



Bowman Systems, LLC

TECH NOTE # 8404

IMPROVING SPEED PERFORMANCE

SERVICEPOINT™ 3.03

OVERVIEW

This Tech Note examines, and offers possible solutions for, different issues that may cause ServicePoint to run slowly. These issues are divided into the following three main categories:

- Customer Solutions
- ServicePoint Solutions
- Bowman Systems Solutions

SPEED CONSIDERATIONS

The speed of Internet performance on an individual workstation should be benchmarked before any changes are made to it. This allows the user to measure changes to the system and note any performance boosts. Please note, that speed depends not only on your Computer, but also on your Internet Service Provider's (ISP) backbone, the connectivity/congestion of the server you're downloading from (as well as every router on the way to you), distance between the server and client, Internet congestion at the time, etc.

Here are two ways to test your Internet speed:

- a. Use an online speed testing service. There are several that will test your Internet connection and provide you with statistics. The following site is an example: <http://www.bandwidthplace.com/speedtest/>
- b. The most reliable speed test is to download multiple large files from distant servers (not within your ISP's domain). You can do a test by downloading the latest ServicePoint help file from: <http://www.bowmansystems.com/helpfile/>

CUSTOMER SOLUTIONS

This section offers some suggestions for End Users and System Administrators to help increase the speed of their workstation, browser, Internet connection, and system when working with ServicePoint.

NOTE

Please note that the following suggestions are for ServicePoint System Administrators to evaluate, and not recommendations from Bowman Systems.

CLOSE OTHER PROGRAMS

Close other programs while running ServicePoint. Some software, such as antivirus programs that are actively scanning the hard drive and defrag programs that are running while using ServicePoint, will severely degrade system performance. It is best to schedule these tasks to run automatically after business hours.

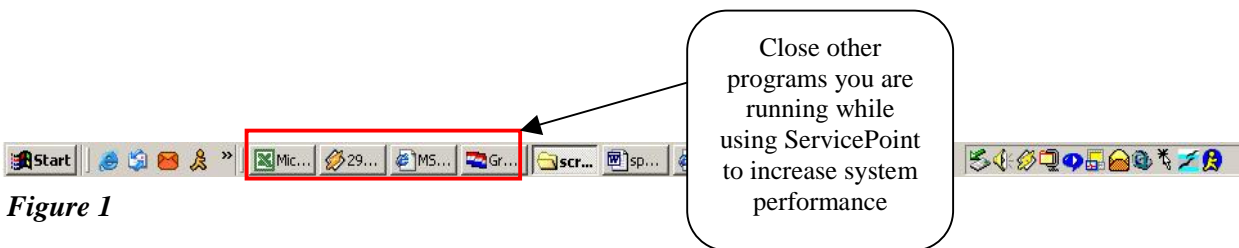


Figure 1

CLOSE PROGRAMS IN SYSTEM TRAY

Close unnecessary programs that are running in the system tray. The system tray is located on the right hand side of the Windows toolbar. Some examples of programs that appear in the system tray are AOL Instant Messenger or a pocket PC sync program.

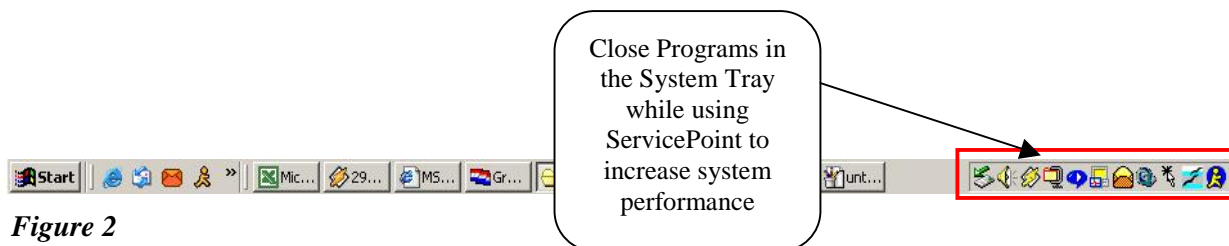


Figure 2

UPGRADE YOUR INTERNET CONNECTION

Upgrade your connection to the Internet. Although quicker Internet connections come with higher price tags, high speed, cable, or DSL Internet connections dramatically increase your Internet speed. If you cannot upgrade your Internet connection, then make sure your modem settings are optimized.

Please review the following items for a description of various Internet Connections:

- **56K Dialup:** This Internet connection usually connects at a rate much less than 56 Kbps. Dialup speeds vary and are dependent upon the quality of the phone line you are using as well as different user configurations. There are many dialup users who experience extremely slow speeds such as 28 Kbps on 56K connections.
- **ISDN:** A Dual-Channel ISDN connects at 128 Kbps, while a Single-Channel ISDN connects at 64 Kbps. Integrated Services Digital Network (ISDN) includes integrated services to help speed up fax delivery, etc.
- **Cable:** The connection speeds for Cable vary dramatically from 1 to 5 Mbps. From time to time you may experience a decrease in Internet speed due to congestion from too many users.
- **DSL:** DSL operates on various setups at approximately 1.4+ Mbps. The speed of a DSL connection can also fluctuate depending on the distance from the central connection switch.

Whichever Internet connection speed you choose, none will perform to their maximum potential without a properly configured PC. Additionally, too many users can overload an Internet Service Provider's (ISP) gateway and cause a decrease in Internet speed.

CHECK YOUR BROWSER VERSION

Verify that your Internet Browser is either Internet Explorer 5.5 or higher or Netscape version 7.1 or higher. Bowman Systems has conducted tests that show that ServicePoint works best when using these browser versions. To check your Browser's version number, see below.

Internet Explorer:

- Open Internet Explorer.
- Click on Help, located on the Browser toolbar.
- Click on About Internet Explorer from the menu that appears.

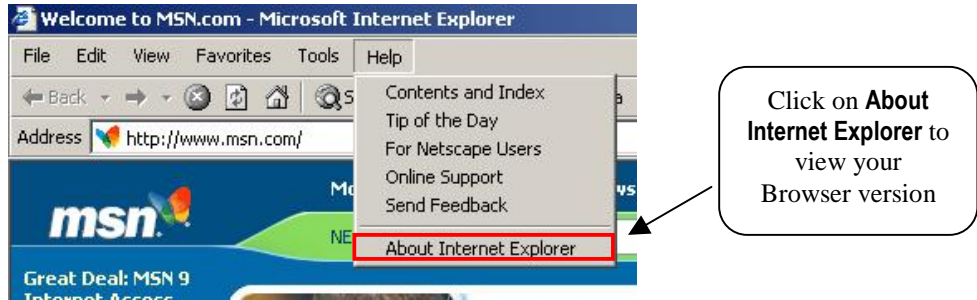


Figure 3

- The first line of the information that appears will tell you your Browser version.

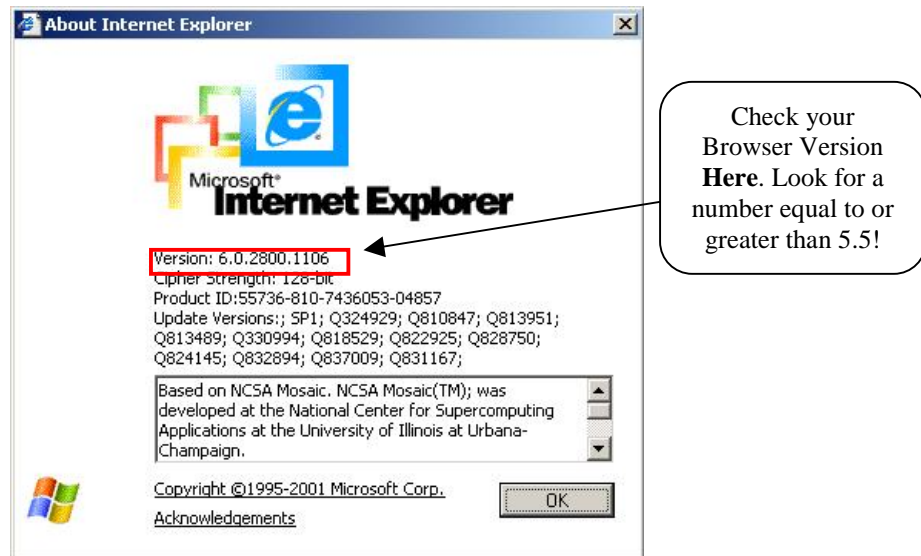


Figure 4

- If you are NOT running Internet Explorer 5.5 or above, then go to www.microsoft.com. Click on the Downloads link. This will bring you to a page where you can search for downloads. Type in “Internet Explorer” into the Keywords box and click on the GO button. Click on the appropriate download from the results that appear.

Netscape

- Open Netscape. When Netscape opens, the Browser version may be listed here.



Figure 5

- If you did not see the Browser version when you opened the browser, then click on Help, located on the Browser toolbar.
- Click on About Netscape from the menu that appears.

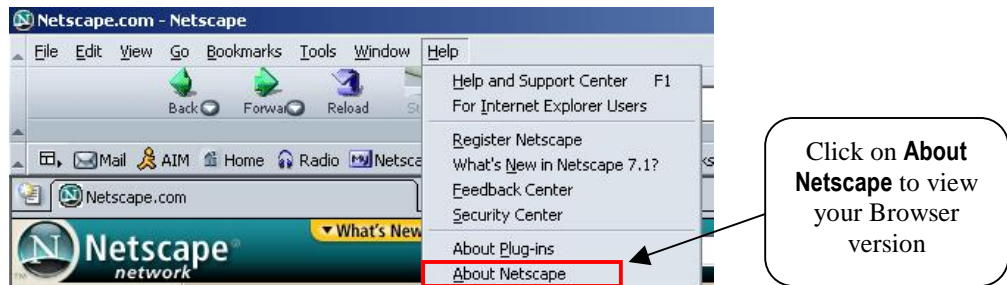


Figure 6

- A new window will appear with information on the Browser. The Browser version number should be listed at the top.

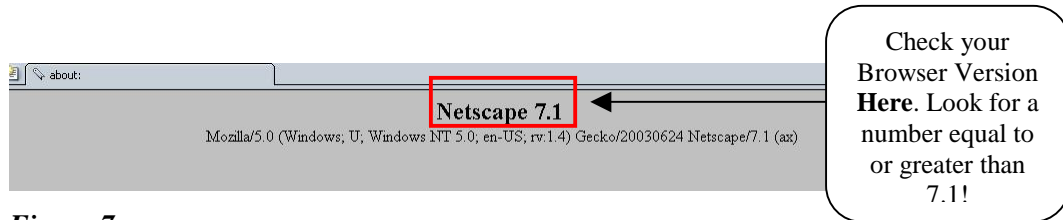


Figure 7

- If you are not running Netscape 7.1 or higher, then go to <http://home.netscape.com>. Under tools, click on the Netscape 7.1 link. The page will refresh and display the Netscape download screen. Click on the Free Download button to download and install this browser.

ADJUST INTERNET EXPLORER SETTINGS

There are a few Browser settings that can be adjusted to improve your ServicePoint experience.

1. **Verify that your encryption level is 128-bit.** 128-bit encryption is standard in both Internet Explorer 5.5 or higher and Netscape 7.1 or higher. To view your encryption level:

- Open Internet Explorer.
- Click on Help, located on the Browser toolbar.
- Click on About Internet Explorer from the menu that appears.



Figure 8

- The second line of the information that appears will tell you your Encryption Level.

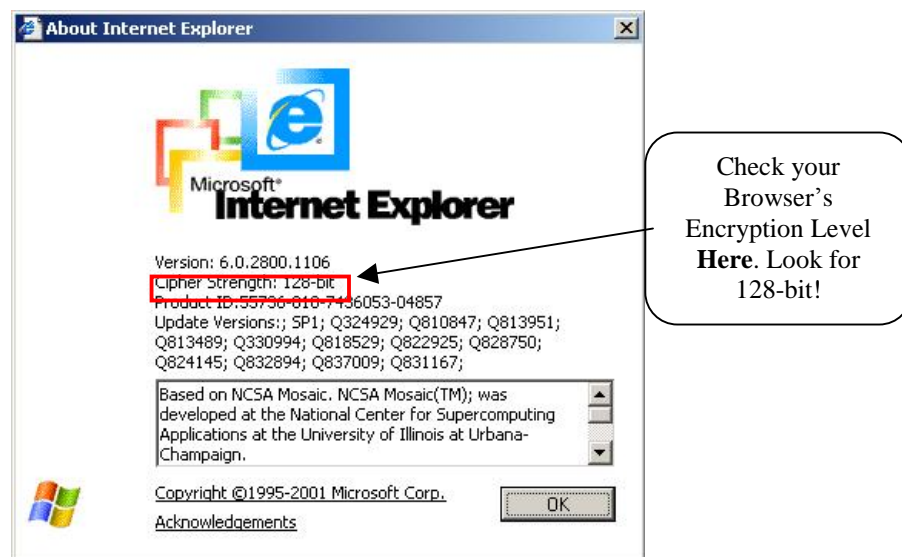


Figure 9

2. **Verify that your Cache settings are set to “Every visit to the page.”** To change your Cache settings:

- Open Internet Explorer.
- Click on Tools, located on the Browser toolbar.
- Click on Internet Options from the menu that appears.



Figure 10

- The Internet Options window will pop up. Locate the Temporary Internet Files section of this window, and click on the Settings button.

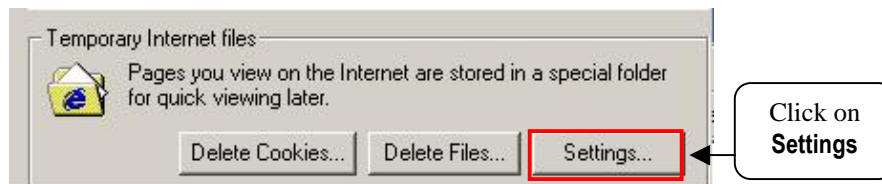


Figure 11

- On the Settings page that appears, click on the radio button next to Every visit to the page.

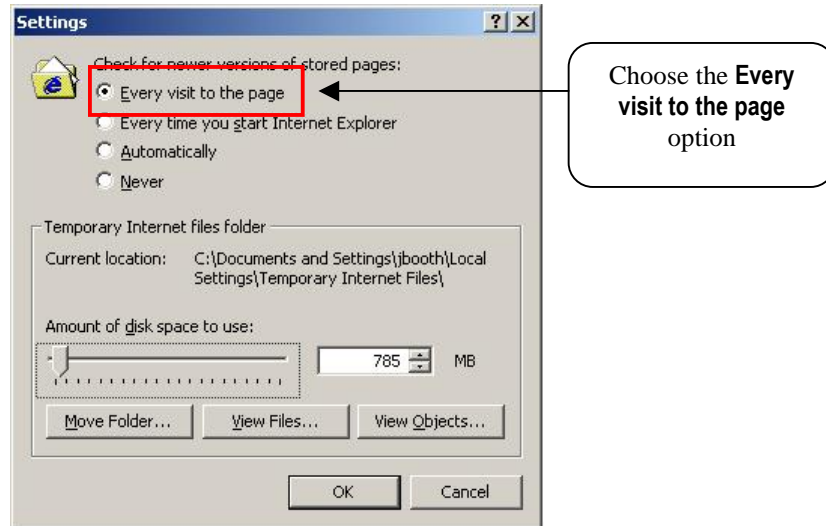


Figure 12

- Click on the OK button.

3. Delete Temporary Internet Files. To delete these files:

To Delete Temporary Internet Files:

- Open Internet Explorer.
- Click on Tools, located on the Browser toolbar.
- Click on Internet Options from the menu that appears.



Figure 13

- The Internet Options window will pop up. Locate the Temporary Internet Files section.

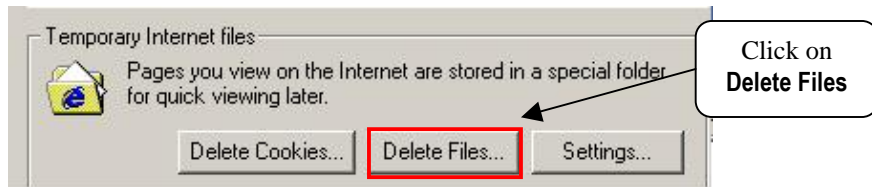


Figure 14

- Click on the Delete Files button.
- The Delete Files popup window will appear. Click on the OK button. The files will be deleted.

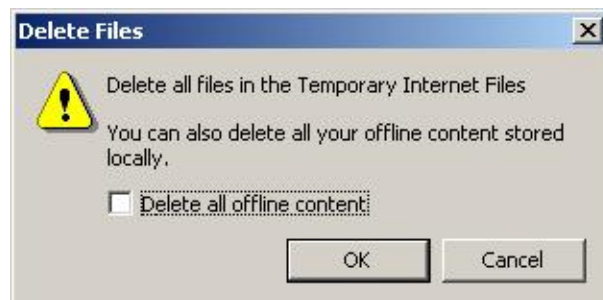


Figure 15

4. **Restore your Browser's Default Settings.** To restore settings:

- Open Internet Explorer.
- Click on Tools, located on the Browser toolbar.
- Click on Internet Options from the menu that appears.



Figure 18

- Click on the Advanced Tab in the Internet Options pop-up menu.
- Click on the Restore Defaults button

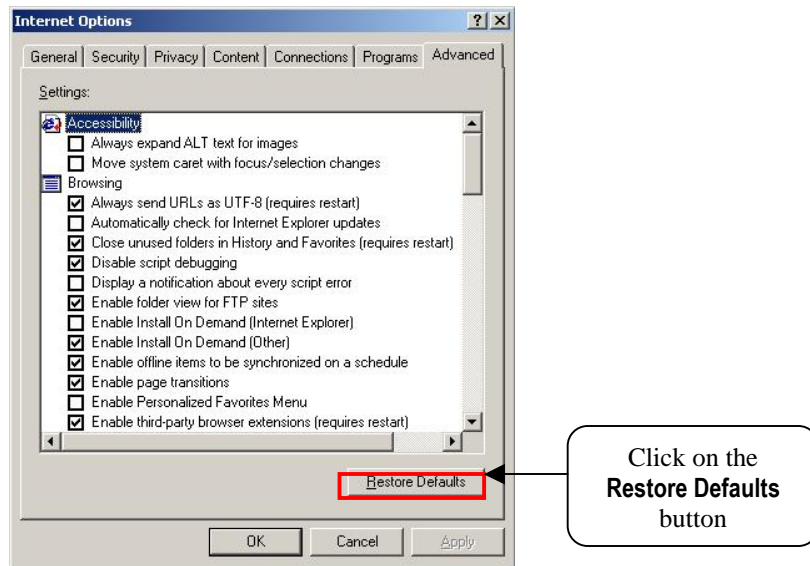


Figure 19

- Click on the Apply button.

5. Turn off the Automatically Detect Setting option. To turn off this option:

- Open Internet Explorer.
- Click on Tools, located on the Browser toolbar.
- Click on Internet Options from the menu that appears.



Figure 20

- Click on the Connections Tab in the Internet Options pop-up menu.
- Click on the LAN Settings Button.

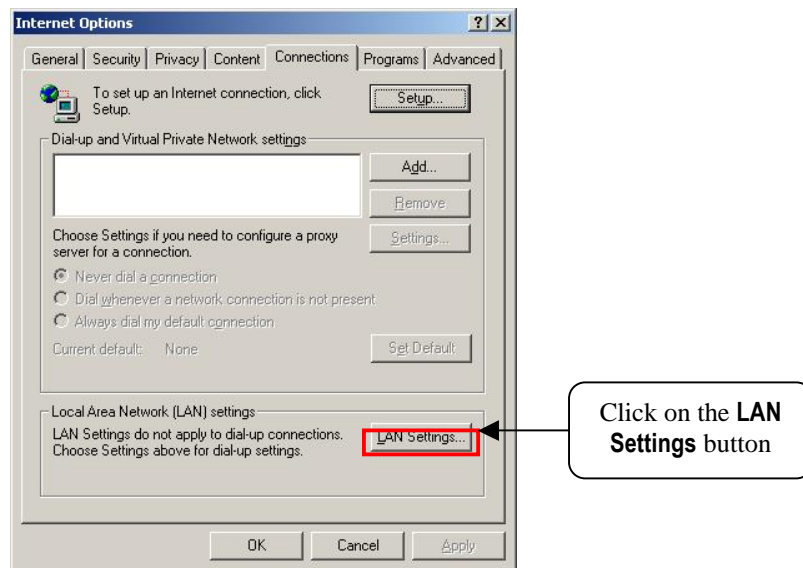


Figure 21

- The LAN Settings window will pop up. Uncheck the checkbox next to Automatically Detect Settings.
- Click on the OK button.

UPGRADE YOUR WORKSTATION

Upgrading your workstation can consist of adding additional RAM, installing a faster processor, adding a bigger and faster hard drive, or purchasing a brand new state-of-the-art computer that contains all of these items. A new high-performance computer can make a significant difference in speed. One customer noticed a 300% increase in speed when an older computer was replaced with a new model.

PURCHASE A PC SPEED BOOSTING SOLUTION

PC speed boosting solutions safely and efficiently open up slow data flow areas on your PC. The restricted flow of data through these "bottlenecked" problem areas can cause slow and sluggish performance. Upgrading the hardware on your computer will boost computer performance, but can be costly.

NOTE

Bowman Systems does not recommend third party software to customers, nor do we recommend a particular product. We only wish to make customers aware that these solutions are available.

ADJUST MODEM SETTINGS

You can manually adjust modem settings to increase speed, but this usually involves a long trial and error exercise. This is due to differing computer configurations. Web accelerator software provides a fast and easy way to auto-optimize your settings for faster performance.

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OPTIMIZE USE OF RAM MEMORY

Optimize your usage of RAM memory. An effective method of boosting your RAM is to use a downloadable Memory optimizing program. With a few button clicks, it will optimize your RAM Memory for you.

RAM enhancers are great for PCs that have no more available slots for RAM expansion. It's also a solution for those who wish to maximize performance from their current RAM setup without the hassle of physically opening up their PC, which may void the computer's warranty.

NOTE

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EVALUATE INTERNAL LAN CONFIGURATIONS

Network cables and LAN configurations can have a profound impact on the speed of your system. Routing a T-1 through a P-486 server rather than a router, for example, may not be an optimal LAN configuration. Connecting directly to the router will dramatically improve speed. Another possible problem may be the location of the Network cable. For example, outdoor exposure to a LAN Cat 5 network cable increases the chance of

damage to the wire and may cause a slowdown in performance. There are also many other possibilities for slowdowns within a network. An experienced Network Administrator should periodically perform an analysis of Internet speed on your network.

MODIFYING WORKSTATION REGISTRY SETTINGS

There are several changes that can be made to the registry settings of a workstation that will help improve Internet performance on that workstation. You can look up these types of registry tweaks on the Internet. You may not want to try implementing one of these registry fixes unless you are a highly skilled computer technician. Just changing one value incorrectly within the registry can cause your computer to behave miserably. In some cases, the PC will no longer reboot. Another option is an accelerator software solution that automatically performs registry tweaking among its list of optimizing routines.

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DEFRAGGING THE HARD DRIVE

Defrag your computer's hard drive. A heavily fragmented hard drive can cause severe slowdowns in system performance. You can schedule the defrag program to run at regular intervals after business hours.

SCHEDULING REGULAR MAINTENANCE

Any regularly scheduled maintenance task should be scheduled to run after business hours because the programs themselves will use up resources that slow down system performance.

INSTALL ANTIVIRUS SOFTWARE

Unfortunately viruses are becoming more commonplace and many are designed to drain system resources. Installing a good antivirus program on workstations will prevent the vast majority of viruses from gaining a foothold on your system. Antivirus programs can also be scheduled to scan the hard drive automatically after business hours. It is a good practice to scan your hard drive for viruses on a regularly scheduled basis.

FILE SHARING AND STREAMING

Do not connect to or use Person-to-Person file sharing software such as Kazaa, or streaming programs such as Real Audio. Both of these programs can significantly slow down your Internet connection.

SERVICEPOINT SOLUTIONS

This section offers some Best Practice suggestions for speeding up the ServicePoint system.

SEARCHING FOR A CLIENT

1. **Search for clients in ClientPoint and ShelterPoint using the SkanPoint feature.** If this feature is available to you, it will appear at the bottom of the ClientPoint search screen.

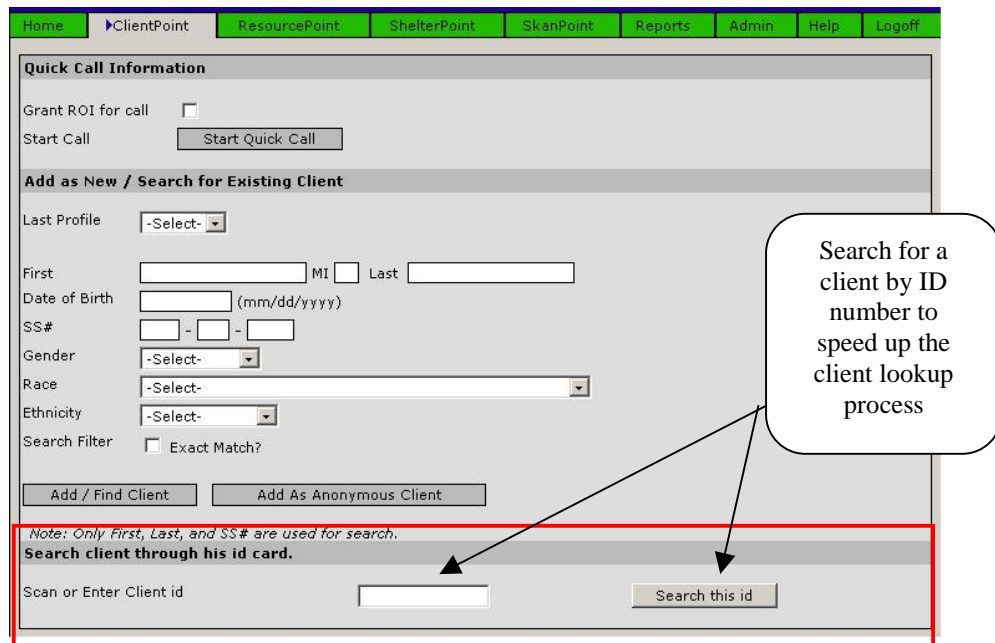


Figure 22

To use this feature, you must know the client's ID number. This is not the client's unique ID, but their internal ID. You can locate the client's internal ID by going to their ClientPoint profile.

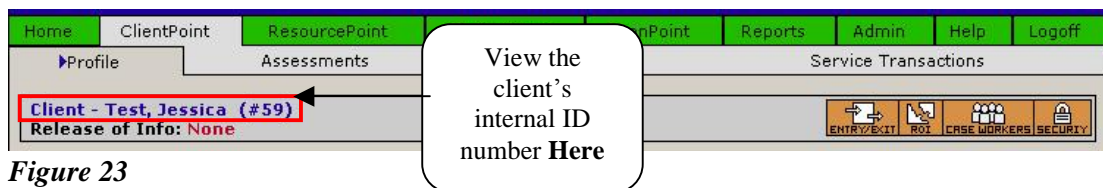


Figure 23

This search method is more efficient than searching by client information. When searching by client information, the systems searches for and retrieves all client records that could possibly match your search. When the system searches for the

client's ID number, it is only looking for and retrieving one file, thus making the process more efficient.

2. **If SkanPoint is not available to you, search for client names by using a full first name and full last name.** This reduces the number of client names that are being searched against and will return those names faster.
3. **Do not use % when searching.** The % sign is a wild card that returns all clients. Searching for all clients will take much longer to return names and longer for the page to build out.

BUILDING ASSESSMENTS AND SUBASSESSMENTS

Building and publishing large assessments can significantly reduce the speed of the ServicePoint system, and may even cause your page to time out. This can be an even bigger problem if a long assessment is set to show on the client profile. While ServicePoint is attempting to load all of the assessment information, the system will slow down for all users. We recommend that you keep these standards in mind when building both assessments and sub-assessments:

- Do not add more than 30 to 35 questions per assessment.
- Do not add more than 3 to 4 sub-assessments within an assessment.
- Do not add more than 25 questions to a sub-assessment.

BUILDING REPORTS

Reports can create a drag on the database server, thus slowing the speed of ServicePoint for other users. The best solution for this is to run reports after business hours.

BOWMAN SYSTEMS SOLUTIONS

This section explains some tasks that the Bowman Systems IT staff perform, or can perform, to increase the speed of your ServicePoint application.

NOTE

Requests and purchases for a server hardware upgrade can only be made by clients with co-located servers.

DATABASE SERVER

Here are a few things that Bowman Systems can add or adjust on the Database server to increase site speed.

- Upgrade the memory on the database server
- Add an extra processor to the database server
- Add a faster processor to the database server
- Re-index the database

APPLICATION SERVER

- For a faster running ServicePoint site, our Network Administration staff recommends using Linux on your application server.
- Run the application from RAM. Bowman System's internal testing has shown that this will increase speed at least 2x on the Application Server because PHP does numerous reads and writes to the hard disk when running.

TRACE ROUTING

Our IT Staff can run a Trace Route to pinpoint source of slowdown on the Internet.

RELOCATING TO A DIFFERENT SERVER

Move a client from a crowded Shared server to a less crowded shared server, or even to a Co-Located server. This has helped improve system performance for several of our

customers. We recommend that a client move from a shared server to a co-located server when they exceed either 150 users or 50,000 client records.

NOTE

When using Shared servers, our customers are not only competing for resources with their own users but also with the users of other customers.

APPLYING AN ECHO TIMER

Our Network Administrators can apply an echo timer code to a customer's site. This code will show a time at the bottom of each ServicePoint page after a request has been made to a customer's server. It basically documents how long it took the request to be processed by the server. If there is a large discrepancy between the server time and the actual time that it took the request to return to the customer's computer, then this can help eliminate the software as the source of the speed problem.

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