



WMI Access Problems

Analysis and Troubleshooting

TITLE	WMI Access Problems
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DATE	10/04/2015

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1. Introduction

For the inventory of Windows systems, Docusnap uses the standard Windows Management Instrumentation (WMI) interface.

If problems occur during an inventory scan of a Windows system, the WMI connection to a host can be tested using one of the following tools:

- WBEMTest.exe
- Computer Management
- WMI Diagnosis Utility

2. WBEMTest

The WBEMTest.exe file is available on every computer where WMI is installed. Since Windows 2000, WMI is part of the operating system.

The following example shows how to establish a remote WMI connection to a host called *wknc2006*.

The DNS name of the domain is *docusnap.intern*. The NETBIOS name of the domain is *docusnap*.

Open the Windows Run dialog (Windows key + R) and type **wbemtest**.

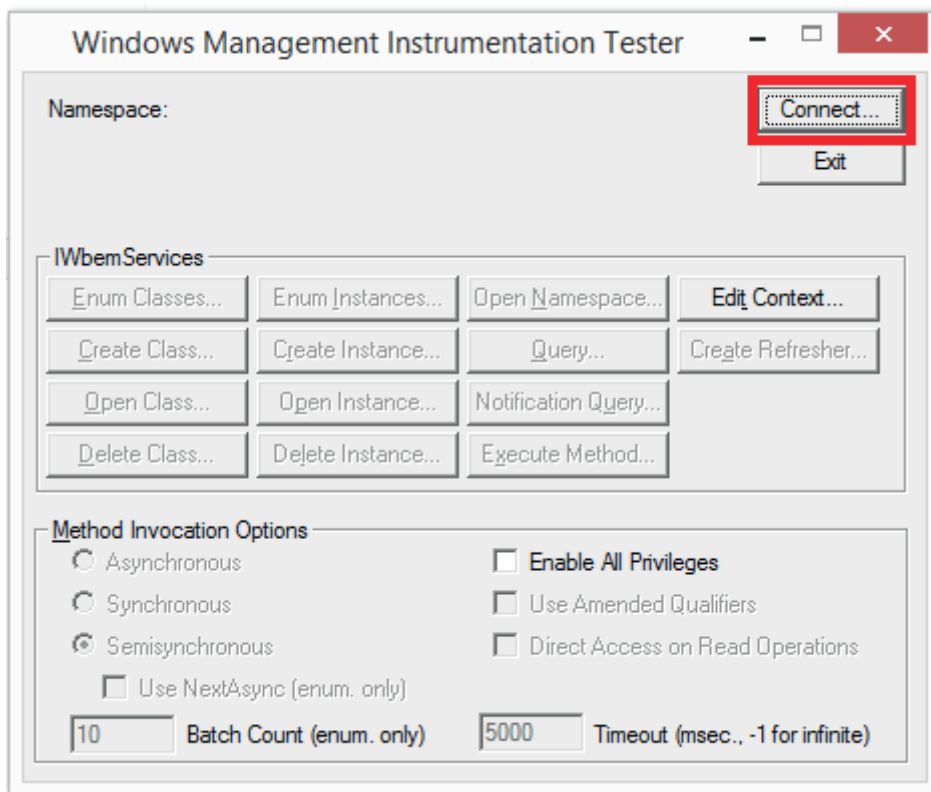


Fig. 1 – Connect

The image shows a 'Connect' dialog box with the following fields and options:

- Namespace:** \\wknc2006.docusnap.intern\root\cimv2
- Connection:**
 - Using: IWbemLocator (Namespaces)
 - Returning: IWbemServices
 - Completion: Synchronous
- Credentials:**
 - User: docusnap\administrator
 - Password: [masked]
 - Authority: [empty]
- Locale:** [empty]
- How to interpret empty password:**
 - NULL
 - Blank
- Impersonation level:**
 - Identify
 - Impersonate
 - Delegate
- Authentication level:**
 - None
 - Packet
 - Connection
 - Packet integrity
 - Call
 - Packet privacy

Fig. 2 - Target system and user

For a remote connection, enter the fully qualified hostname and the default root\cimv2 namespace in the "Namespace" field. In our example, this is `\\wknc2006.docusnap.intern\root\cimv2`.

In the "Credentials" group box, enter the user name and the password of the user who scans the system from within Docusnap. Precede the user name with the appropriate domain name.

When you click the "Connect" button, the WMI connection to the remote system is established. If not, an error message appears.

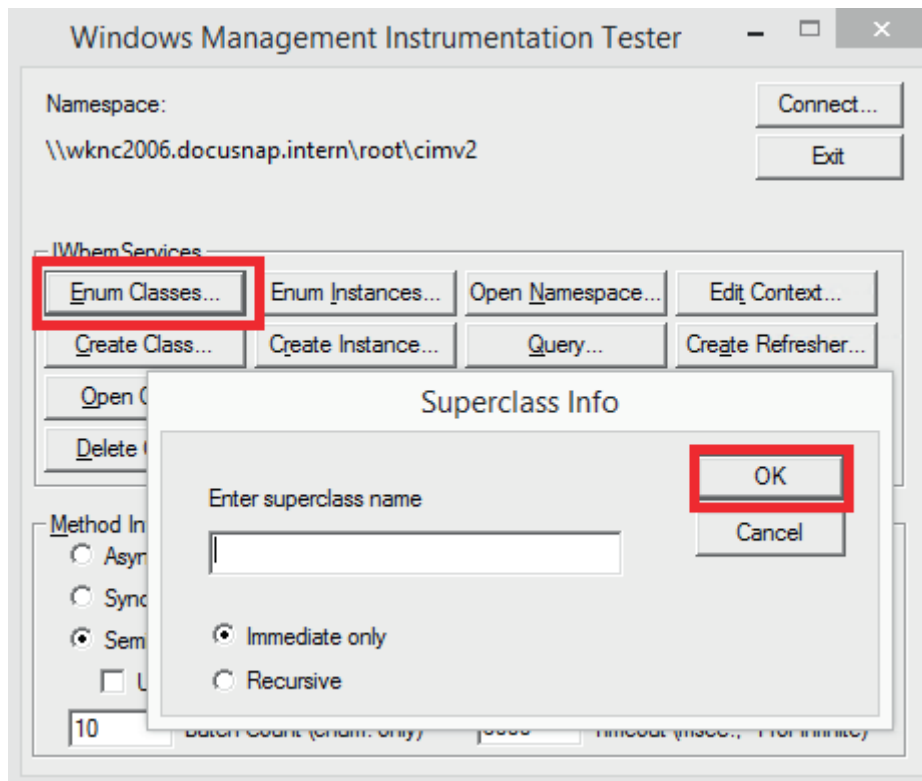


Fig. 3 – Successful connection to the WMI remote host

Click "Enum Classes" and then "OK" to display an overview of the WMI top-level classes.

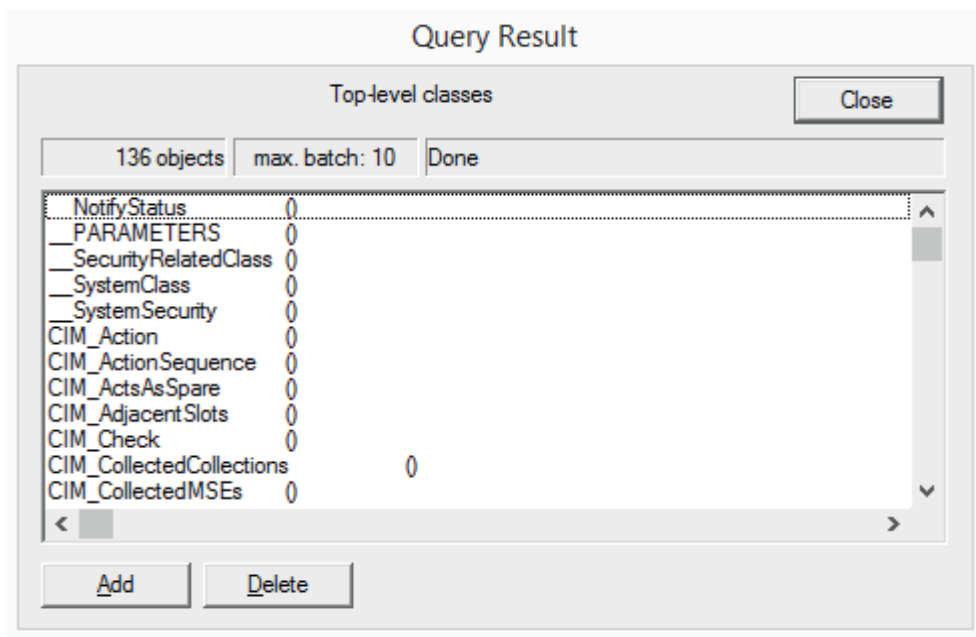


Fig. 4 – Result of a WMI query

3. Computer Management

A remote WMI connection to a WMI repository can also be established via the Windows Computer Management feature. Here, however, it is not possible to specify a different user.

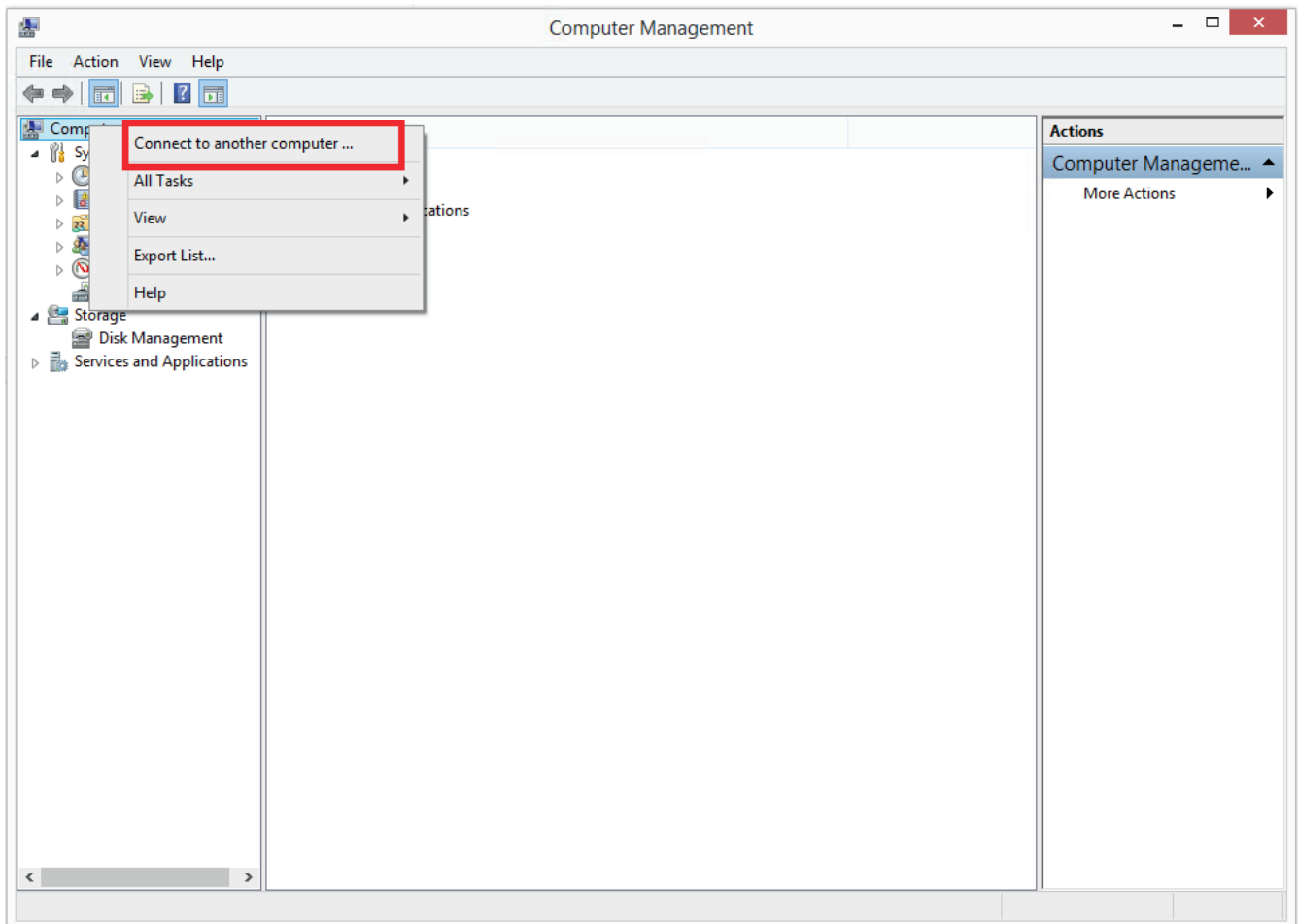


Fig. 5 – Computer Management (compmgmt.msc)

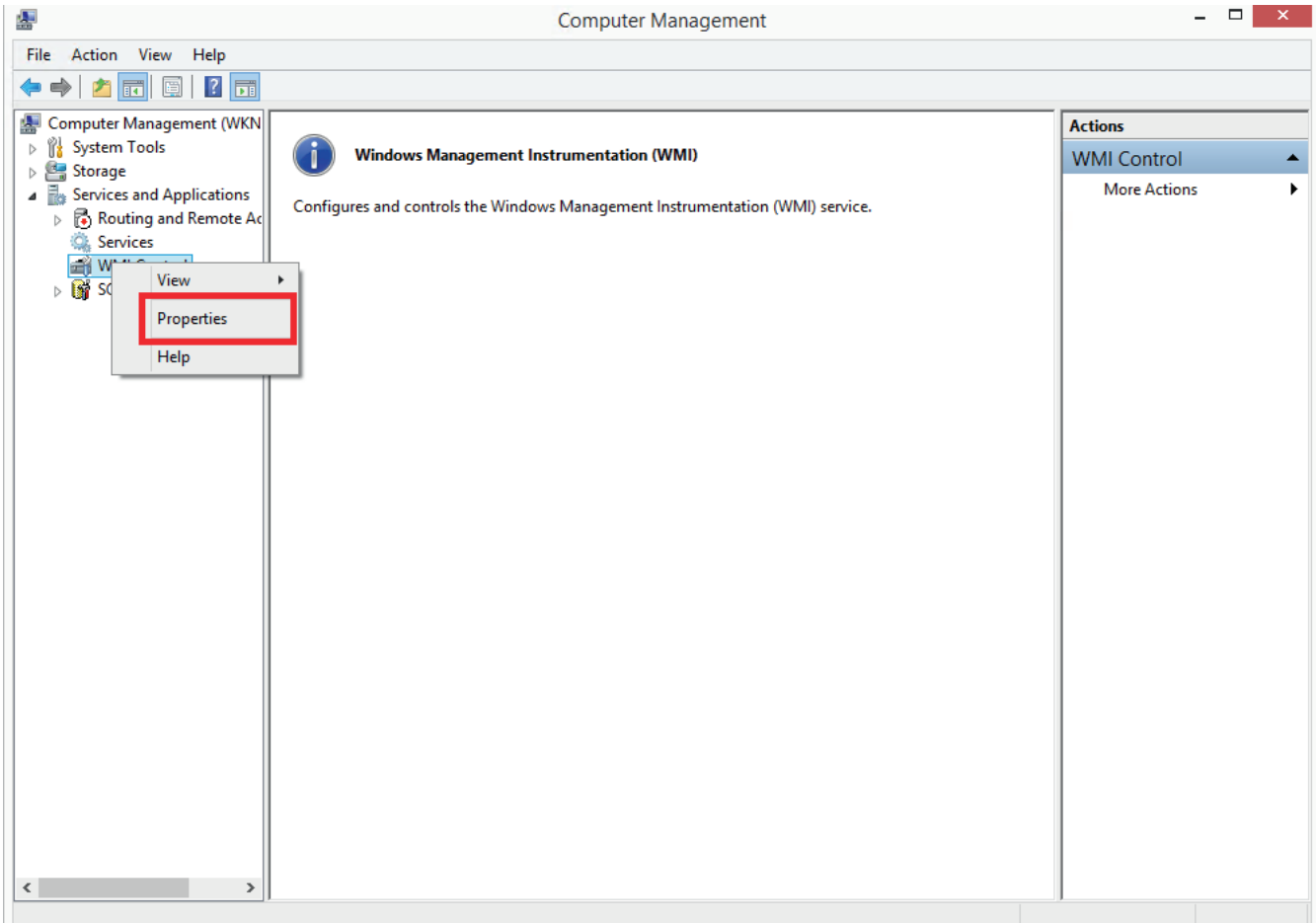
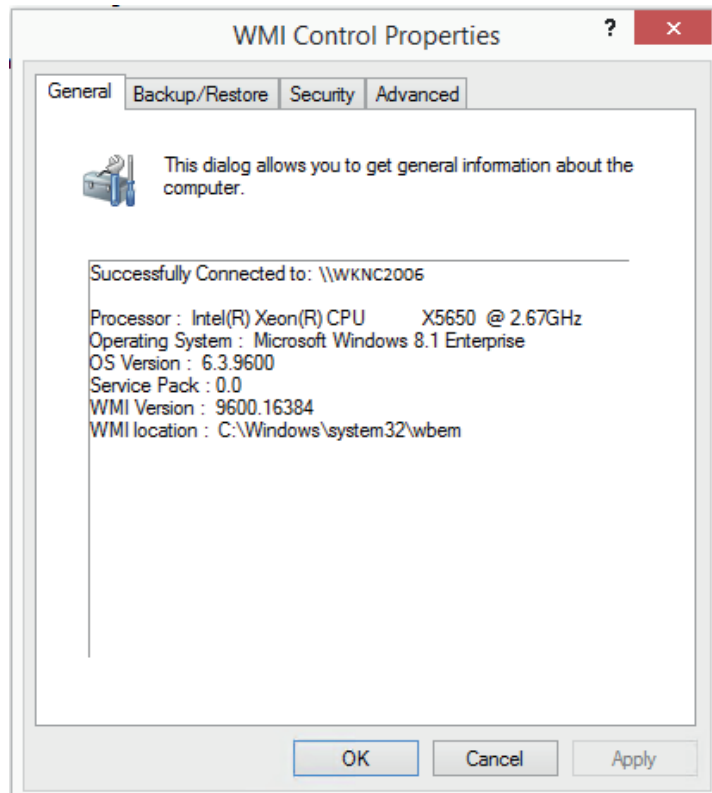


Fig. 6 - WMI Control – Properties



4. WMI Diagnosis Utility

The WMI Diagnosis Utility allows you to diagnose and, if necessary, repair the WMI service using a script. The WMI Diagnosis Utility can be used for all operating systems between Windows XP/2003 and Windows 7/2008 R2.

Microsoft description of the utility: <https://technet.microsoft.com/en-us/library/ff404265.aspx>

Download from the Microsoft website: <http://www.microsoft.com/en-us/download/details.aspx?id=7684>

To make the utility executable on Windows 8/2012 or higher, the community introduced some adjustments.

Please refer to the following articles:

1. WMIDiag - Available for Windows Server 2012? (<https://social.technet.microsoft.com/Forums/de-DE/39e05158-fe40-4569-9162-836d79719318/wmidia-available-for-windows-server-2012?forum=perfmon>)
2. Fixing WMIDiag to run on Windows 7 and Windows Server 2008 R2 (<http://joes-tech-blog.blogspot.de/2011/01/fixing-wmidia-20-run-on-windows-7-and.html>)
 - At the end of this page, you also find a description of the adjustments made for Windows 8/2012 –

No responsibility is taken for the correctness of the information provided by these links. The downloads and information provided there are no official Microsoft sources.

5. Troubleshooting

If errors occur during Remote WMI queries with the mentioned tools, Docusnap will not be able to successfully inventory the host via WMI.

In this case, please check the following:

- **Sufficient user permissions? (the local administrator or domain administrator account)**

For testing, always use the very user who will also perform the inventory scan in Docusnap. To do so, either log in with that user account, or run the tools under a different user account (hold down the left Shift key when right-clicking to open the context menu of a program or a shortcut, e.g. on the Desktop).

- **Windows Firewall enabled? Have the required Windows Firewall exceptions been set?**

For the required firewall exceptions, please refer to:

<http://www.docusnap.com/en/manual/user/index.html?docusnap-support-help-faq.htm>

- **Unambiguous host name resolution**

Forward lookup and reverse lookup zones must be maintained on the DNS server.

Open the command prompt (cmd.exe) to check the name resolution by entering the following commands:

Forward lookup: nslookup wknc2007.docusnap.intern

Reverse lookup: nslookup 192.168.103.34

No error may be returned by either name resolution method.

- **Have the required Windows services been started?**

Required services
Windows Management Instrumentation
Remote Procedure Call (RPC)

Fig. 8 - Overview of services

- Checking the integrity of the WMI repository on the host

You can use the integrated "winmgmt /verifyrepository" command to check the integrity of the WMI repository on the host. This command must be run on the system to be scanned.

Detailed information on errors that might occur when retrieving information from the WMI interface is provided by Microsoft at <https://technet.microsoft.com/en-us/library/ff406382.aspx>

For general information and tips on WMI, please refer to:
<https://technet.microsoft.com/en-us/library/ee692772.aspx>

6. Alternative Inventory Method

Besides the classic network inventory process, Docusnap offers an alternative inventory method for devices which are never or only sporadically connected to the network (e.g. laptop computers of field staff). This method can also be used if e.g. permission issues in the WMI context can only be resolved with considerable effort or not at all.

For such scenarios, we recommend to use the DocusnapScript.exe file which is stored in the *Tools* folder of the Docusnap application directory.

Each time DocusnapScript.exe is called, an XML file with a unique name and timestamp (snapshot) is generated. This file contains all inventory data of the system. Later, these xml files can be imported into Docusnap either manually or using an automated process.

An advantage of this alternative inventory method is that the execution of DocusnapScript.exe does not require admin rights on the respective system – normal user rights are sufficient.

The following example shows how to inventory the system where DocusnapScript.exe runs with debug level 2. The xml file will be stored under C:\temp.

Example:

```
DocusnapScript.exe -L 2 -O C:\temp
```

As the target for storing the file, you can of course also select a central filing location.

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