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Description of NetBIOS Browsing Console (Browcon.exe)

SUMMARY

This article describes NetBIOS Browsing Console (Browcon.exe), a utility that you can use to troubleshoot NetBIOS network browsing problems. NetBIOS Browsing Console builds on the power of Browstat.exe, a command-line tool that is included in Windows 2000 Support Tools.

MORE INFORMATION

Browstat.exe

NetBIOS browsing is used in many programs and utilities that are designed to run on Windows-based networks. Programs that allow users to browse the network for computers or printers typically use NetBIOS browsing. When individual computers or groups of computers are missing in the list, network administrators must try to determine why.

Browstat.exe is an extremely powerful command-line tool that can help you determine the root cause of a browsing issue and then help to fix it. However, to use Browstat.exe effectively, you must be an experienced troubleshooter who has a detailed knowledge of how NetBIOS browsing works. In routed IP environments, you may have to run Browstat.exe on several systems that are located in different locations on the network and coordinate the data that is returned from each test. Because of these complexities, few troubleshooters take advantage of Browstat.exe. For additional information and step-by-step instructions about how to use Browstat.exe, click the following article number to view the article in the Microsoft Knowledge Base: [188305](http://support.microsoft.com/kb/188305/) (<http://support.microsoft.com/kb/188305/>)

Troubleshooting the Microsoft Computer Browser Service Instructions for using Browstate.exe are also described in the "MS Windows NT Browser" white paper. This white paper also includes detailed information about the browser services that are available in Microsoft operating systems. To view this white paper, visit the following Microsoft Web site: <http://technet.microsoft.com/en-us/library/cc767893.aspx> (<http://technet.microsoft.com/en-us/library/cc767893.aspx>)

NetBIOS Browsing Console

NetBIOS Browsing Console leverages the power of Browstat.exe and makes Browstate.exe easier to use and understand. NetBIOS Browsing Console is a Windows program that was built on Microsoft .NET Framework (v1.1.4322). Like Browstat.exe, it runs on Microsoft Windows NT 4.0 and Windows 2000 and later operating systems that have the TCP/IP protocol installed. After you install and start the console, you enter relevant information in the console that helps to automate many troubleshooting steps.

This information that you enter includes the following:

- The NetBIOS name of all Windows domains on the network
- The NetBIOS name of the primary domain controller (PDC) for each Windows domain
- The IP address of the PDC for each Windows domain
- The IP addresses of all the WINS servers on the network
- A list of all the Internet Protocol (IP) subnets on the network
- The NetBIOS name of each system on the network that is running NetBIOS Browsing Console Agent software



This picture of the network environment is a *network profile*. You only have to enter this information one time. However, you can add new information and delete outdated information whenever you need to. To view the network profile, see the pane on the left side of the main form.

The NetBIOS Browsing Console Agent

The NetBIOS Browsing Console uses an agent (the NetBIOS Browsing Console Agent) to gather and report NetBIOS browsing data from remote networks. The agent must be installed on a single system on each logical subnet on the network. The system's name is entered in the "network profile" on the NetBIOS Browsing Console, so that it can be contacted during troubleshooting. The agent is a small console application that does not require any configuration. Just double-click its icon to start the agent. By default, the agent listens on TCP port 49911 for console connections. It displays the connection details each time a console connection is tried. Version 2.0 of the agent (Nbcagent.exe) does not require the Microsoft .Net Framework. Just copy it and Browstat.exe to any directory on a system, and then run Nbcagent.exe. The combined size of the agent and Browstat.exe is less than 200 KB, and neither file requires any registry entries. The NetBIOS Browsing Console Agent (version 2.0) has two optional switches:

- **[/p port_number]** This option specifies which TCP port the agent will listen on for console connections. The specified TCP port must be an unused port in the valid range: 1-65535. If no TCP port is specified, port 49911 is used by default.
- **[/c IP_address]** This option specifies the IP address or name of the console that the agent will accept connections from. Connection attempts from different IP addresses or names are rejected.

The agent attempts to resolve the IP address and name of the system that is connecting to its listening port. If the IP address or name is successfully resolved and matches the IP address or name specified after the **/c** option, the connection is accepted. Otherwise the connection attempt is reset. Note that if a name is specified after **/c**, the agent will try to perform a reverse name lookup to resolve a name to an IP address of systems that are trying to connect to the agent. If this process fails or the name resolved is incorrect, the connection attempt will fail.

The resolved name must be exactly the same as the name entered after the **/c** switch. If a NetBIOS name is specified, but a Fully Qualified Domain Name (FQDN) is resolved, the agent will reject the connection attempt. Another potential problem is if multiple DNS PTR records exist for the same IP address. In this situation, DNS servers typically use the "round robin" method to respond. If DNS returns an FQDN that is different from the FQDN that is specified after the **/c** switch, the agent will reject the connection. For these reasons it is best to specify an IP address when you use the **/c** option. Although the agent does have this rudimentary form of security, it does not implement any authentication or encryption for incoming connections. Therefore, do not leave the agent running after troubleshooting has been completed on insecure networks.

Use NetBIOS Browsing Console to troubleshoot your NetBIOS browsing infrastructure

After you deploy the console and agents, you can quickly collect data that is used to troubleshoot typical NetBIOS browsing issues. This makes it easier and faster to diagnose and correct problems with your NetBIOS browsing infrastructure.

The left pane of NetBIOS Browsing Console is populated with browsing data that is collected from the subnets that are used during the troubleshooting process. This information includes the domain master browser, all the subnet master browsers, and subnet backup master browsers that are registered with the domain master browser. The list also includes the subnet master browsers that are involved in the problem and the browse lists that are retrieved directly from them. This information can help you determine the systems that are registered with a particular browser and the systems that are not. Some system attributes are included in this list, such as the operating systems that the systems are running and their browser roles.


NetBIOS Browsing Console can help you to troubleshoot when a single system or a group of systems is missing from a client's browse list. To start troubleshooting, type the name of the missing system, the Windows domain that it is a member of, the logical IP subnet that it is located on, and the subnet that the client is on,

and then click **Start Troubleshooting**. The console finds and catalogs the domain master browser and the various subnet master browsers that are involved in the problem. The console connects to and queries agents as necessary. It reports connectivity problems if any are encountered during the troubleshooting process.

The network profile is updated with the new information each time you click **Start Troubleshooting**. This information can help you to pinpoint the browse lists that contain the missing systems and the browse lists that do not contain the missing systems. If the console finds any problems, it reports them in the right pane of the main form. If it determines any possible causes of the problems, it displays reports in HTML format in the default Web browser.

Download NetBIOS Browsing Console and the NetBIOS Browsing Console Agent

The following file is available for download from the Microsoft Download Center:

 [Download the Browcon.exe package now](http://download.microsoft.com/download/b/2/a/b2ae4b0e-dc51-40d8-98bf-7a4ade88dcdf/browcon.exe). (http://download.microsoft.com/download/b/2/a/b2ae4b0e-dc51-40d8-98bf-7a4ade88dcdf/browcon.exe) Release Date: May 30, 2003

For additional information about how to download Microsoft Support files, click the following article number to view the article in the Microsoft Knowledge Base: [119591](http://support.microsoft.com/kb/119591/) (http://support.microsoft.com/kb/119591/) How to obtain Microsoft support files from online services Microsoft scanned this file for viruses. Microsoft used the most current virus-detection software that was available on the date that the file was posted. The file is stored on security-enhanced servers that help to prevent any unauthorized changes to the file.

The Browcon.exe file contains the following files:

Eula 16 KB NBCAgent-v2 112 KB NetBIOS Browsing Console Setup 370 KB Readme 1 KB Setup 108 KB Setup 1 KB

APPLIES TO

- Microsoft Windows 2000 Advanced Server
- Microsoft Windows 2000 Server
- Microsoft Windows XP Home Edition
- Microsoft Windows XP Professional
- Microsoft Windows 2000 Professional Edition
- Microsoft Windows Server 2003, Datacenter Edition (32-bit x86)
- Microsoft Windows Server 2003, Enterprise Edition (32-bit x86)
- Microsoft Windows Server 2003, Standard Edition (32-bit x86)

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