

WPF Troubleshooting mit VS2015

Manuel Meyer | Trivadis AG

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Hinweis:

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DDC .NET Developer
Conference 2015

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Troubleshooting?








Call Stack



Name	Language
 App.DDC2015.Workshops()	C#
App.DDC2015.KeynotePromiseLikeAPro()	C#
App.WPFTroubleshootingInVS2015.TakeAways()	C#
App.WPFTroubleshootingInVS2015.ProfilingUndTimeline()	C#
App.WPFTroubleshootingInVS2015.WPFTools()	C#
App.WPFTroubleshootingInVS2015.VS2015Tools()	C#
App.WPFTroubleshootingInVS2015.DebuggingUndProfiling()	C#
App.DDC2015.KeynoteDasIstDieZukunft()	C#
App.DDC2015.DevSessions()	C#
App.Program.Main(string[] args)	C#
[External Code]	



Debugging



Profiling



Debugging



Profiling




Debugging



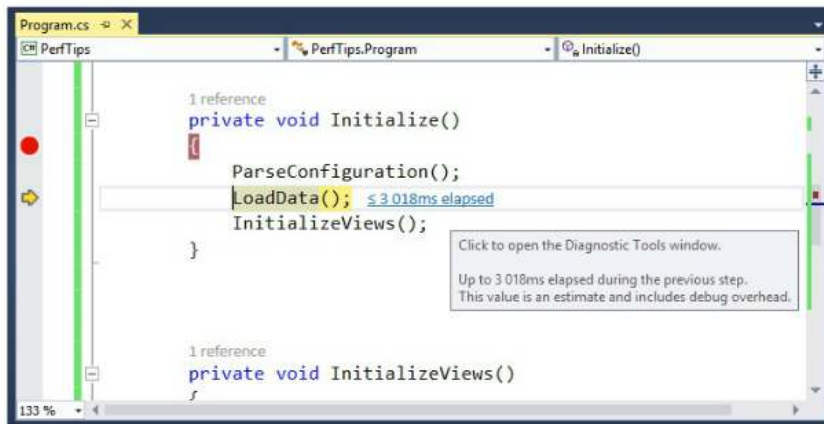
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Debugging Tools in VS2015

PerfTips



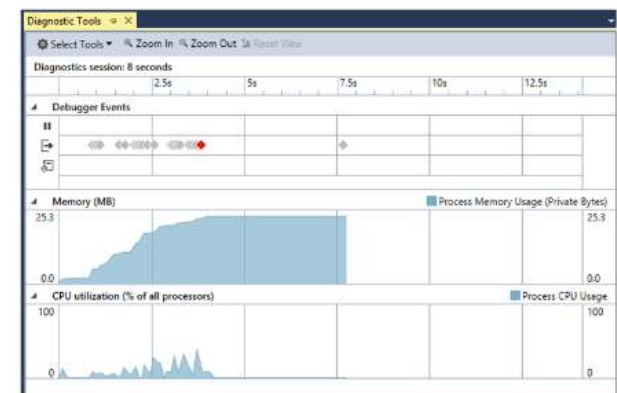
"x64 Edit & Continue"

(needs .NET 4.5.1+)

Lambda Watch



Diag. Tools Window



PerfTips

Program.cs [X]

C# PerfTips PerfTips.Program Initialize()

1 reference
private void Initialize()
{
 ParseConfiguration();
 LoadData(); ≤ 3 018ms elapsed
 InitializeViews();
}

Click to open the Diagnostic Tools window.
Up to 3 018ms elapsed during the previous step.
This value is an estimate and includes debug overhead.

1 reference
private void InitializeViews()
{

133 %

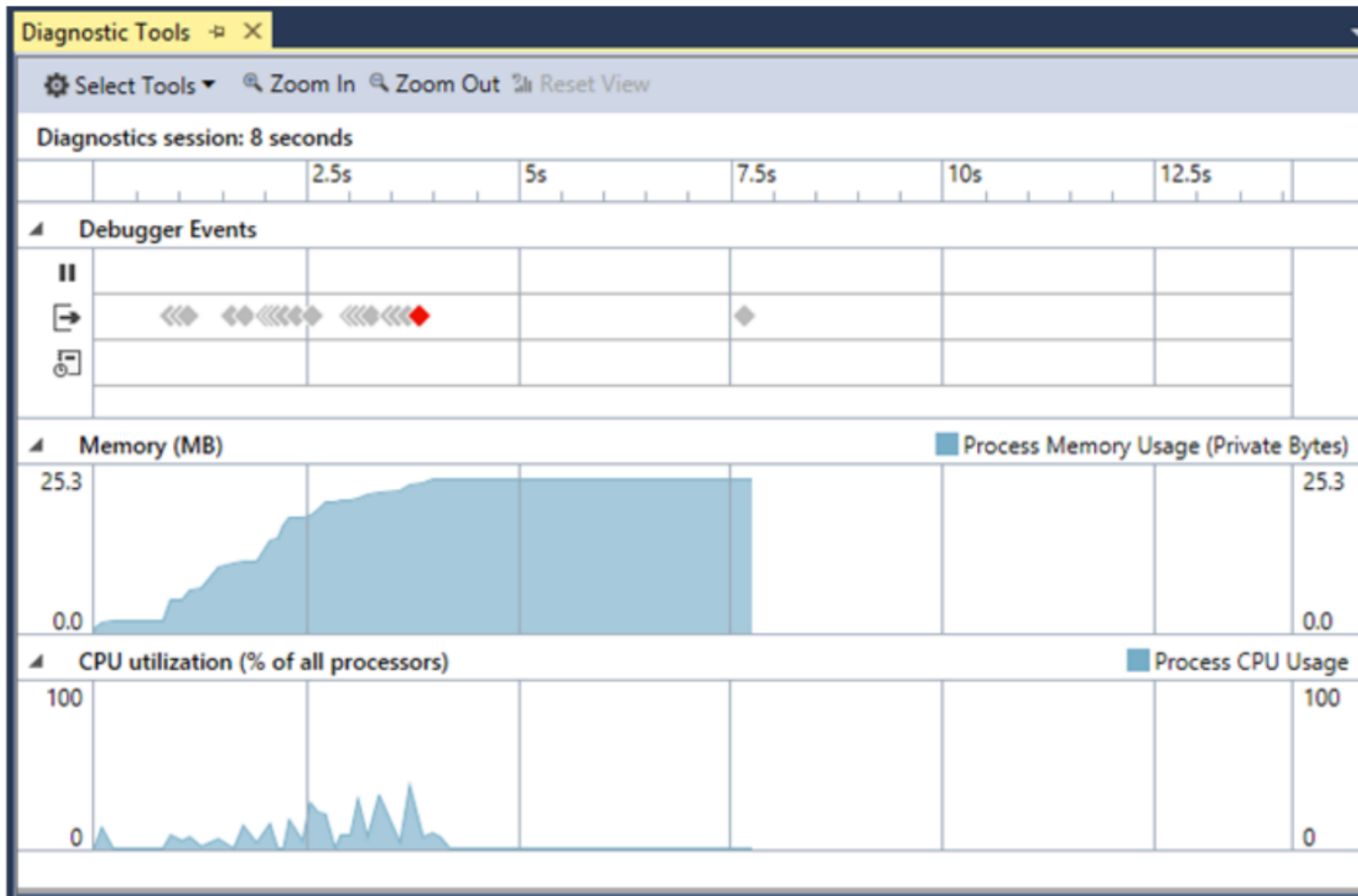
"x64 Edit &
Continue"

(needs .NET 4.5.1+)

Lambda Watch


Watch 1		
Name	Value	Type
▶ familyCollection.PeopleCollection.First()	{Edward VII Wettin}	Microsoft

Diag. Tools Window



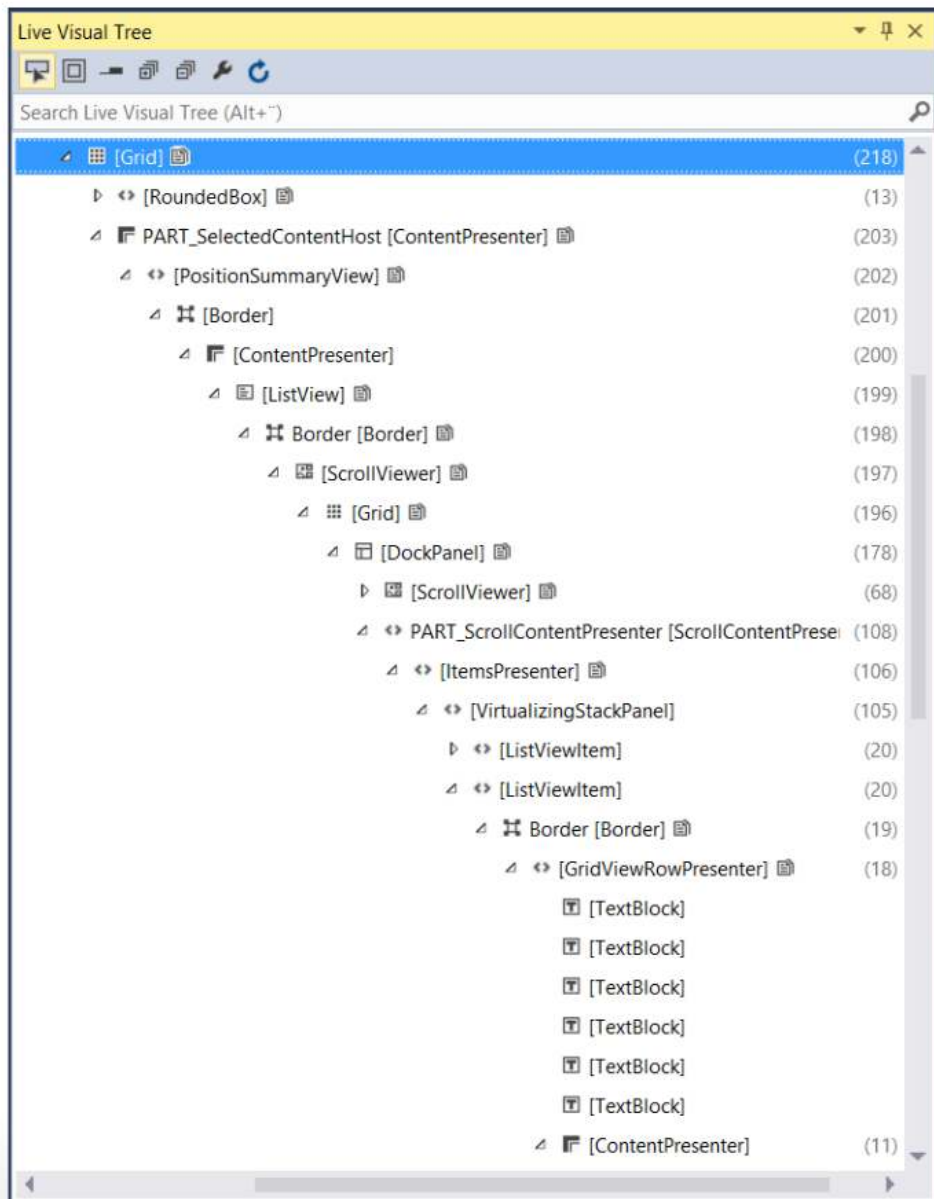
Call Stack



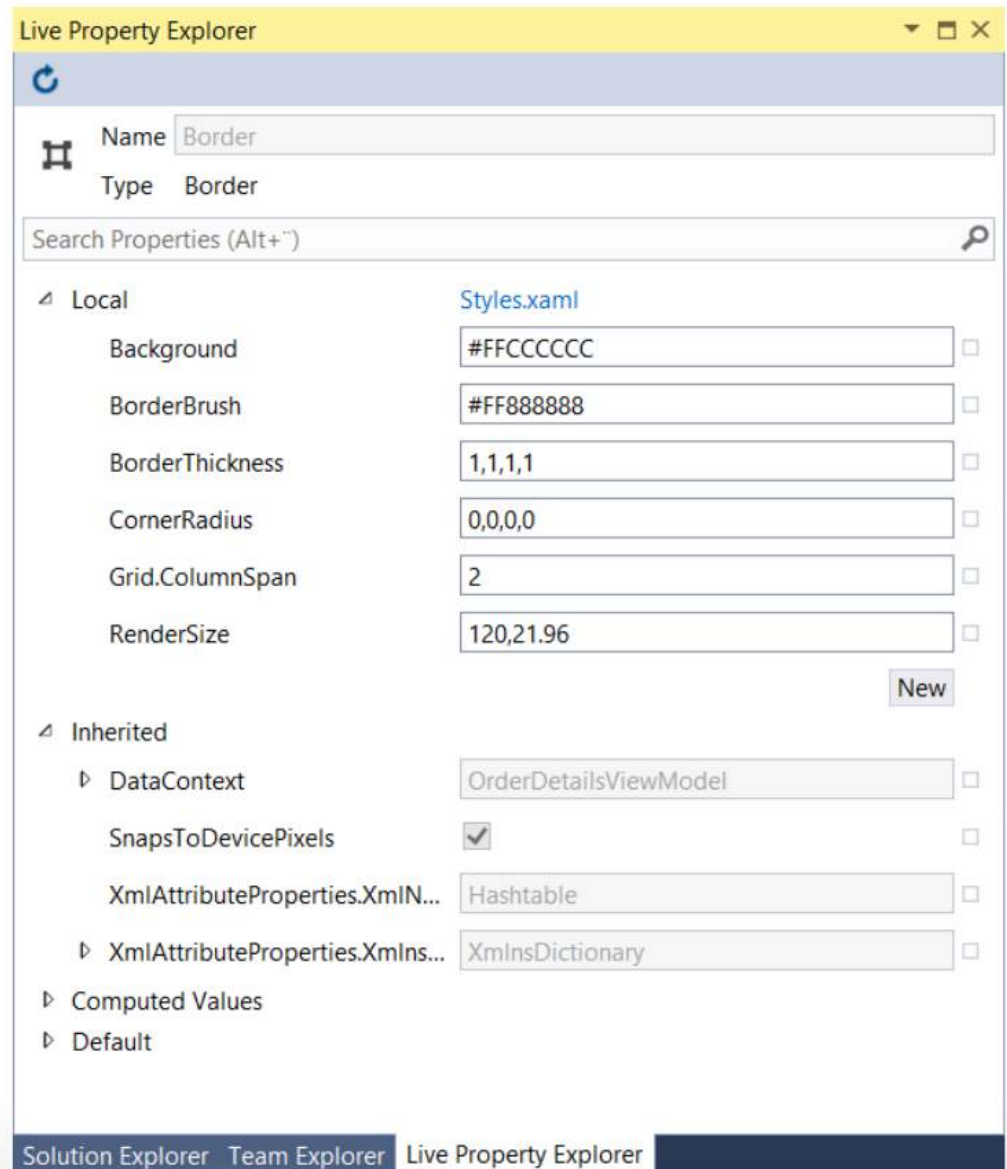
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WPF Tools in VS2015

Live Visual Tree




Live Property Explorer



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Debugging



Profiling



Profiling Techniken



Sampling



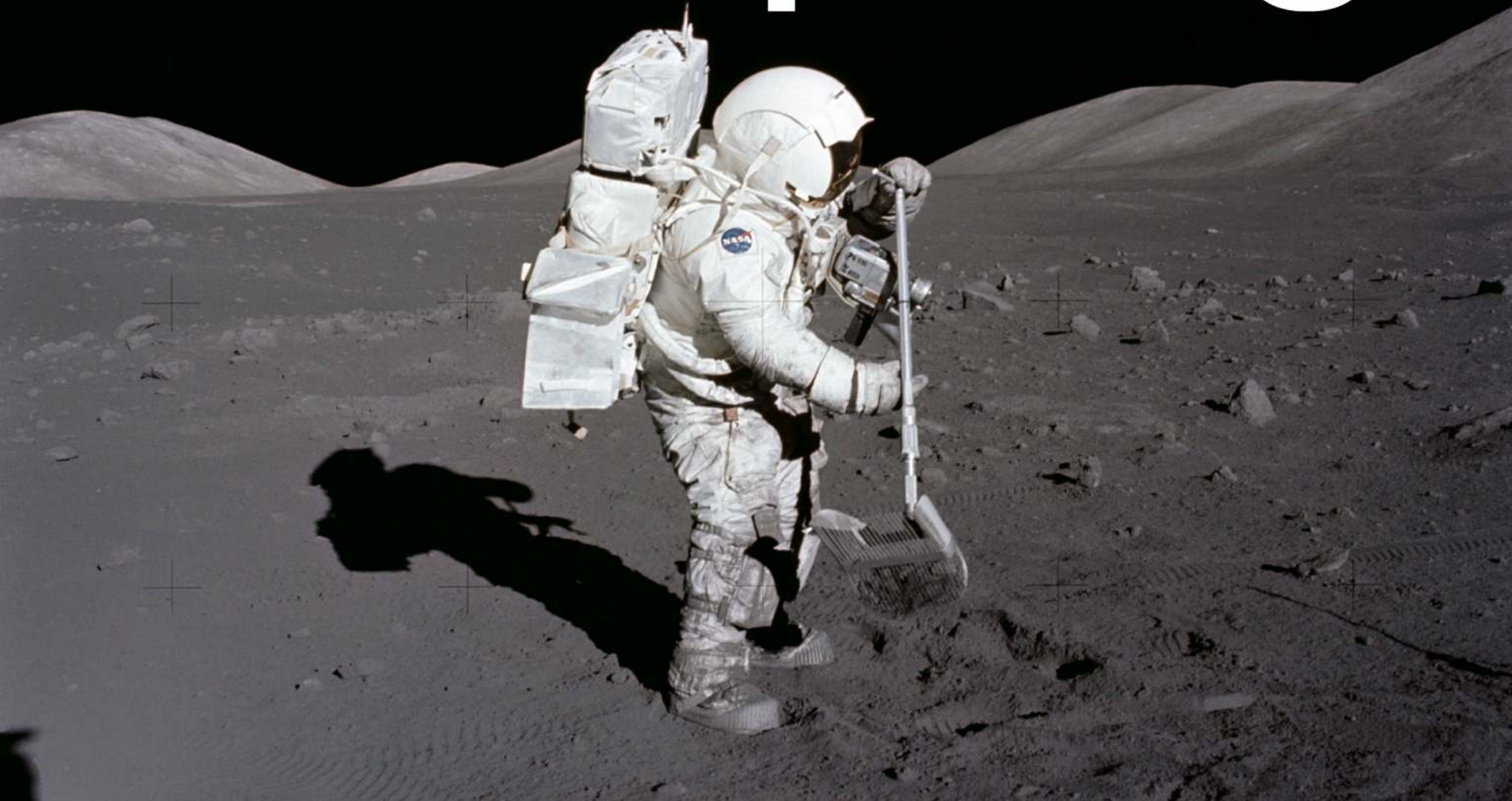
Instrumentation



ETW

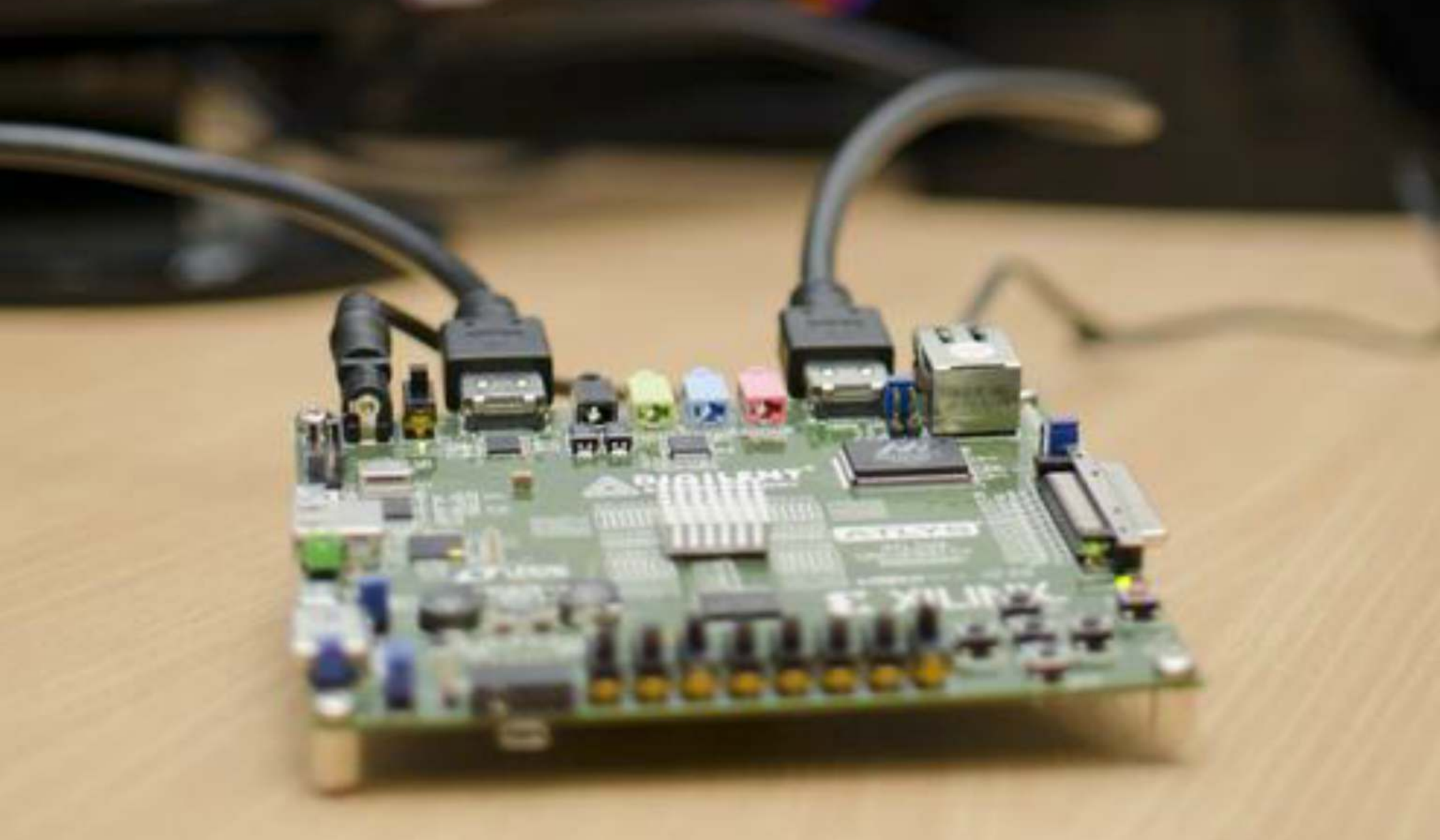


Sampling





Instrumentation



ETW



ETW Controller

Event Provider

Event Provider

Event Provider



Real time Consumer

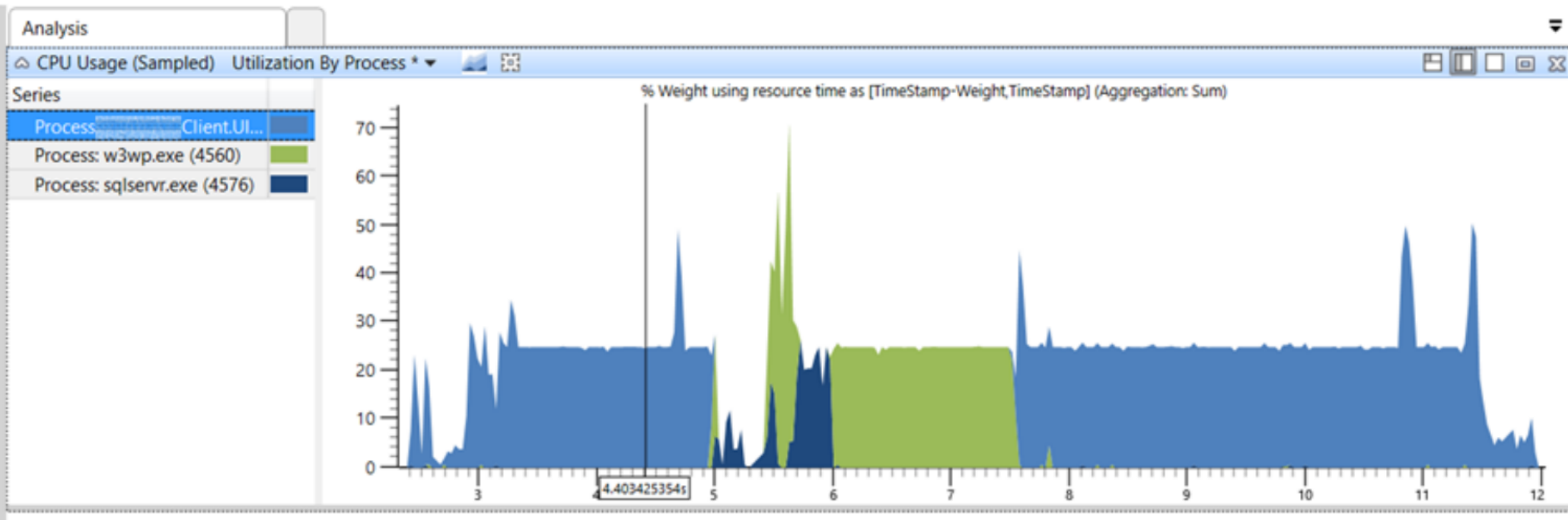
ETL File

EventName	EventTypeName	UserData
IISGeneral	GENERAL_REQUEST_START	...AppPoolId=DefaultAppPool...
IISGeneral	GENERAL_GET_URL_METADATA	PhysicalPath=... AccessPerms=Read...
IISISAPI	ISAPI_START	
IISGeneral	GENERAL_ISAPI_HANDLER	
AspNetReq	Start	Method=GET Path=... QueryString=
AspNetReq	RequestQueued	
AspNetReq	RequestDequeued	
AspNetReq	GetAppDomainEnter	
IISGeneral	GENERAL_GET_URL_METADATA	PhysicalPath=C:\... AccessPerms=...
AspNetReq	GetAppDomainLeave	
AspNetReq	AppDomainEnter	DomainId=/LM/W3SVC/1/Root/...
IISGeneral	GENERAL_GET_URL_METADATA	PhysicalPath=C:\... AccessPerms=...
AspNetReq	WebEventRaiseStart	EventClassName=... EventCode=...
AspNetReq	WebEventDeliverStart	ProviderName=... RuleName=myrule...
AspNetReq	WebEventDeliverEnd	
AspNetReq	WebEventRaiseEnd	
AspNetReq	StartHandler	HandlerName=HttpApplication...
AspNetReq	PipelineModuleEnter	ModuleName=WindowsAuthenticationModule
AspNetReq	PipelineModuleLeave	ModuleName=WindowsAuthenticationModule
AspNetReq	PipelineModuleEnter	ModuleName=FormsAuthenticationModule
AspNetReq	PipelineModuleLeave	ModuleName=FormsAuthenticationModule
AspNetReq	PipelineModuleEnter	ModuleName=PassportAuthenticationModule
AspNetReq	PipelineModuleLeave	ModuleName=PassportAuthenticationModule
AspNetReq	PipelineModuleEnter	ModuleName=DefaultAuthenticationModule
AspNetReq	PipelineModuleLeave	ModuleName=DefaultAuthenticationModule
AspNetReq	PipelineModuleEnter	ModuleName=RoleManagerModule
AspNetReq	PipelineModuleLeave	ModuleName=RoleManagerModule
AspNetReq	PipelineModuleEnter	ModuleName=AnonymousIdentificationModule
AspNetReq	PipelineModuleLeave	ModuleName=AnonymousIdentificationModule
AspNetReq	PipelineModuleEnter	ModuleName=UrlAuthorizationModule
AspNetReq	WebEventRaiseStart	EventClassName=... EventCode=4003...
AspNetReq	WebEventDeliverStart	ProviderName=... RuleName=myrule...

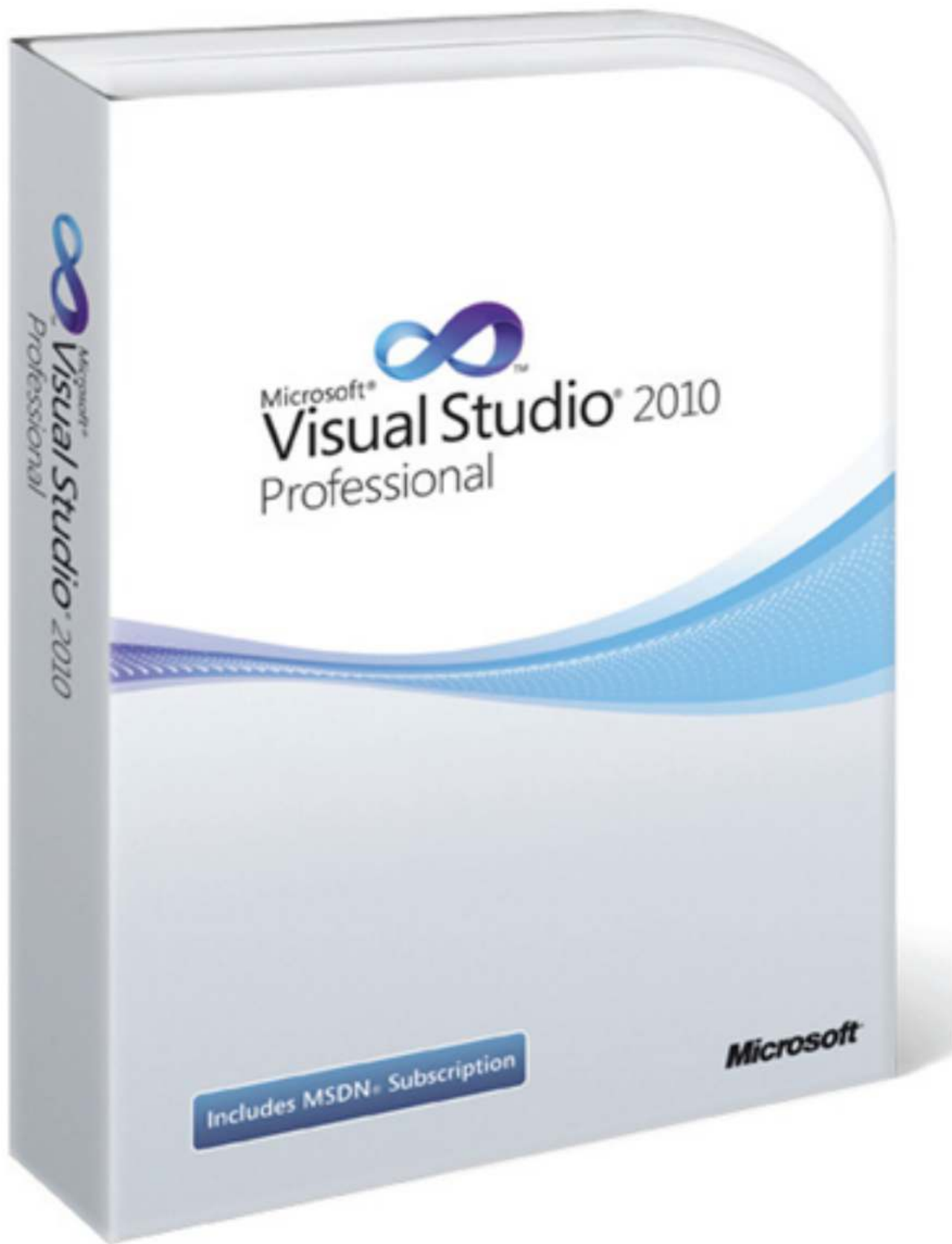
Win Performance Toolkit

Record: PerfView.exe / Xperf.exe

Analyze: WPA.exe



- Often*
- Sometimes*
- Seldom*
- Never*

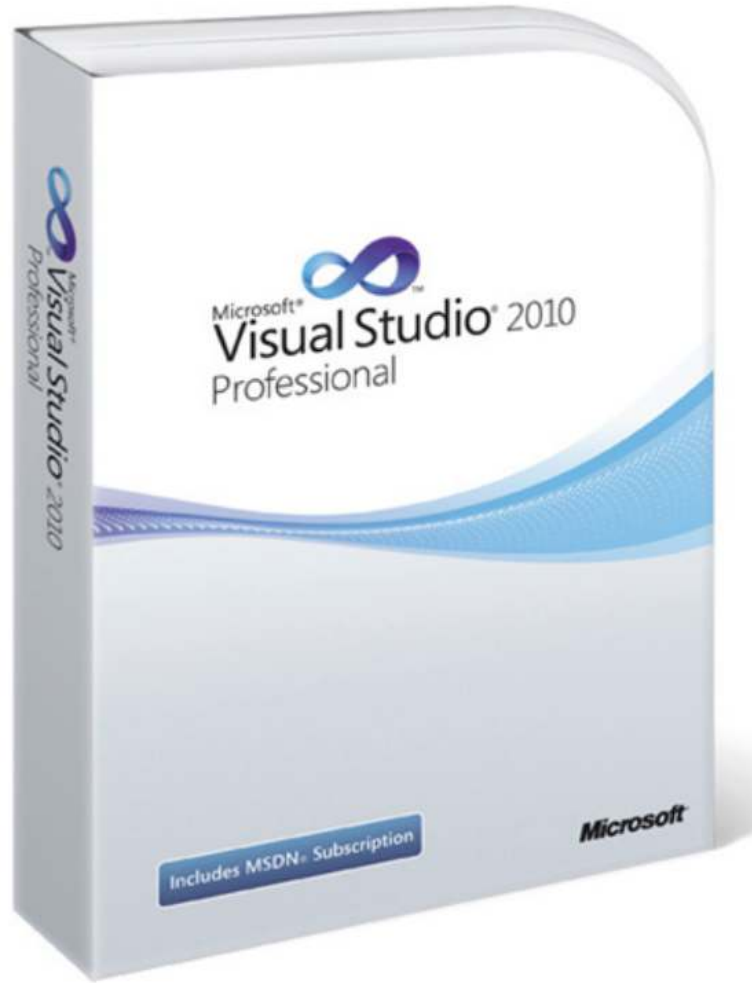


Microsoft
Visual Studio 2010
Professional

Microsoft
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Professional

Includes MSDN Subscription

Microsoft



~~Profiler~~ ☹️

Professional 2012



Visual
Studio

Microsoft

Profiler



Professional 2012



Visual
Studio

Microsoft

Profiler



Visual Studio Community 2013

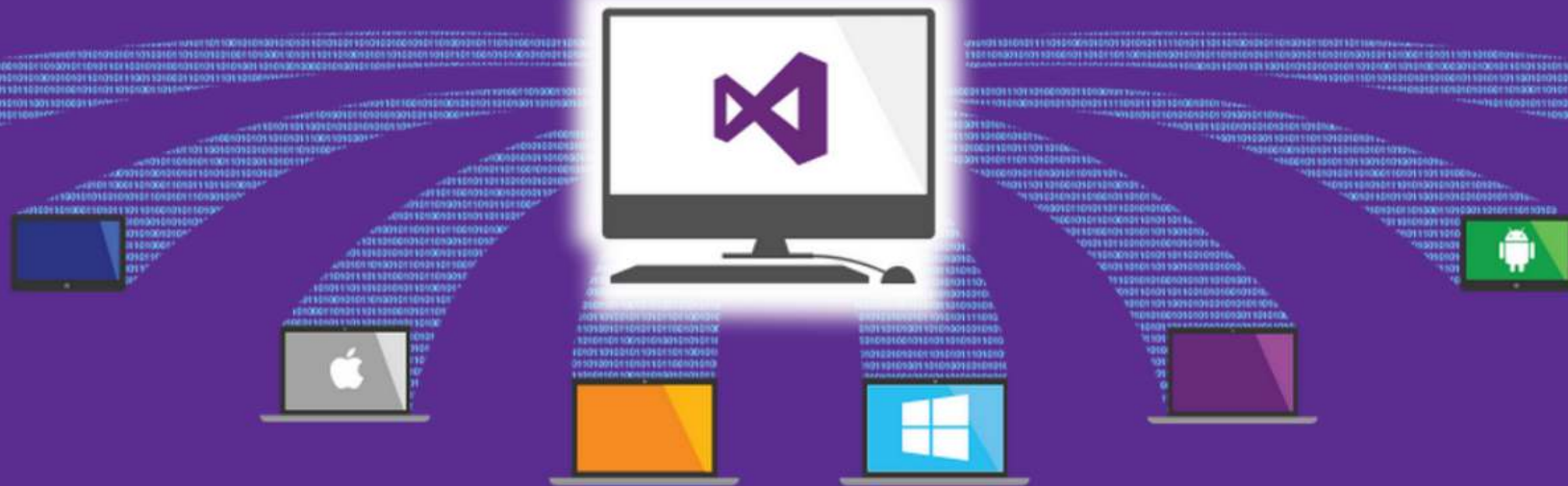


Performance & Diagnostics Hub

Visual Studio Community

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Download Community 2015



Demos




Demo 1
WPF Startup Time

Demo 2
WPF UI Virtualization

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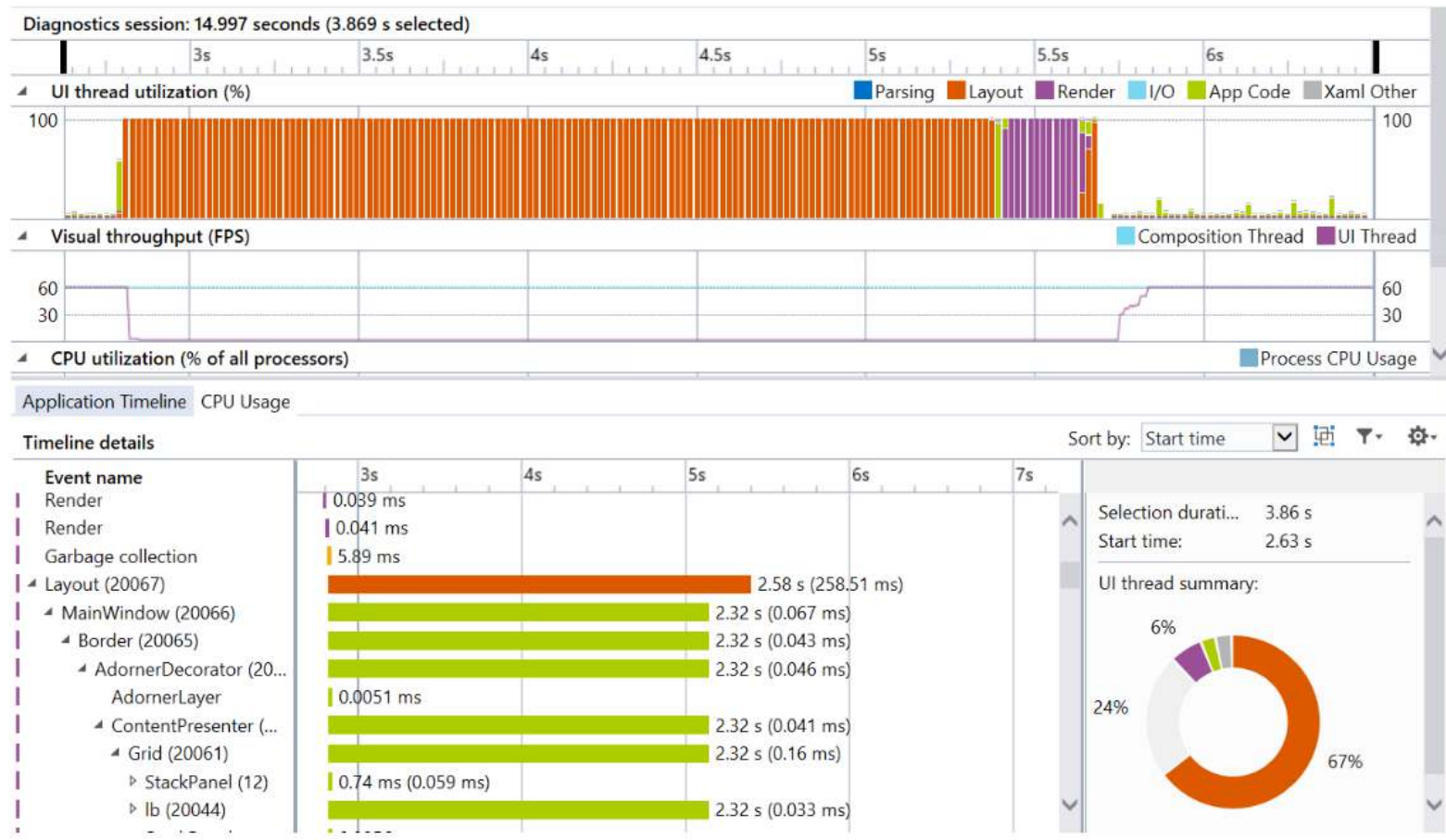


AZ

Debugging in VS2015

- PerfTips
- Diag. Tools Window
- Live Visual Tree
- Live Property Explorer


WPF Timeline Tool



Was macht mein UI-Thread?

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.NET Developer Conference 2015

Vielen Dank!

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Twitter:

<https://twitter.com/manumeyer1>