



**HowTo Check**  
**Microsoft Cluster**  
**Functionality**  
**via SNMP**

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# **Nagios**<sup>®</sup> *Microsoft Cluster Plugin*

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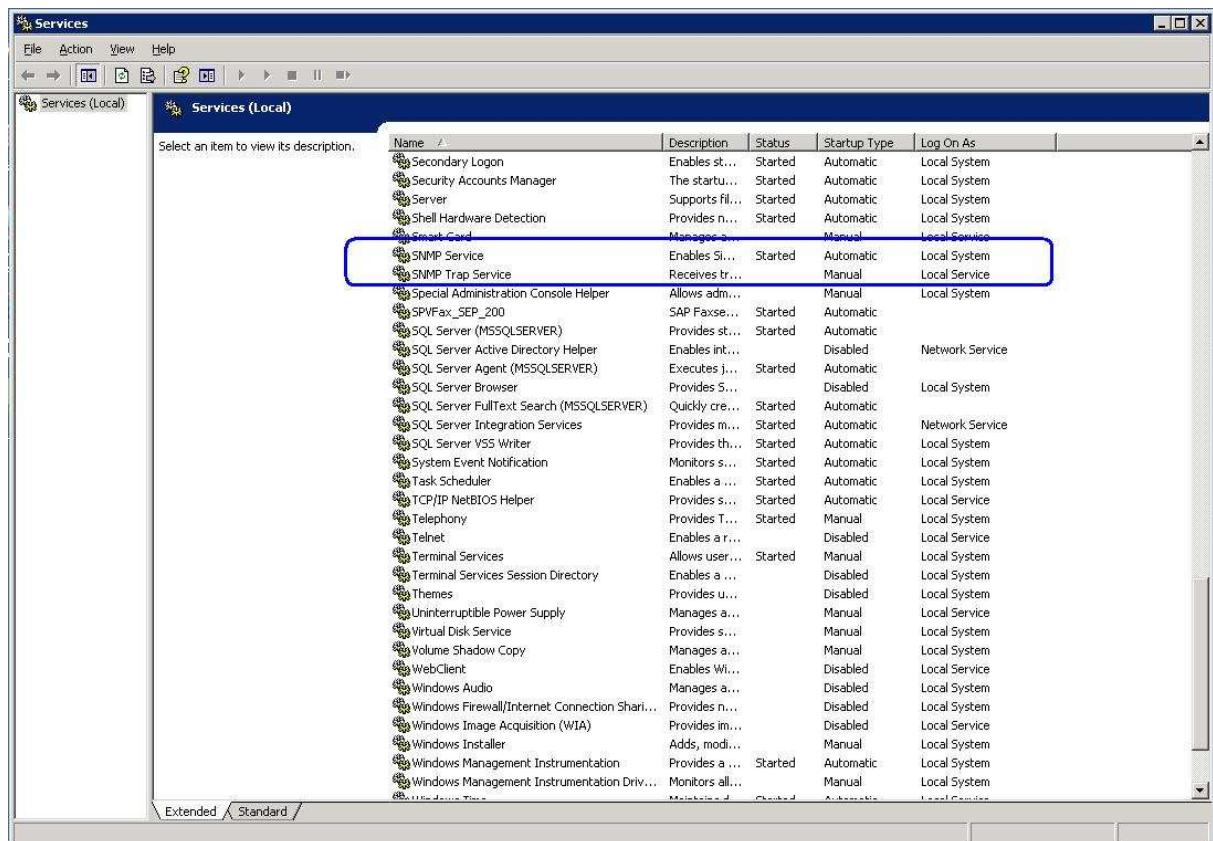
### 1. Short Introduction

This document describes some useful hints for installation of the Nagios Plugin “Checking Microsoft Cluster Server via SNMP protocol”.

If you have some trouble to get the plugin running start with the next paragraph and “dig” through the document.

### 2. Check Windows SNMP Service

Check if the Windows SNMP Service daemon is installed and running.



HOWTO: Configure the Simple Network Management Protocol (SNMP) Service in Windows Server 2003

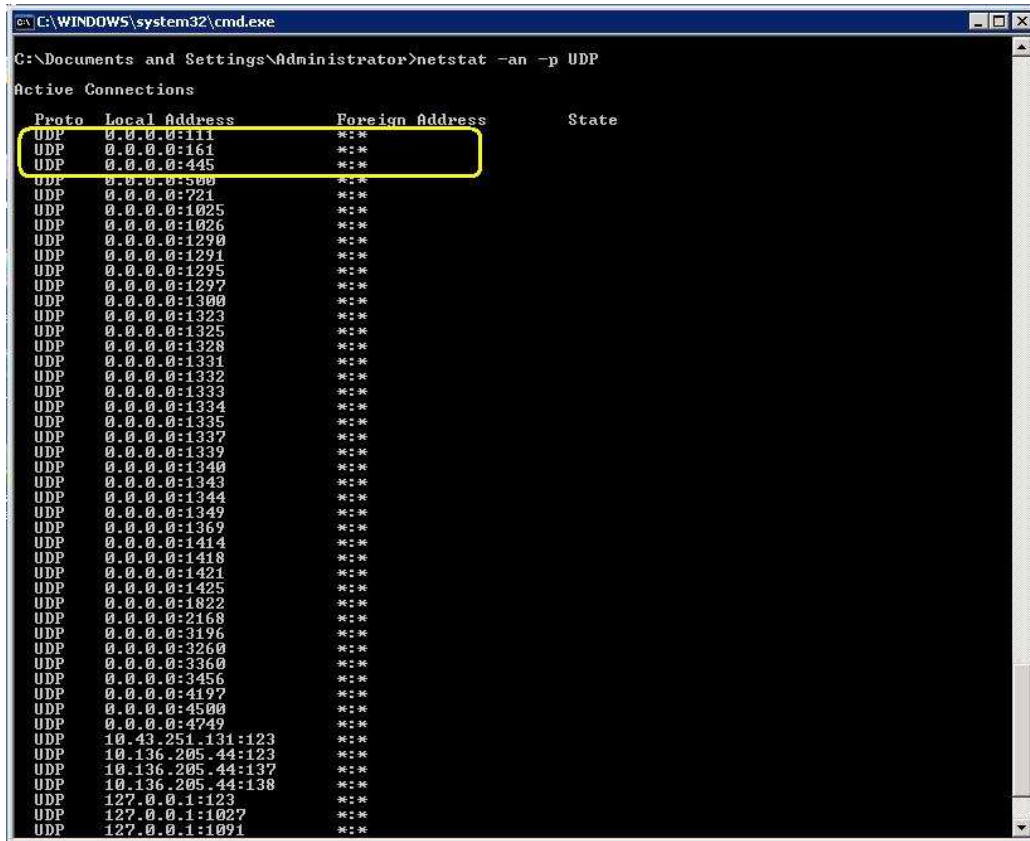
<http://support.microsoft.com/kb/324263/en-us>

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Check if the UDP Port 161 (snmp) is open

netstat -an -p UDP



```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\Administrator>netstat -an -p UDP

Active Connections
Proto Local Address          Foreign Address         State
UDP   0.0.0.0:111             *:*
UDP   0.0.0.0:161             *:*
UDP   0.0.0.0:445             *:*
UDP   0.0.0.0:500             *:*
UDP   0.0.0.0:721             *:*
UDP   0.0.0.0:1025            *:*
UDP   0.0.0.0:1026            *:*
UDP   0.0.0.0:1290            *:*
UDP   0.0.0.0:1291            *:*
UDP   0.0.0.0:1295            *:*
UDP   0.0.0.0:1297            *:*
UDP   0.0.0.0:1300            *:*
UDP   0.0.0.0:1323            *:*
UDP   0.0.0.0:1325            *:*
UDP   0.0.0.0:1328            *:*
UDP   0.0.0.0:1331            *:*
UDP   0.0.0.0:1332            *:*
UDP   0.0.0.0:1333            *:*
UDP   0.0.0.0:1334            *:*
UDP   0.0.0.0:1335            *:*
UDP   0.0.0.0:1337            *:*
UDP   0.0.0.0:1339            *:*
UDP   0.0.0.0:1340            *:*
UDP   0.0.0.0:1343            *:*
UDP   0.0.0.0:1344            *:*
UDP   0.0.0.0:1349            *:*
UDP   0.0.0.0:1369            *:*
UDP   0.0.0.0:1414            *:*
UDP   0.0.0.0:1418            *:*
UDP   0.0.0.0:1421            *:*
UDP   0.0.0.0:1425            *:*
UDP   0.0.0.0:1822            *:*
UDP   0.0.0.0:2168            *:*
UDP   0.0.0.0:3196            *:*
UDP   0.0.0.0:3260            *:*
UDP   0.0.0.0:3360            *:*
UDP   0.0.0.0:3456            *:*
UDP   0.0.0.0:4197            *:*
UDP   0.0.0.0:4500            *:*
UDP   0.0.0.0:4749            *:*
UDP   10.43.251.131:123        *:*
UDP   10.136.205.44:123        *:*
UDP   10.136.205.44:137        *:*
UDP   10.136.205.44:138        *:*
UDP   127.0.0.1:123            *:*
UDP   127.0.0.1:1027           *:*
UDP   127.0.0.1:1091           *:*
```

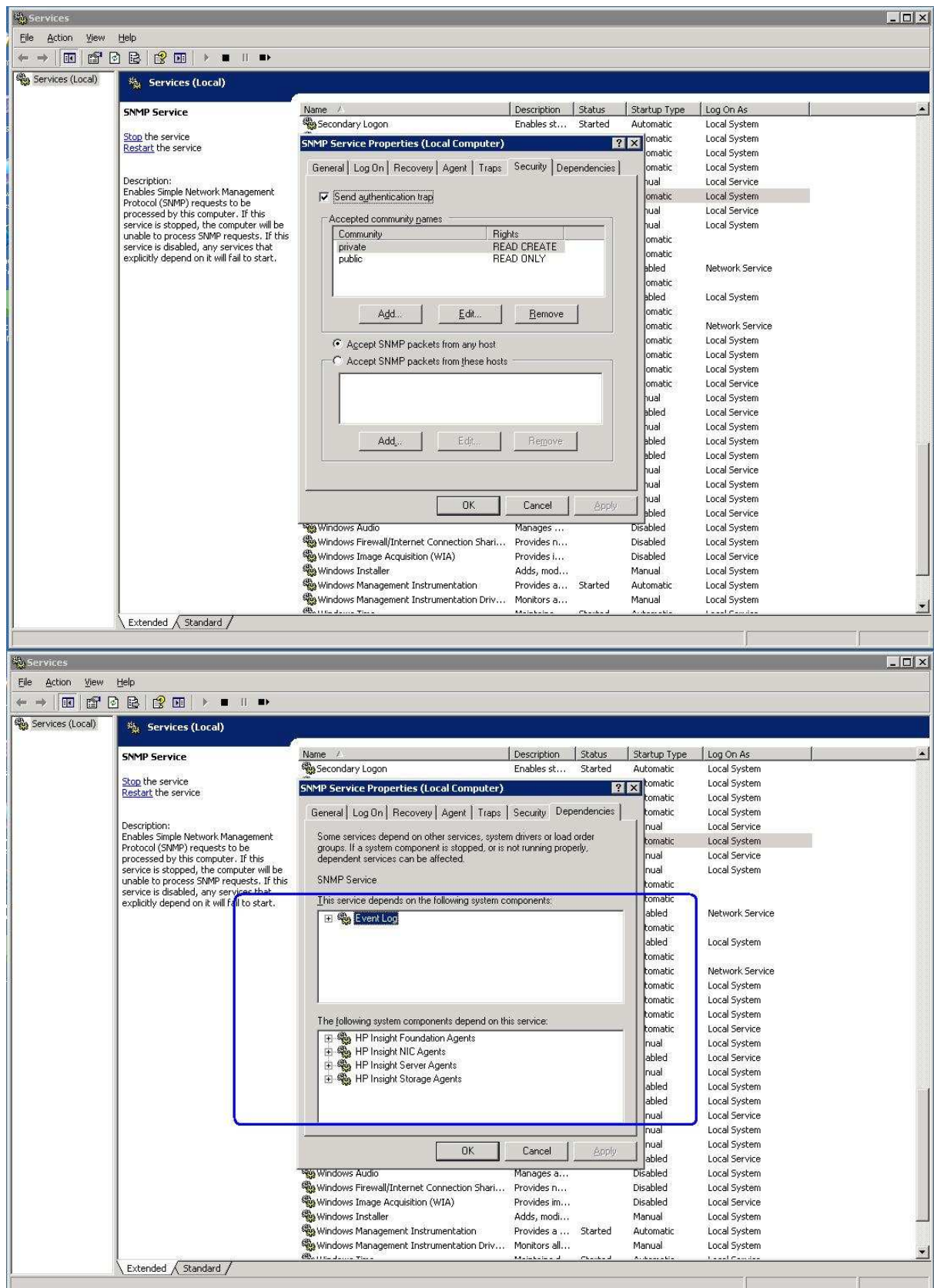
Possible Problems:

- SNMP service is not running/working

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Check the properties of the SNMP service



### **3. Windows SNMP Service Check on Windows Server**

Is the SNMP Service answering ?

Check on Windows Server with SNMP utilities like snmpview, freesnmp or any other tool for any output.

<http://www.snmpview.de/>

<http://www.sharewareconnection.com/freesnmp.htm>

Possible Problems:

- SNMP service is not running/working

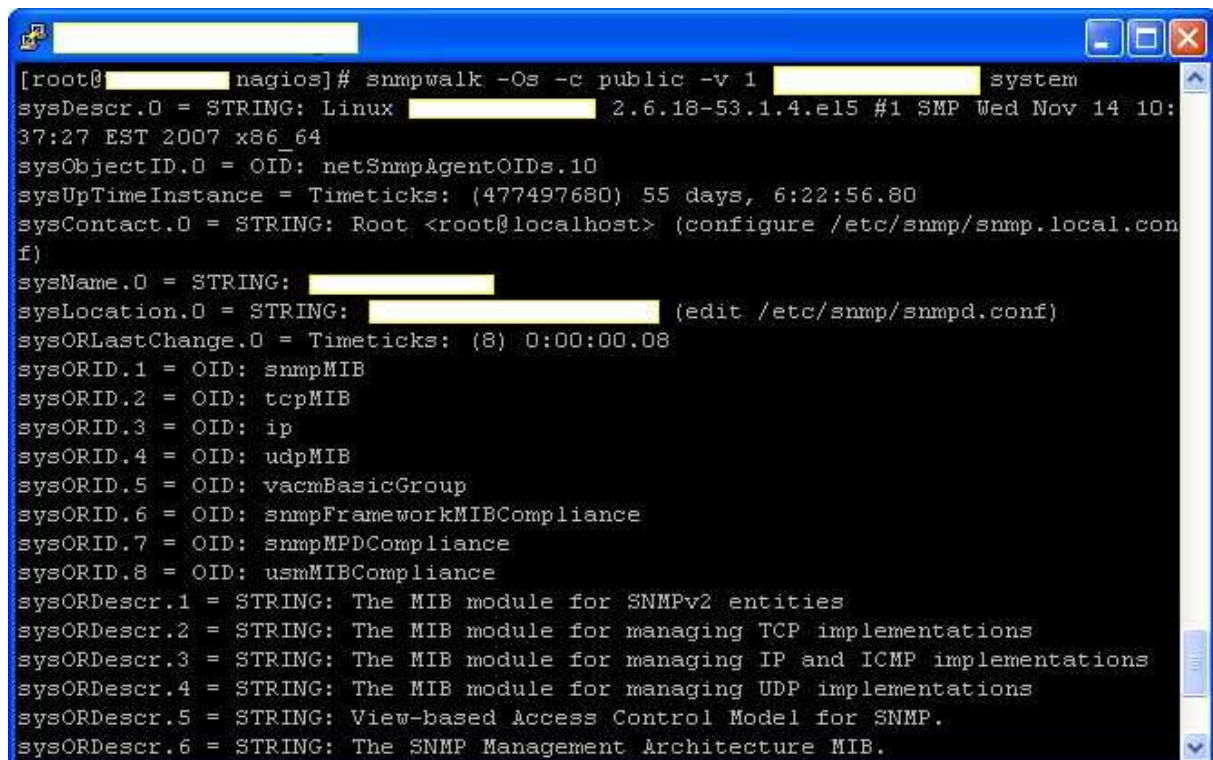
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## 4. Windows SNMP Service Check on remote Server

Check if the SNMP Service is answering over the network.

Check on Linux Server:

```
snmpwalk -Os -c public -v 1 <physical node ip-address> system
```



```
[root@nagios]# snmpwalk -Os -c public -v 1 system
sysDescr.0 = STRING: Linux 2.6.18-53.1.4.el5 #1 SMP Wed Nov 14 10:37:27 EST 2007 x86_64
sysObjectID.0 = OID: netSnmpAgentOIDs.10
sysUpTimeInstance = Timeticks: (477497680) 55 days, 6:22:56.80
sysContact.0 = STRING: Root <root@localhost> (configure /etc/snmp/snmp.local.conf)
sysName.0 = STRING:
sysLocation.0 = STRING: (edit /etc/snmp/snmpd.conf)
sysORLastChange.0 = Timeticks: (8) 0:00:00.08
sysORID.1 = OID: snmpMIB
sysORID.2 = OID: tcpMIB
sysORID.3 = OID: ip
sysORID.4 = OID: udpMIB
sysORID.5 = OID: vacmBasicGroup
sysORID.6 = OID: snmpFrameworkMIBCompliance
sysORID.7 = OID: snmpMPDCompliance
sysORID.8 = OID: usmMIBCompliance
sysORDescr.1 = STRING: The MIB module for SNMPv2 entities
sysORDescr.2 = STRING: The MIB module for managing TCP implementations
sysORDescr.3 = STRING: The MIB module for managing IP and ICMP implementations
sysORDescr.4 = STRING: The MIB module for managing UDP implementations
sysORDescr.5 = STRING: View-based Access Control Model for SNMP.
sysORDescr.6 = STRING: The SNMP Management Architecture MIB.
```

Possible Problems:

- Firewall
- No connection to the server -> check with ping

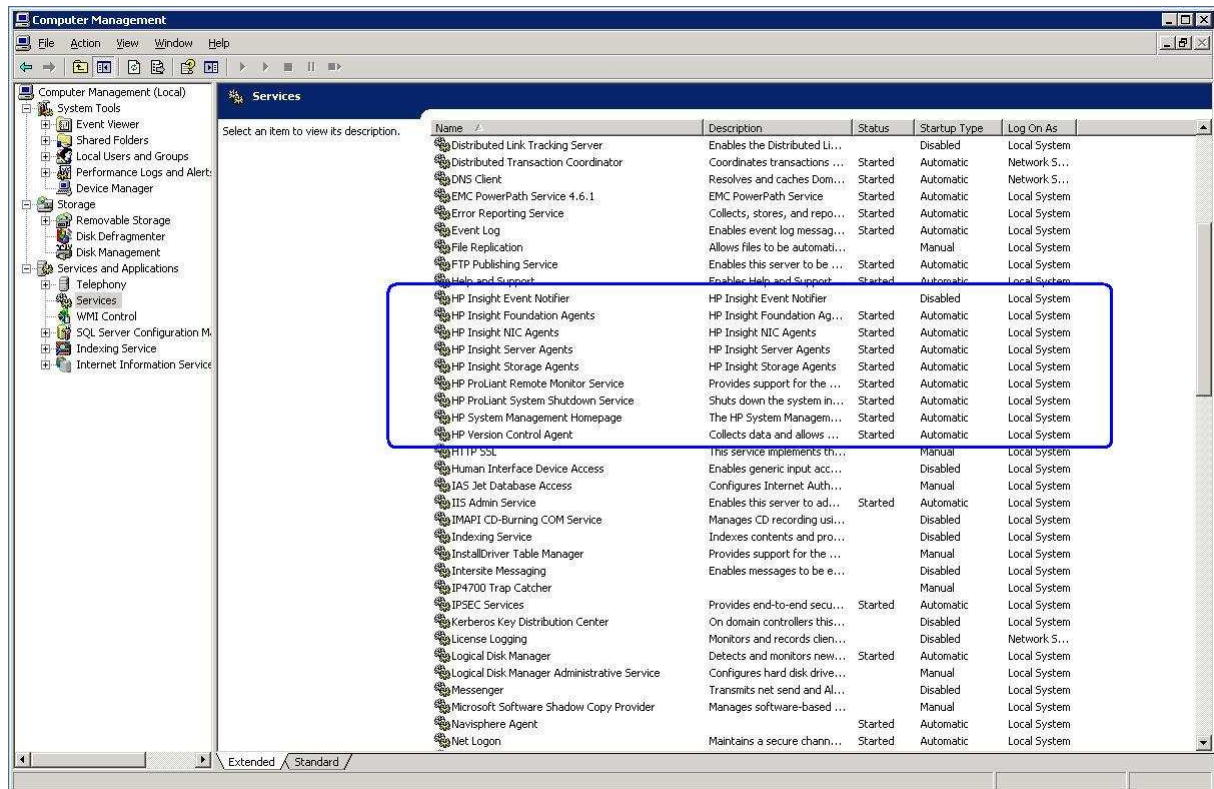


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### 5. Check HP Managements Services – Installation

Check if the HP Agents are installed and running.



Possible Problems:

- HP Agents not installed
- HP Agents not running

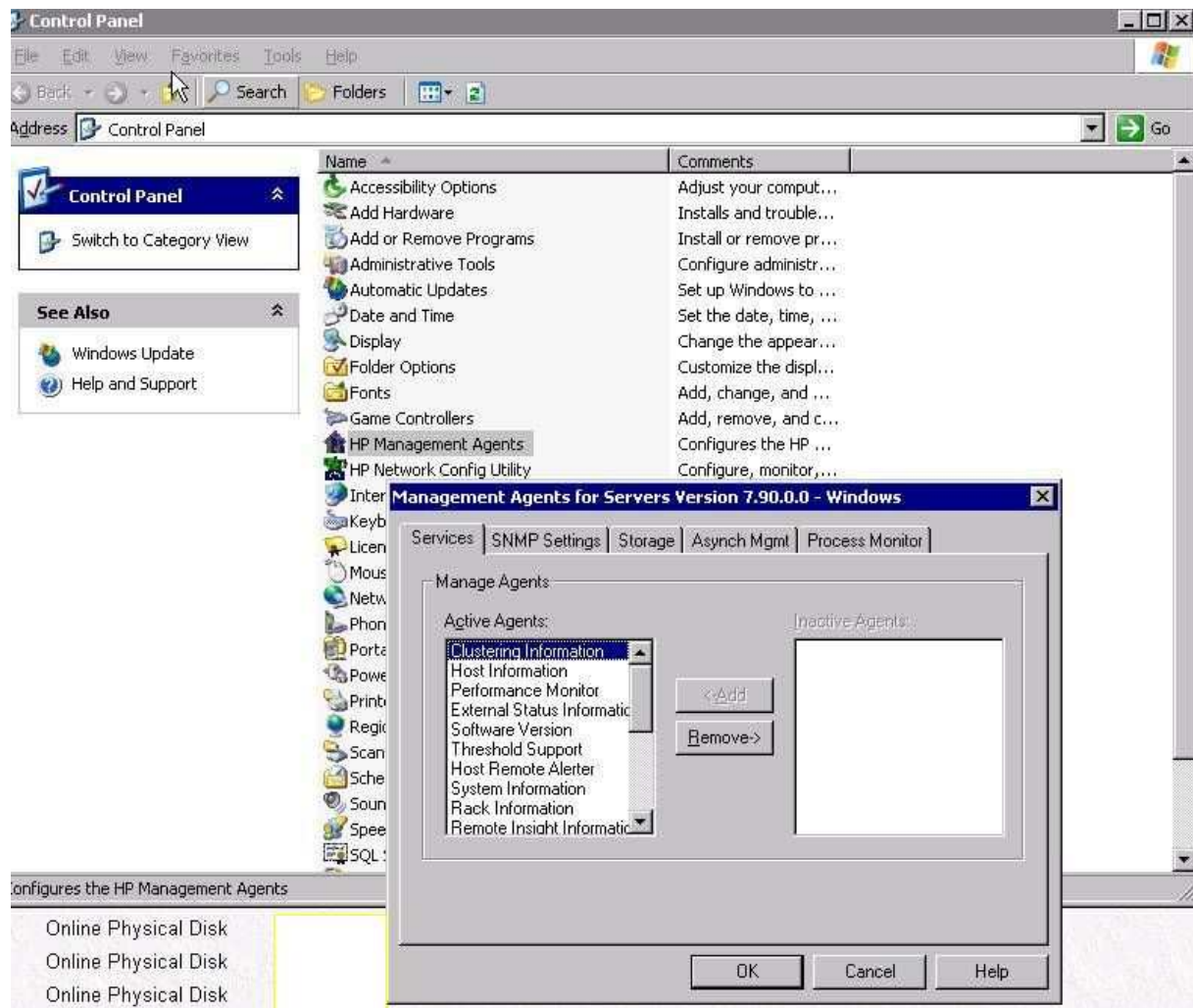


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### 6. Check HP Management Agents Properties

Please check if the “Clustering Information” is inactive.  
Activate “Clustering Information”.



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### 7. Check HP Systems Management Homepage

Check if you see some information on “Cluster Information”.

Device Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go Links

Address <https://127.0.0.1:2381/>

hp System Management Homepage for

Support Forums Help

System Model: ProLiant BL20p G3

Current User: [logout](#)

Home Settings Tasks Logs

home

Thursday, January 22, 2009 5:02:01 PM  
[refresh: manual](#)

**Overall System Status**

no failed/degraded items

**Integrated Agents**

- [HP NIC Agent](#)
- [HP Server Agent](#)
- [HP Storage Agent](#)
- [HP Version Control Agent](#)
- [HP Foundation Agent](#)

**Other Agents**

- [HP Insight Diagnostics](#)
- [HP Network Configuration Utility](#)

**Management Processor**

- [Integrated Lights-Out](#)

**Other Software**

- [HP Essentials Software](#)

**KEY:** ✓ OK  
⚠ Degraded  
✖ Failed  
? Unknown

**Management Processor**

- ✓ Embedded NEC98431
- ✓ Integrated Lights-Out

**NIC**

- ✓ Embedded HP NC7781 Gigabit Server Adapter Port 2
- ✓ Embedded HP NC7781 Gigabit Server Adapter Port 4
- ✓ Network Fault Tolerance Only (10003)
- ? Virtual interface 1

**Operating System**

- ✓ Cluster Information
- ✓ Local Disks
- ✓ Processors
- ✓ Server
- File System Space Used
- ... 5 items not shown

**Storage**

- ✓ External Storage Connections
- ✓ Smart Array 6i Controller on System Board
- ? Standard IDE Controller (1)

**System**

- ✓ Cooling and Temperature
- ✓ Enclosure Information
- ✓ Memory
- ✓ Processors
- ✓ PCI Devices

**System Configuration**

- ✓ Automatic Server Recovery
- Security
- Software Version Info
- System Board
- System Resources
- System Summary

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Check "Cluster Information"

Device Home Page - Microsoft Internet Explorer

Address: https://127.0.0.1:2381/

System Management Homepage for [redacted]

System Model: ProLiant BL20p G  
Current User: Administrator

Home Settings Tasks Logs

Home > Operating System > Cluster Information

Cluster [redacted]

IP Address: 10.43.128.132  
SW Vendor: Microsoft(R) Cluster service  
SW Version: 5.2  
CSD Version: Service Pack 2

Cluster Nodes

Cluster Node	Cluster Service	Resources
[redacted]	Up	OK OK

Resources Group - Cluster Group

Name	State	Type	Owner	Identification
Cluster IP Address	Online	IP Address	[redacted]	10.43.128.132
Cluster Name	Online	Network Name	[redacted]	
Disk Q:	Online	Physical Disk	[redacted]	Q:

Quorum resource

Resources Group - IXOS Group

Name	State	Type	Owner	Identification
Disk G:	Online	Physical Disk	[redacted]	G:
Disk L:	Online	Physical Disk	[redacted]	L:
Disk M:	Online	Physical Disk	[redacted]	M:
Disk N:	Online	Physical Disk	[redacted]	N:
Disk O:	Online	Physical Disk	[redacted]	O:
Disk P:	Online	Physical Disk	[redacted]	P:
Disk V:	Online	Physical Disk	[redacted]	V: Disk8Partition2 Disk8Partition3 Disk8Partition4 Disk8Partition5 Disk8Partition6 Disk8Partition7 Disk8Partition8 Disk8Partition9 Disk8Partition10 Disk8Partition11 Disk8Partition12 Disk8Partition13 Disk8Partition14 Disk8Partition15 Disk8Partition16 Disk8Partition17 Disk8Partition18 Disk8Partition19 Disk8Partition20 Disk8Partition21 Disk8Partition22 - 8Partition18 Disk8Partition19 Disk8Partition20 Disk8Partition21 Disk8Partition22 , logical drive 100
[redacted]	Online	Generic Service	[redacted]	
SQL IP Address1	Online	IP Address	[redacted]	10.43.128.134
SQL Network Name	Online	Network Name	[redacted]	
SQL Server	Online	SQL Server	[redacted]	
SQL Server Agent	Online	SQL Server Agent	[redacted]	

Possible Problems:

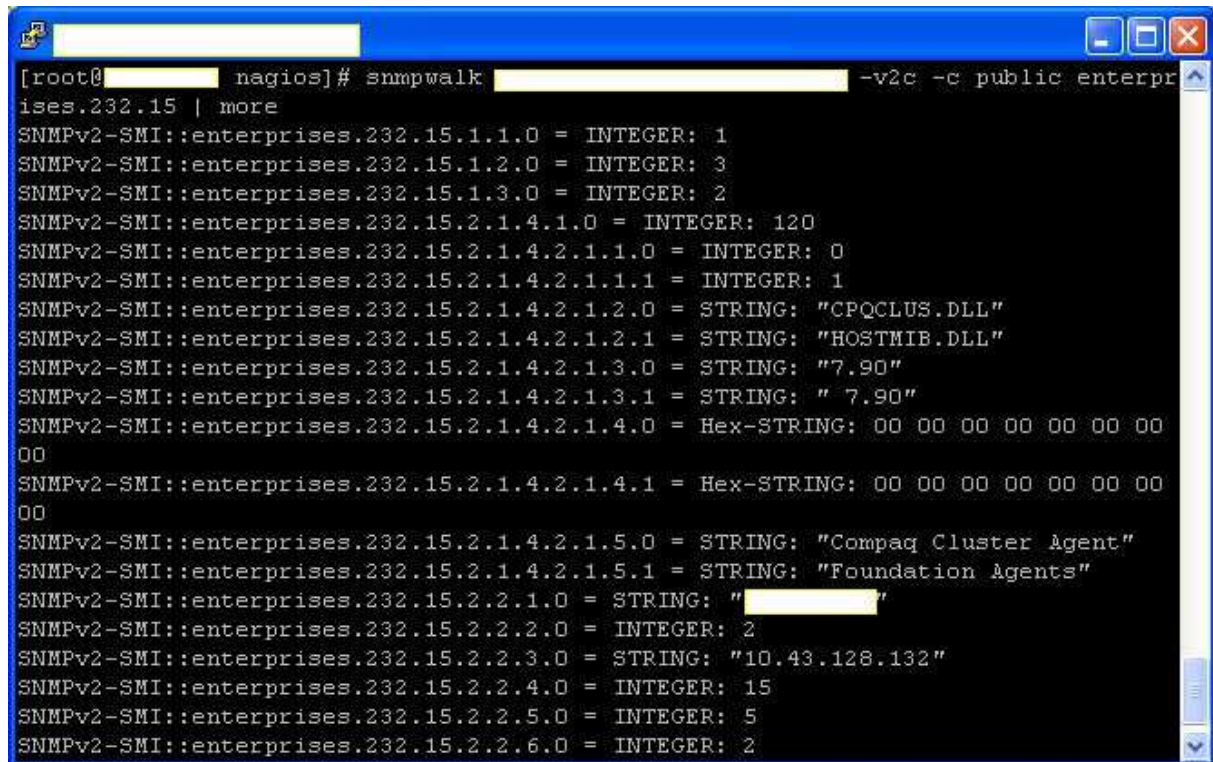
- HP Agents not working as needed

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## 8. Check HP Managements Services - Answering

Check on Linux Server:

snmpwalk < physical node ip-address> -v2c -c public enterprises.232.15



```
[root@ nagios]# snmpwalk -v2c -c public enterprises.232.15 | more
SNMPv2-SMI::enterprises.232.15.1.1.0 = INTEGER: 1
SNMPv2-SMI::enterprises.232.15.1.2.0 = INTEGER: 3
SNMPv2-SMI::enterprises.232.15.1.3.0 = INTEGER: 2
SNMPv2-SMI::enterprises.232.15.2.1.4.1.0 = INTEGER: 120
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.1.0 = INTEGER: 0
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.1.1 = INTEGER: 1
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.2.0 = STRING: "CPQCLUS.DLL"
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.2.1 = STRING: "HOSTMIB.DLL"
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.3.0 = STRING: "7.90"
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.3.1 = STRING: " 7.90"
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.4.0 = Hex-STRING: 00 00 00 00 00 00 00 00
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.4.1 = Hex-STRING: 00 00 00 00 00 00 00 00
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.5.0 = STRING: "Compaq Cluster Agent"
SNMPv2-SMI::enterprises.232.15.2.1.4.2.1.5.1 = STRING: "Foundation Agents"
SNMPv2-SMI::enterprises.232.15.2.2.1.0 = STRING: " "
SNMPv2-SMI::enterprises.232.15.2.2.2.0 = INTEGER: 2
SNMPv2-SMI::enterprises.232.15.2.2.3.0 = STRING: "10.43.128.132"
SNMPv2-SMI::enterprises.232.15.2.2.4.0 = INTEGER: 15
SNMPv2-SMI::enterprises.232.15.2.2.5.0 = INTEGER: 5
SNMPv2-SMI::enterprises.232.15.2.2.6.0 = INTEGER: 2
```

Possible Problems:

- HP Agents not installed
- HP Agents not running
- No connection to the server -> check with ping

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## **9. Check Nagios Cluster Plugin**

Check on Linux Server:

From the nagios plugin directory call

```
./check_mscs_hpma -H <host-ip> -v | more
```

If you get an answer like:

```
ERROR: get_table_request: (1.3.6.1.4.1.232.15.2....) No response from remote host '<host-ip>'
```

Check again with additional parameter -Ct:

```
snmpwalk <host-ip> -v2c -Ct -c public enterprises.232.15
```

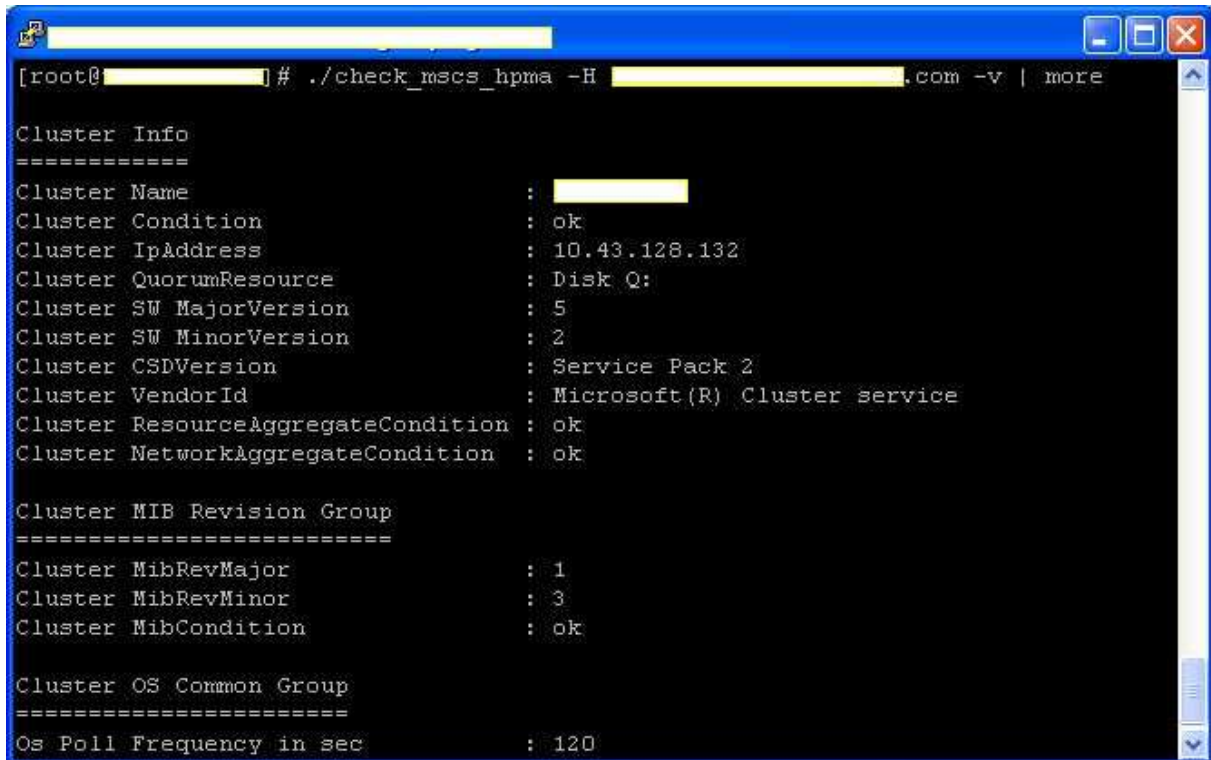
and have a look at the last line "Total traversal time" if its higher than 2 seconds then use parameter "-T" for changing the SNMP timeout value to e.g. 10 or higher.

example output:

```
SNMPv2-SMI::enterprises.232.15.2.6.1.1.6.1 = INTEGER: 2
SNMPv2-SMI::enterprises.232.15.2.6.1.1.6.2 = INTEGER: 2
SNMPv2-SMI::enterprises.232.15.2.6.1.1.7.0 = INTEGER: 2
SNMPv2-SMI::enterprises.232.15.2.6.1.1.7.1 = INTEGER: 2
SNMPv2-SMI::enterprises.232.15.2.6.1.1.7.2 = INTEGER: 2
Total traversal time = 0.179010 seconds
```



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```
[root@ ] # ./check_mscs_hpma -H .com -v | more

Cluster Info
=====
Cluster Name           : 
Cluster Condition      : ok
Cluster IpAddress       : 10.43.128.132
Cluster QuorumResource  : Disk Q:
Cluster SW MajorVersion : 5
Cluster SW MinorVersion : 2
Cluster CSDVersion      : Service Pack 2
Cluster VendorId        : Microsoft(R) Cluster service
Cluster ResourceAggregateCondition : ok
Cluster NetworkAggregateCondition  : ok

Cluster MIB Revision Group
=====
Cluster MibRevMajor     : 1
Cluster MibRevMinor     : 3
Cluster MibCondition     : ok

Cluster OS Common Group
=====
Os Poll Frequency in Sec : 120
```

## Possible Problems:

- Wrong IP-address
- No connection to the server -> check with ping
- Timeout value for SNMP call to low use parameter "-T" to increase the value (default 2 seconds)

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## **10. How To implement the plugin in Nagios**

Please execute “perldoc check\_mscs\_hpma “ in nagios plugin directory for detailed documentation.

If the plugin is running and you are happy with the functionality please vote at [www.nagiosexchange.org](http://www.nagiosexchange.org)

Thank you!



## **11. Some useful SNMP Articles**

<http://www.enterprisenetworkingplanet.com/windows/article.php/3762946/Manage-SNMP-With-Windows-Servers.htm>