.NET Internationalization

MVP
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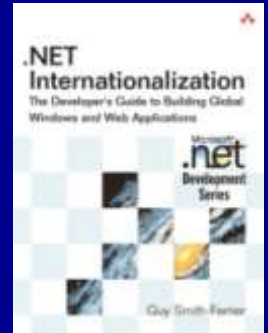
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Automating Testing With Virtual Server

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1

About…

- Author of .NET Internationalization
  - Visit http://www.dotneti18n.com to download the complete source code

- The .NET Developer Network
  - http://www.dotnetdevnet.com
  - Free user group for .NET developers, architects and IT Pros based in Bristol

- DDD South West
  - http://www.dddsouthwest.com
  - Taunton, Saturday 23rd May 2009

What's This Session About ?

- What's in:-
    - Virtual Server 2005
    - Virtual Server 2005 COM API
    - C#
- What's not in:-
    - Virtual PC, Hyper-V, VMWare etc.
    - VBScript
    - PowerShell

3

The Goal

- To automate a virtual machine to:-
  - Start up
  - Log in
  - Run unit tests
  - Shut down
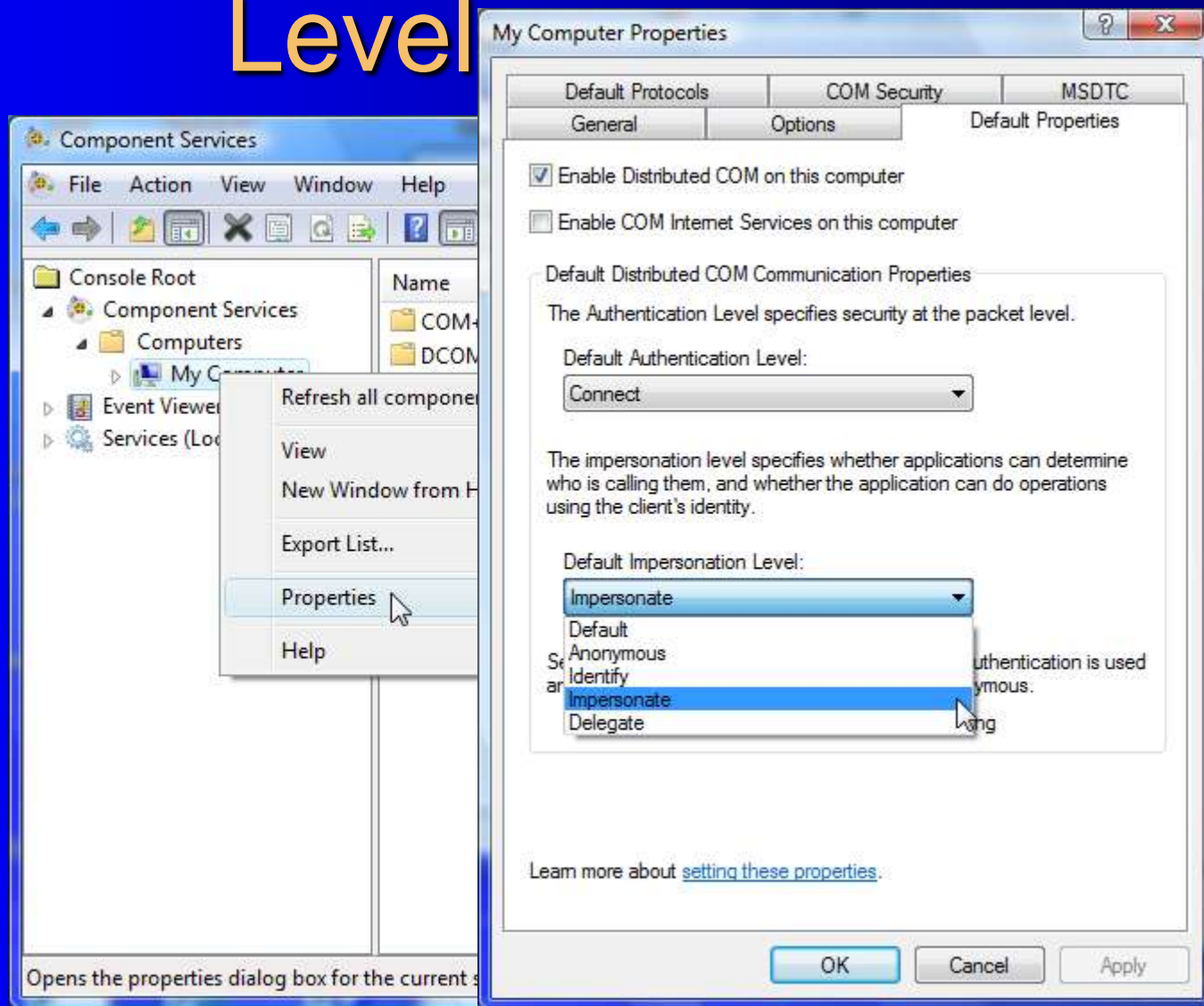
4

Information Resources (1 of 2)

- Download Virtual Server 2005 R2 SP1
  - http://technet.microsoft.com/en-gb/bb738033.aspx
- Download Virtual Machine Remote Control Client Plus (VMRCplus)
  - http://www.microsoft.com/DownLoads/details.aspx?familyid=80ADC08C-BFC6-4C3A-B4F1-772F550AE791&displaylang=en
- Virtual Server Script Repository
  - http://www.microsoft.com/technet/scriptcenter/scripts/default.mspx?mfr=true

Information Resources (2 of 2)

- The Rational Guide To Scripting Microsoft Virtual Server 2005
  - Anil Desai, Rational Press
- Professional Microsoft Virtual Server 2005
  - Ben Armstrong, Wrox Press
- Virtual Server 2005: Programming Customized Testing Environments (MSDN Magazine August 2004)
  - http://msdn.microsoft.com/en-us/magazine/cc163935.aspx

Setting The COM Impersonation Level

- Run DComcnfg

Setting The COM Impersonation Level (Programmatically)

- To set the impersonation level in code use CoInitializeSecurity before the API is used

```
private const uint RPC_C_AUTHN_LEVEL_NONE        = 1;
private const uint RPC_C_IMP_LEVEL_IMPERSONATE    = 3;

CoInitializeSecurity(IntPtr.Zero, 0, IntPtr.Zero,
IntPtr.Zero, RPC_C_AUTHN_LEVEL_NONE,
RPC_C_IMP_LEVEL_IMPERSONATE, IntPtr.Zero, 0, IntPtr.Zero );
```

- Remember to call CoUninitialize before the application closes

Demo

Automating Virtual Server Using The COM API

9

VHDMount (1 of 2)

- VHDMount is a Virtual Server stand alone utility for mounting virtual hard drives on the host operating system

- The following command mounts the virtual hard disk as drive Z (without an undo disk)

```
VHDMount /m /f "c:\VirtualServer\My Virtual Hard Disk.vhd" z
```

VHDMount (2 of 2)

- VHDMount works fine with Virtual PC
  - To install Virtual Server's VHDMount for Virtual PC:-

```
msiexec.exe /i "Virtual Server 2005 Install.msi" /qn
ADDLOCAL=VHDMount
```

- VHDMount is unable to load all volumes
  - http://support.microsoft.com/kb/943487

- To get more debugging information:-

```
SET VHD_MOUNT_TRACE=1
```

11

Initializing Virtual Hard Disks

- Newly created virtual hard disks must be initialized and formatted before they can be used
  - From the Start menu right click Computer, select Manage to bring up the Computer Management application
  - Under Storage select Disk Management
  - You will be told "You must initialize a disk before Logical Disk Manager can access it". Click OK.
  - Right click the newly initialized disk and select "New Simple Volume…". Click Next 4 times and click Finish.

SDC Tasks

- SDC Tasks is an msbuild task library
  - http://www.codeplex.com/sdctasks
- It contains the following tasks for automating Virtual Server:-

Task	Description
VirtualServer.Load	Loads a configuration file
VirtualServer.RegisterVirtualMachine	Adds a VM to Virtual Server
VirtualServer.UnregisterVirtualMachine	Removes a VM from Virtual Server
VirtualServer.VirtualMachine.AddNetworkAdapter	Adds a network adapter
VirtualServer.VirtualMachine.Exists	Checks that a VM exists
VirtualServer.VirtualMachine.OS.CheckHeartBeat	Checks a VM's heart beat
VirtualServer.VirtualMachine.OS.Shutdown	Shuts down a VM's operating system
VirtualServer.VirtualMachine.Start	Starts a VM
VirtualServer.VirtualMachine.Stop	Stops a VM

Summary

- The Virtual Server 2005 COM API allows you to control virtual machines
  - You may need to drop into WMI to get all of the functionality you need