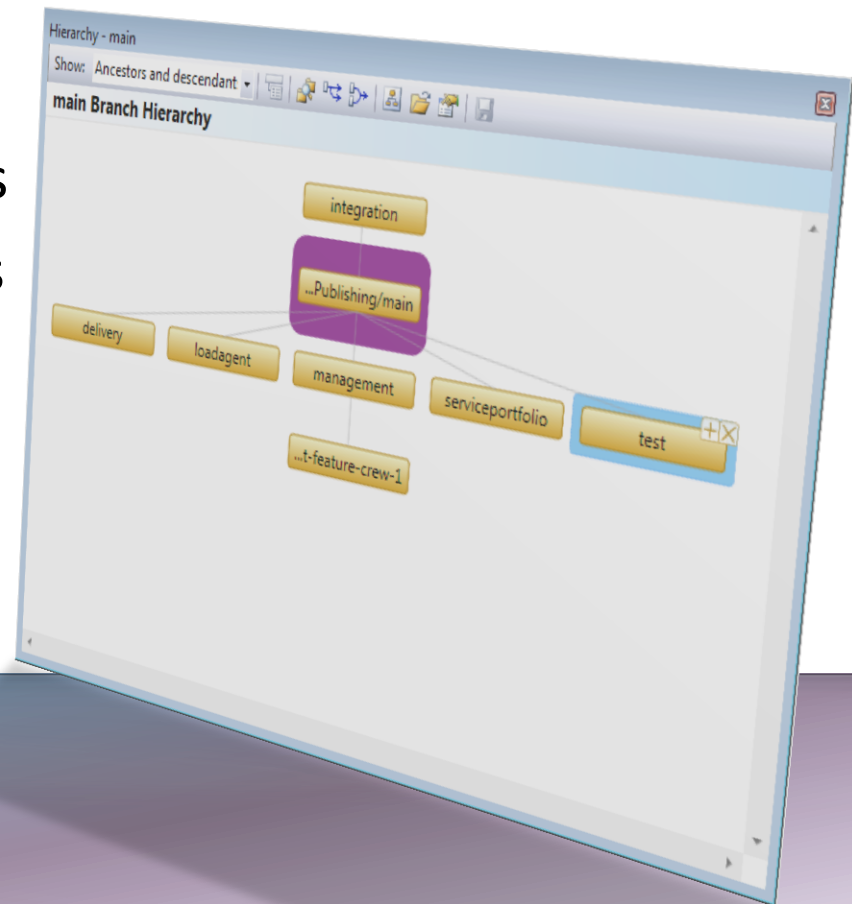
- Which branches contain my change?
- Which builds contain my change?
- Where did this change originate?
- What is the purpose of this branch?
- How are these branches related?
- Who is in charge of this branch?

DEMO

Änderungen nachvollziehen im TFS 2010

No More Parallel Development Pain

- First class branches
- Server-side branch creation
- Visualize branch relationships
- Track change across branches
 - History
 - Timeline
 - Richer Annotate
- Conflict resolution



Multi-Tier Profiling

Highlight #4

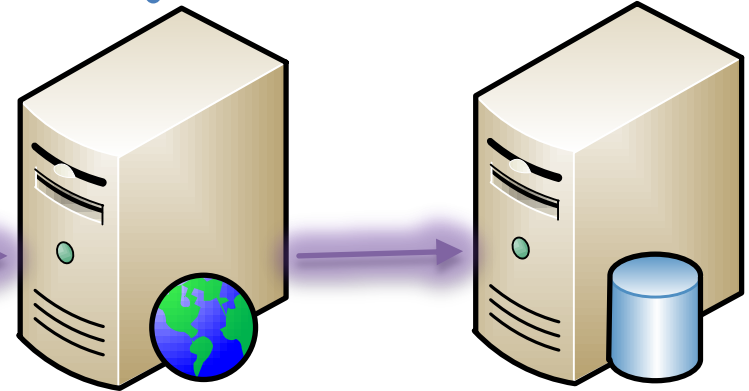
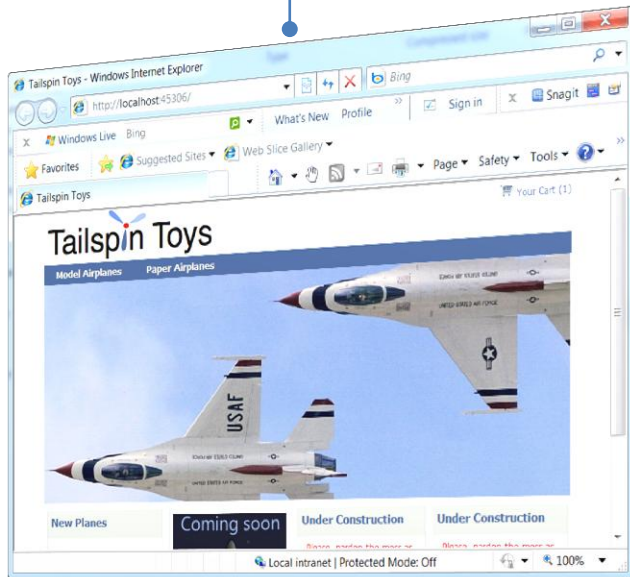
Multi-Tier Performance Analysis

```
function populateState() {  
    var selObj = document.getElementById('stateSelect');  
    var foundState = false;  
    // Empty options just in case new drop down is shorter  
    if ( selObj.type == 'select-one' ) {  
        for (var i = 0; i < selObj.options.length; i++) {  
            selObj.options[i] = null;  
        }  
    }  
}
```

Client-side Script

```
public ShoppingCartItem FindItem(Product product) {  
    //see if this item is in the cart already  
    return (from items in Items  
            where items.Product.Equals(product)  
            select items).SingleOrDefault();  
}
```

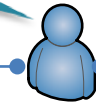
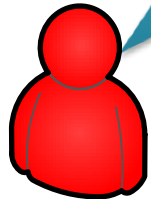
Database calls



Multi-Tier Performance Analysis

User: "Why is it taking so long to load the Orders page?"

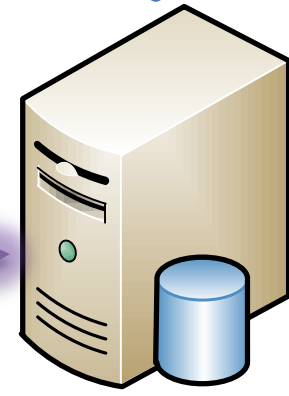
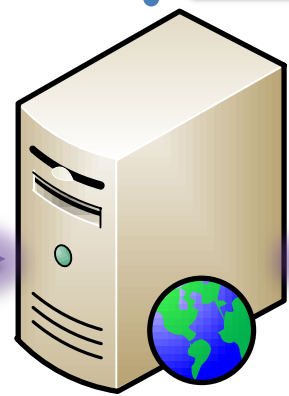
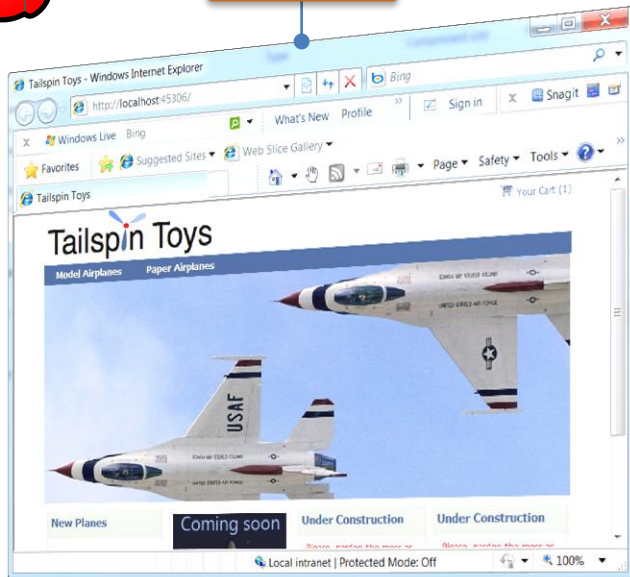
Developer: "I wonder where the problem could be???"



Front End?

Mid Tier?

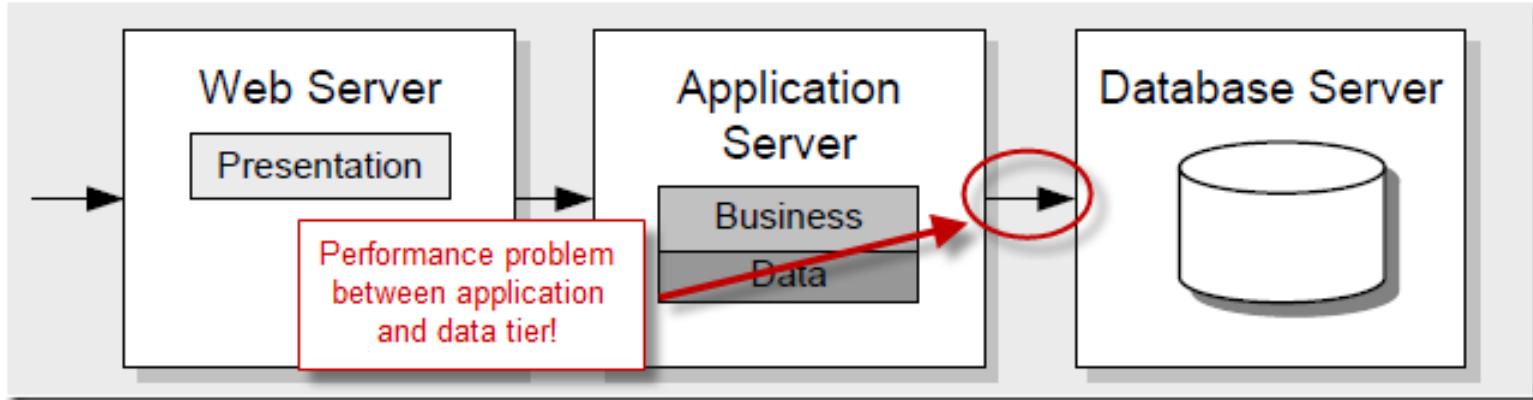
Back End?



DEMO

Profiling mehrschichtiger Anwendungen

Multi-Tier Performance Analysis



TheBeerHouse - Microsoft Visual Studio (Administrator)

File Edit View Project Build Debug Team Data Tools Test Analyze Window Help

Debug Mixed Platforms IndexOutOfRangeException

Server Explorer Toolbox

TBH_Web090630.vsp

Current View: Interactions

When the application was running, the BrowseArticles.aspx page was requested 2 times for a total of 319.23 msc

Name	Database	Count	Total Elapsed ...	Min Elapsed Time	Max Elapsed Time
/TBH_Web/default.aspx		1 Request	7,236.18	7,236.18	7,236.18
/TBH_Web/GetArticlesRss.aspx		4 Requests	723.85	8.58	50.00
/TBH_Web/BrowseArticles.aspx		2 Requests	319.23	52.57	20.00
Database Connections					
\\.\pipe\A88BA1A2-A5FB-4C\tsql\que	C:\USERS\ADMINISTRATOR\D	11 Queries	50.09		
/TBH_Web/GetProductsRss.aspx		4 Requests	217.29	1.40	20.00
/TBH_Web/ShowCategories.aspx		1 Request	186.59	186.59	186.59
/TBH_Web/Images/Question.gif		1 Request	110.72	110.72	110.72
/TBH_Web/Images/Diary.gif		1 Request			10.00
/TBH_Web/GetThreadsRss.aspx		4 Requests			10.00
/TBH_Web/WebResource.axd		4 Requests			
/TBH_Web/App_Themes/TemplateMo		2 Requests			
/TBH_Web/images/stars40.gif		2 Requests			

The BrowseArticles.aspx page made 11 calls into a database which took 50.09 msec. You can see all 11 database queries in this pane.

Database connection details:

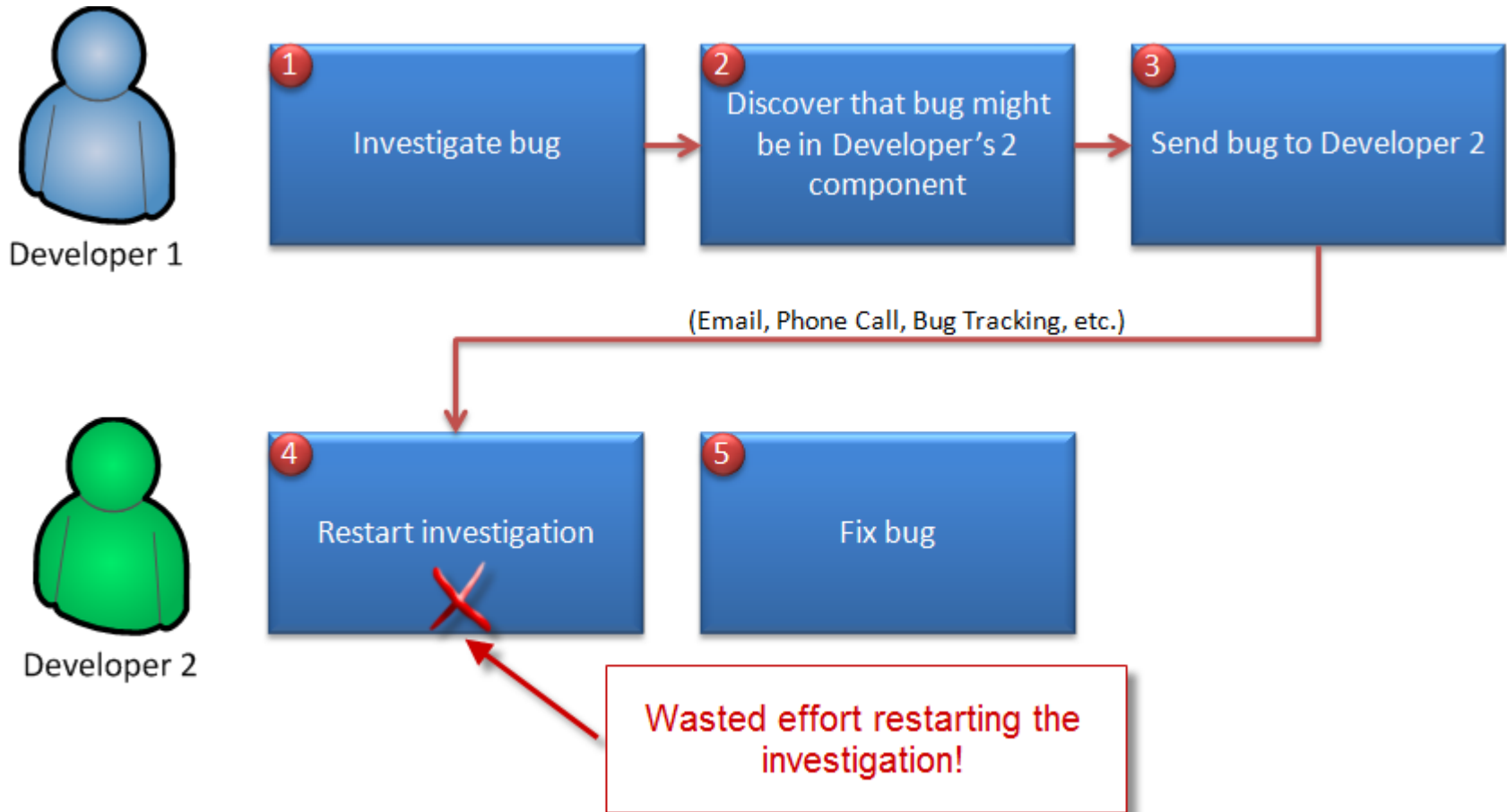
Command Text	Query Calls	Total Elapsed ...	Min Elapsed Time	Max Elapsed Time	Avg Elapsed Time
dbo.aspnet_Profile_GetProperties	2	27.83	2.49	25.34	13.91
tbh_Articles_GetPublishedArticlesByCategory	2	8.35	1.66	6.70	4.17
dbo.aspnet_Profile_SetProperties	2	5.09	2.11	2.98	2.50
tbh_Articles_GetPublishedArticles	1	2.59	2.59	2.59	2.59
dbo.aspnet_PersonalizationAllUsers_GetPageSettings	2	2.42	1.03	1.38	1.20
tbh_Articles_GetArticleCount	1	1.96	1.96	1.96	1.96
tbh_Articles_GetPublishedArticleCountByCategory	1	1.85	1.85	1.85	1.85

Ready

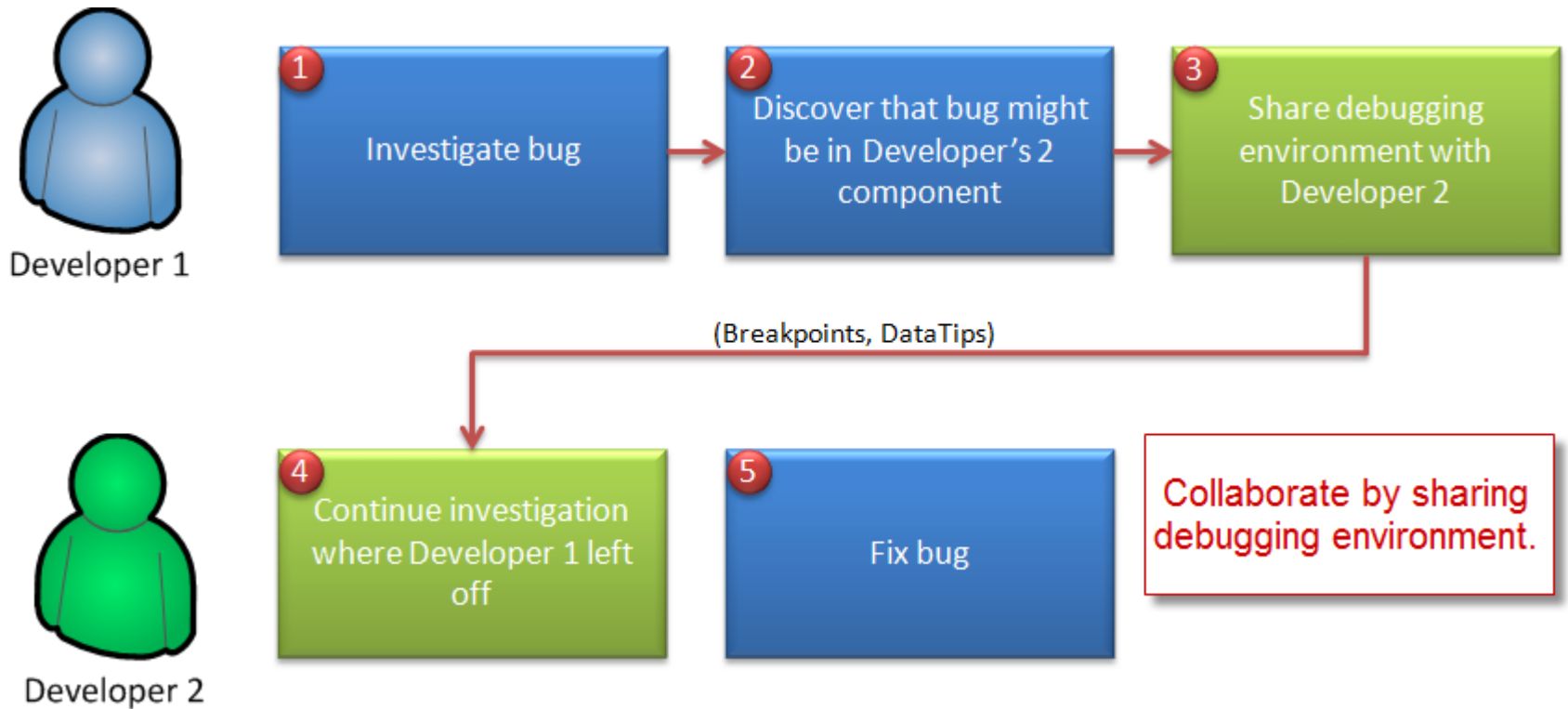
2 Developers, 1 Bug

Highlight #5

Prior Visual Studio 2010



Visual Studio 2010



DEMO

Export/Import von Breakpoints & Data Tips

Data Tips

Pin the DataTip to the source code

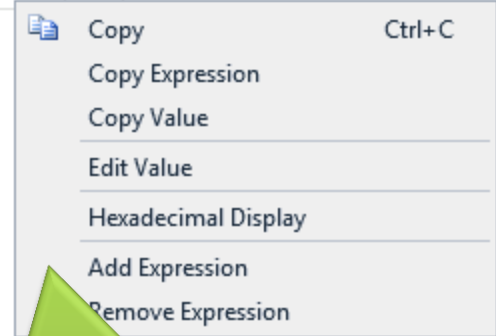
DataTip stays in sync with the source code

Toolbar allows the user to pin/unpin a DataTip

DataTip changes color to indicate it is a floating window

Floating DataTips can be dragged anywhere, and can't be pinned unless over source code

Space provided for comments in the DataTip which can be collapsed/expanded as desired



move BUY

- Copy Ctrl+C
- Copy Expression
- Copy Value
- Edit Value
- Hexadecimal Display
- Add Expression
- Remove Expression

Context menu for managing values/expressions in the DataTip

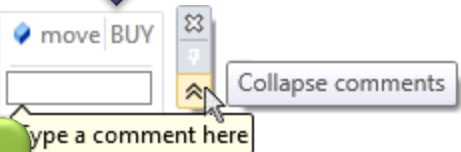


Unpin from source



move BUY

Expand to see comments



move BUY

Collapse comments

Type a comment here

Code Analysis Rulesets

Highlight #6

DEMO

Eigene Codeanalyseregelsätze definieren

Custom Code Analysis Rule

The screenshot shows the 'DeadCodeRules.ruleset' file in Visual Studio. The window title is 'DeadCodeRules.ruleset'. The toolbar includes a 'Group by' dropdown set to 'Category', a search box, and various icons. The main area displays a table of rules:

ID	Name	Action
<input checked="" type="checkbox"/> Microsoft.Performance		Warning
<input checked="" type="checkbox"/> CA1804	Remove unused locals	Warning
<input checked="" type="checkbox"/> CA1811	Avoid uncalled private code	Warning
<input checked="" type="checkbox"/> CA1812	Avoid uninstantiated internal classes	Warning
<input checked="" type="checkbox"/> CA1823	Avoid unused private fields	Warning
<input checked="" type="checkbox"/> Microsoft.Usage		Warning
<input checked="" type="checkbox"/> CA1801	Review unused parameters	Warning

Red arrows point from a text box to the 'DeadCodeRules.ruleset' title bar and the 'CA1812' rule. The text box contains the following text:

All the dead code detection rules have been added to the Dead Code Detection Rules rule set.

Using Visual Studio 2010 without TFS

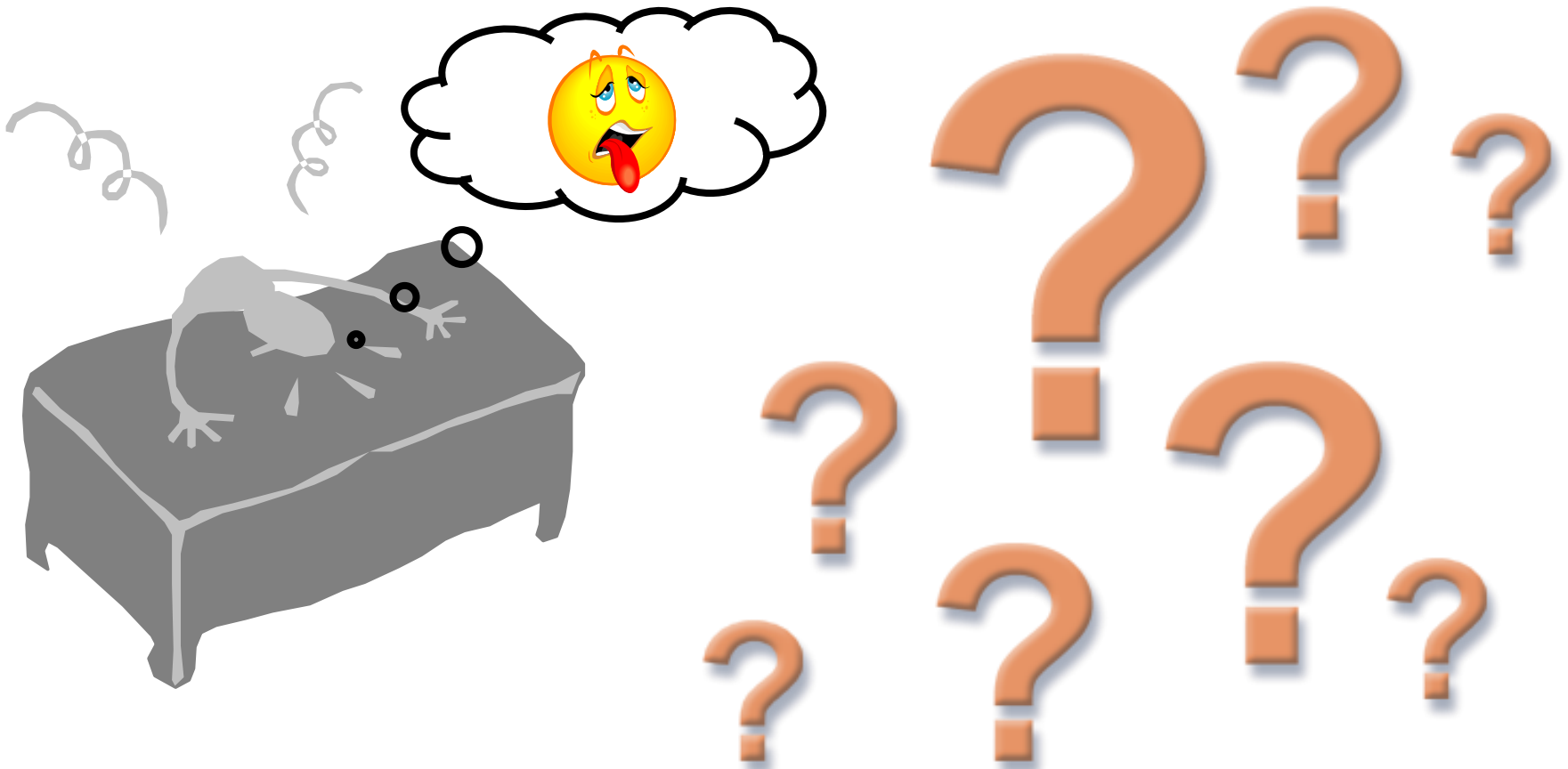
Edition	Feature	Status
Microsoft® Visual Studio® 2010 Ultimate	IntelliTrace™	Available (✓)
	UML Modeling	Available (✓)
	Architecture Explorer	Available (✓)
	Logical Class Designer	Available (✓)
	Load Testing	Available (✓)
Microsoft® Visual Studio® 2010 Premium	UI Test Automation	Available (✓)
	Performance Profiler	Available (✓)
	Code Coverage	Available (✓)
	Database Change Manager	Available (✓)
	Database Unit Testing	Available (✓)
Test and Lab Manager		
	Test Case Management	Unavailable (✗)
	Manual Testing	Unavailable (✗)
	Test Record & Playback	Unavailable (✗)
	Layer Diagram	Available (✓)
	Web Testing	Available (✓)
	Test Impact Analysis	Available (✓★)
	Static Code Analysis	Available (✓)
	Code Metrics	Available (✓)
	Database Deployment	Available (✓)
	Test Data Generation	Available (✓)

Zusammenfassung

- Einleitung
- Highlight #1: IntelliTrace
- Highlight #2: Test Impact Analysis
- Highlight #3: Branching Visualization
- Highlight #4: Multi-Tier Profiling
- Highlight #5: Two Devs, One Bug
- Highlight #6: Code Analysis Rulesets



Danke für Ihre Aufmerksamkeit!



Im Anschluss oder per E-Mail an:
nenloje@teamsystempro.de