

The Internet Accelerator System

Bloomington Communications' Internet Accelerator is designed to optimize the performance of Internet and email services over narrow-band communication links. It uses a client/server architecture. The Internet Accelerator client software installed on your computer allows you to take advantage of the Internet Accelerator system. When you transmit data from your computer—by sending email, uploading a file, or browsing the Web—the Internet Accelerator client acts as a doorkeeper, optimizing the data in a number of ways before sending it off down the communications link. At the other end of the link, the Internet Accelerator proxy server receives the data and passes it on to the intended recipient.

When you receive data—by receiving email, downloading a file, or viewing a web page—the data you receive will have been sent to the Internet Accelerator proxy server; from there over the communications link to the client software located on your computer; and then to your browser or email program. Internet Accelerator operates in the background, allowing you to use your network applications in exactly the same way you always have.

Modes of Operation

By default, the Internet Accelerator client automatically starts up when you log in to your computer. (See Section on 'The Options Dialog' for instructions on disabling this feature.) Internet Accelerator terminates when you log out. You can verify that the client is running by finding the icon that Internet Accelerator places in your system tray. The appearance of this icon will change depending on the current state of your Internet Accelerator link.



Connected

This is Internet Accelerator's "normal" mode. It means that the Internet Accelerator proxy server is ready and able to send data to (and receive data from) the client. An animated red arrow means a file or data transfer is in progress.



User Disabled

This mode occurs if you have chosen to manually disable all acceleration. This is done from the Options dialog. Data is still sent and received over the communications link, but not at accelerated rates.

A

Not Connected

This mode is similar to 'user disabled'; however, in this mode, the Internet Accelerator proxy server is not currently able to provide acceleration, even though you have acceleration enabled. Data is still sent and received over the communications link, but not at accelerated rates.

Connection Types

Internet Accelerator is designed to improve performance over narrow-bandwidth communication links. These include wireless links as well as dial-up connections of 56 kbps or less. Over these types of connections, Internet accelerator provides significant acceleration.

Internet Accelerator is not appropriate for high-bandwidth connections. These include LANs (local-area networks), ISDN lines, and cable modems. No acceleration is typically needed to achieve acceptable performance over these communications links. Internet Accelerator should not be used in conjunction with these types of connections.

If you are always connected to a LAN, you should not run Internet Accelerator on your computer. If you are a user who sometimes makes remote, low-bandwidth connections, but sometimes connects directly to a LAN, you will use Internet Accelerator when connected remotely, but exit from it at those times when you will be connected to a LAN.

The Internet Accelerator Menu

The Internet Accelerator menu pops up when you right-click on the Internet Accelerator system tray icon. From this menu you may select the following commands:

Web Options

The web options menu provides easy access to image quality selections and more advanced filtering options. The same options are available on the web tab of the Options dialog. The web options setting determines the quality of images viewed or downloaded from the web. Selected options are marked with a checkmark. Only one option can be selected at a time. For more information on web options see "Email and Web Options" in the Options Dialog section.

Filters

The filters option menu provides easy access to web filtering selections. These options are also available in the filters tab of the Options dialog. Filters are more advanced browsing options that provide you with the ability to block the download of certain file types. For example, if you do not wish to view any animated images select “no animations;” if you want to browse the web in a text only mode, select “no images,” etc. Selected items are marked with a checkmark. Multiple filtering options can be selected at the same time.

Email Options

The email options menu provides easy access to image quality selections. The same options are available on the email tab of the Options dialog. The email options setting determines the quality of images sent or received via email. Selected options are marked with a checkmark. Only one option can be selected at a time. For more information on email options see “Email and Web Options” in the Options Dialog section.

Connection Monitor

This command displays the Connection Monitor dialog, allowing you to monitor the status of the Internet Accelerator link.

Options

Selecting this command takes you to Internet Accelerator’s Options dialog window. Use this command if you need to change configuration settings for your Internet Accelerator client. You can also reach the Options dialog by double-clicking on the Internet Accelerator icon.

Help

This is the entry-point to Internet Accelerator’s on-line Help system.

Exit

In the event that you need to terminate the Internet Accelerator’s client application, use the Exit command. This command terminates Internet Accelerator client and removes the Internet Accelerator icon from the system tray.

Re-Starting Internet Accelerator

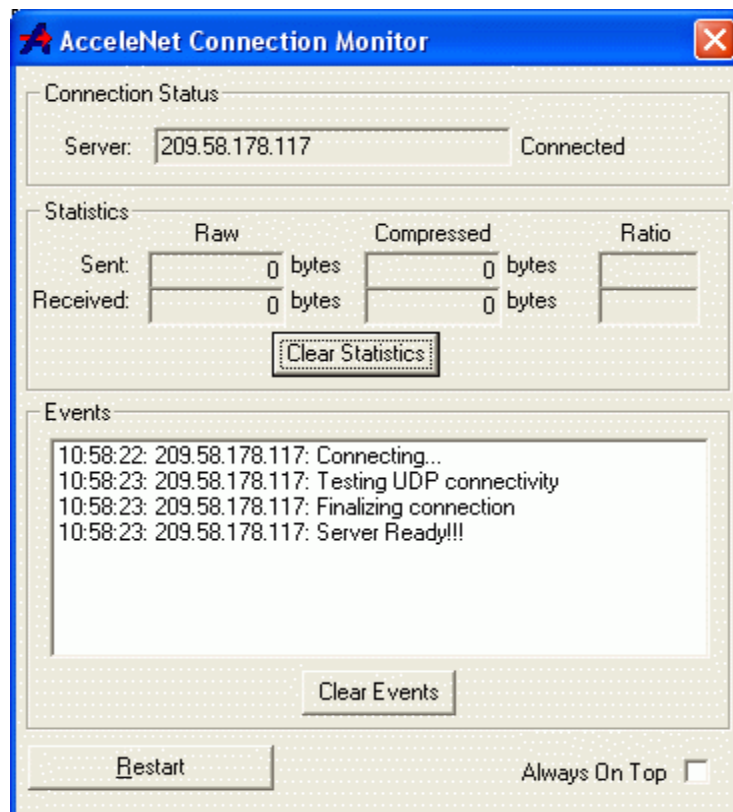
If you have terminated the Internet Accelerator application for any reason, and need to re-start it, you may do so in either of two ways.

- Click on the Windows Start button to display the Start menu. From this menu, select Programs, then Internet Accelerator, and then Internet Accelerator Client.
- If Internet Accelerator's Auto-start feature is enabled (as it is by default), you can re-start by logging out of your computer and logging back in. This can be done either by selecting "Log Off" from the Windows shutdown menu, or by actually re-booting the system, thus forcing a new login.

If you wish to re-start Internet Accelerator while the client is still running, you may do so from the Connection Monitor. Simply click the "Restart" button.

Monitoring Internet Accelerator

In normal circumstances, you will enjoy the benefits of Internet Accelerator's performance without even being aware of its operation. However, if for any reason you need to check the status of your Internet Accelerator link, you may do so using Internet Accelerator's Connection Monitor. The connection monitor is accessed through the Internet Accelerator icon in the system tray.



Connection Status

Internet Accelerator Client may be configured to use one proxy server for both email and web traffic. The Connection Monitor displays the IP address settings for this server.

The current connection status of the proxy server is displayed. The status reported will be one of the following:

- **Connected**
This is Internet Accelerator's "normal" mode. It means that the Internet Accelerator proxy server is ready and able to send data to (and receive data from) the client. The connected status will show when the following acceleration mode options have been selected: "Accelerate All Supported Applications", "Email Only", or "Web Only". These options can be set in the Options dialog.
- **User Disabled**
This mode occurs if you have chosen to manually disable all acceleration. This is done from the Options dialog. Data is still sent and received over the communications link, but not at accelerated rates.
- **Not Connected**
This mode is similar to 'user disabled'; however, in this mode, the Internet Accelerator proxy server is not currently able to provide acceleration, even though you have acceleration enabled. Data is still sent and received over the communications link, but not at accelerated rates.

Note: for more information on acceleration modes, refer to the section on the 'General Options Page.'

Statistics

The Statistics section of the Connection Monitor allows you to monitor data compression, which is one measure of the acceleration performance of your Internet Accelerator link. Separate statistics are provided for data being sent from your computer, and data being received by your computer. For each of these two types of data, cumulative counts of "Raw" and "Compressed" data are displayed, as well as a Ratio that compares the two numbers.

For "Sent" data, the raw count refers to the amount of data that applications on your computer sent to the Internet Accelerator client for transmission over the communications link. The compressed count displays the amount of data that the Internet Accelerator client actually sent (after compression and optimization).

For "Received" data, the compressed count refers to the amount of data received by the Internet Accelerator client from the Internet Accelerator proxy server. The raw count displays the amount of data that the Internet Accelerator client then delivered to the network applications on your computer.

Clicking on the "Clear Statistics" button can reset these cumulative statistics.

Although compression is only one aspect of acceleration performance, it's generally true that if your compression ratio is high, your acceleration performance is high as well.

Event Log

The event log displays messages indicating a variety of system activities. These include messages describing normal events: client connecting to server, client disconnecting, etc. Error messages indicating system failures are also sent to the event log.

The event log is cumulative, with the most recent messages appearing at the bottom. The log can be reset by clicking on the "Clear Events" button.

Restart

If you wish to re-start Internet Accelerator while the client is still running, you may click the restart button. Your client will temporarily be disconnected from the Internet Accelerator server, and then automatically reconnect again.

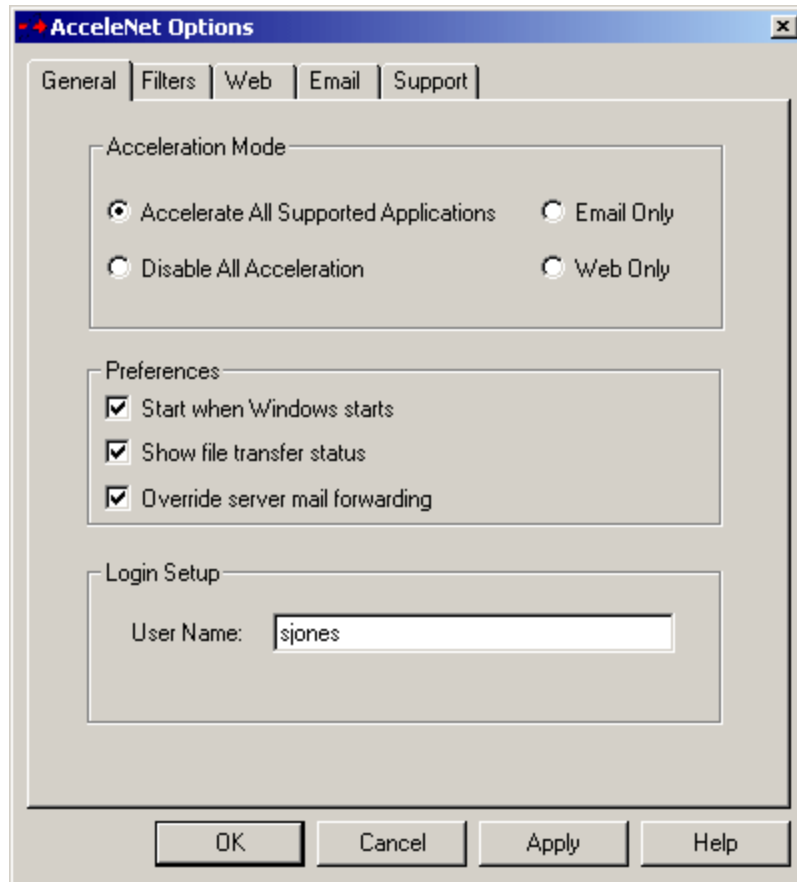
Always on Top

Select this option if you wish to view the information in the connection monitor while data is in progress. This option enables the connection monitor dialog to run on top of any other open window.

Configuring Internet Accelerator Client

The Internet Accelerator client must be configured to work correctly with your system. This configuration was performed by the system administrator who installed the client on your computer. You can verify and (when appropriate) change these configuration settings by selecting "Options" from the Internet Accelerator menu.

General Options Page



Acceleration Mode

This setting determines which applications will receive Internet Accelerator's performance optimization. The choices are:

- **Accelerate All Supported Applications**
If this entry is selected, Acceleration will be performed on data from all supported applications—both email and web.
- **Email Only**
If this entry is selected, supported email applications will be accelerated, but web applications will not be. In addition, the Web options page will be disabled and inaccessible.
- **Web Only**
If this entry is selected, supported web applications will be accelerated, but email applications will not be. In addition, the Email options page will be disabled and inaccessible.
- **Disable All Acceleration**
If this entry is selected, you will not receive any acceleration for either email or web.

Start Internet Accelerator when Windows Starts

If this option is checked, Internet Accelerator will start up automatically and try to connect when you start Windows. If it is not checked, Internet Accelerator will not start until you select it from the Start/Programs/ Internet Accelerator menu.

Show File Transfer Status

Checking this option causes a file transfer window to appear during a download. This is useful for verifying that activity is taking place during long downloads. Uncheck this option to prevent the window from appearing.

Override Server Mail Forwarding

If the Internet Accelerator system administrator has set up a mail-forwarding relay for users' outbound (SMTP) email, you may check this box to prevent the use of this relay, and directly use your outbound (SMTP) mail server. This may be necessary if your mail server requires authentication. Contact your Internet Accelerator system administrator to find out if this option is applicable to you.

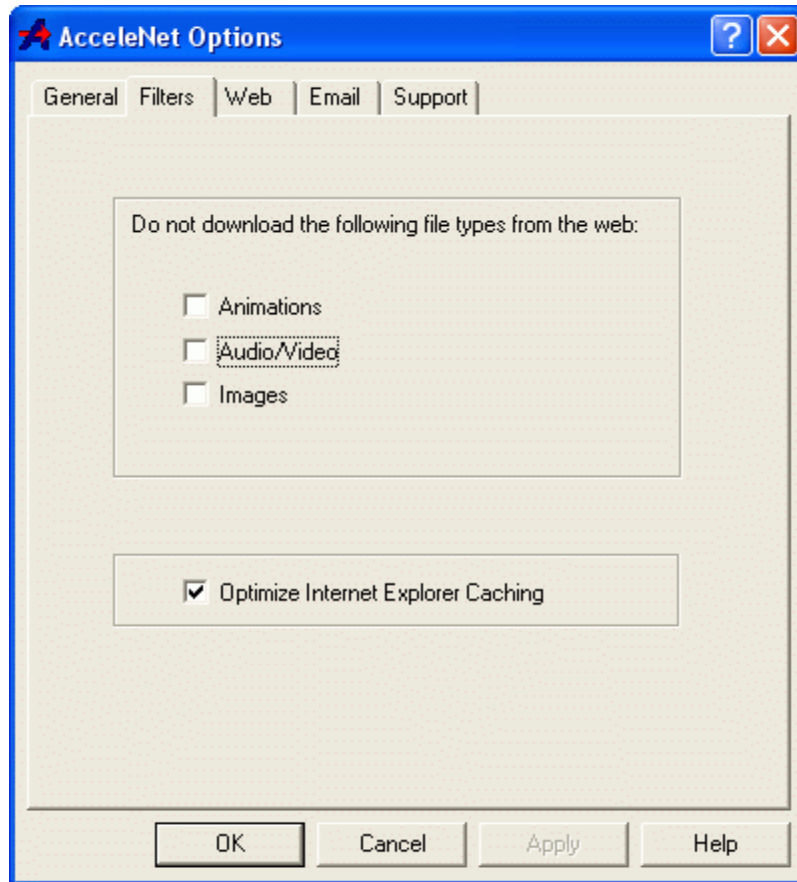
Login Setup

Here you can change your User Name. Be aware, however, that this setting is used by the Internet Accelerator proxy server to validate your connection status. If the same change has not been made by your system administrator at the proxy server end of the Internet Accelerator link, your client will not be able to connect to it. Do not change this setting without informing your system administrator. Because the User Name is saved, you do not need to enter it each time you start Internet Accelerator.

Filters Page

Note: There are some instances when the Filters options will not be available. The filters tab will be dim if the 'Email Only', or the 'Disable All Acceleration' mode is selected in the General page.

Filters are more advanced options that give you the ability to further customize your web acceleration. Turning on filters can help increase your acceleration by blocking the download of certain file types from the web. For example, if you do not wish to view any animated images, select "Animations" in the Filters page. If you want to browse the web in a text only mode, select "Images," etc. You may select more than one filtering option at the same time.



Each filter prevents the download of particular file types:

- **Animation**
The animation filter blocks most animated images, such as gif, and flash.
- **Audio/Video**
The audio/video filter blocks most sounds or audio files, such as mp3, wav, and mpeg audio. In addition it blocks most moving pictures or videos, such as Mpeg, and Quicktime.
- **Images**
The image filter blocks images files such as gif, jpeg, and bmp, allowing you to browse in a text only mode.

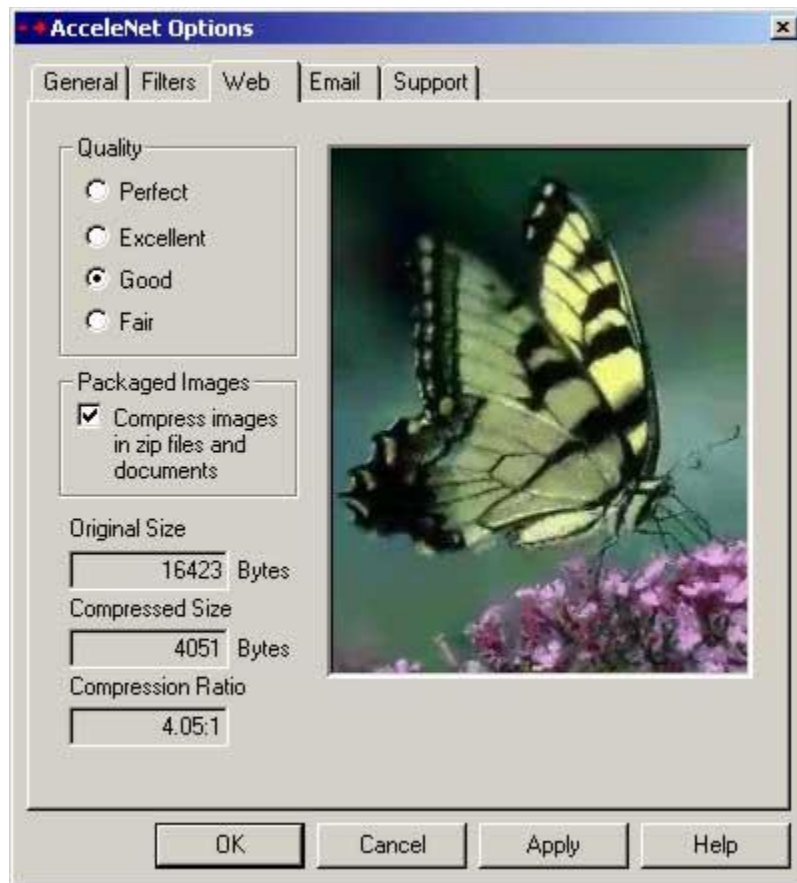
Note: The Internet Accelerator filters block many different types of files. The file types listed above are just some examples of the most common file formats that can be blocked with Internet Accelerator client filters.

- **Optimize Internet Explorer Caching**
Internet Explorer cache optimization is intended to speed up the loading of recently browsed web pages, by checking less frequently on whether the recently downloaded content has been modified since your last visit. Internet Accelerator decides when to check for modified content based on how long it has been since

an image has changed, and how long it has been since you have visited the page. When selected, caching optimization will produce progressively more aggressive results depending on your web image quality selection. A web image quality setting of “Perfect” will utilize minimum caching, while the “Fair” setting will utilize the most aggressive caching. To disable Internet Explorer cache optimization, you should uncheck this checkbox.

Note: This setting applies only to the Internet Explorer browser, and will not affect other web browsers.

Email and Web Options Pages



Note: There are some instances when web or email options will not be available. If you have selected 'Web Only' in the General Options page, the Email page will be inaccessible. If you have selected 'Email Only', the web page will be inaccessible. If you have selected 'Disable All Acceleration', both Email and Web options will be inaccessible.

Quality

This setting determines the quality of image files that you send and receive as email attachments, or the quality of images viewed or downloaded from the web. Because there is a trade-off between image quality and acceleration performance, you may wish to use a less-than-perfect image quality setting. As you click on any of the four possible settings—Perfect, Excellent, Good, and Fair—the displayed image changes to indicate the image quality you can expect at that particular setting. The numbers to the left of the image indicate how that quality setting will affect image compression, and thus acceleration performance. The smaller the compressed size, the faster the transmission will be; the larger the compressed size, the slower the transmission. You may select different quality settings for email and web images.

Packaged Images

If this box is checked, images stored in compressed archives—zip files, for example—and images embedded in documents will be re-compressed to achieve further acceleration. If it is not checked, no further compression will be performed on archived images. This setting is available for both email and web.

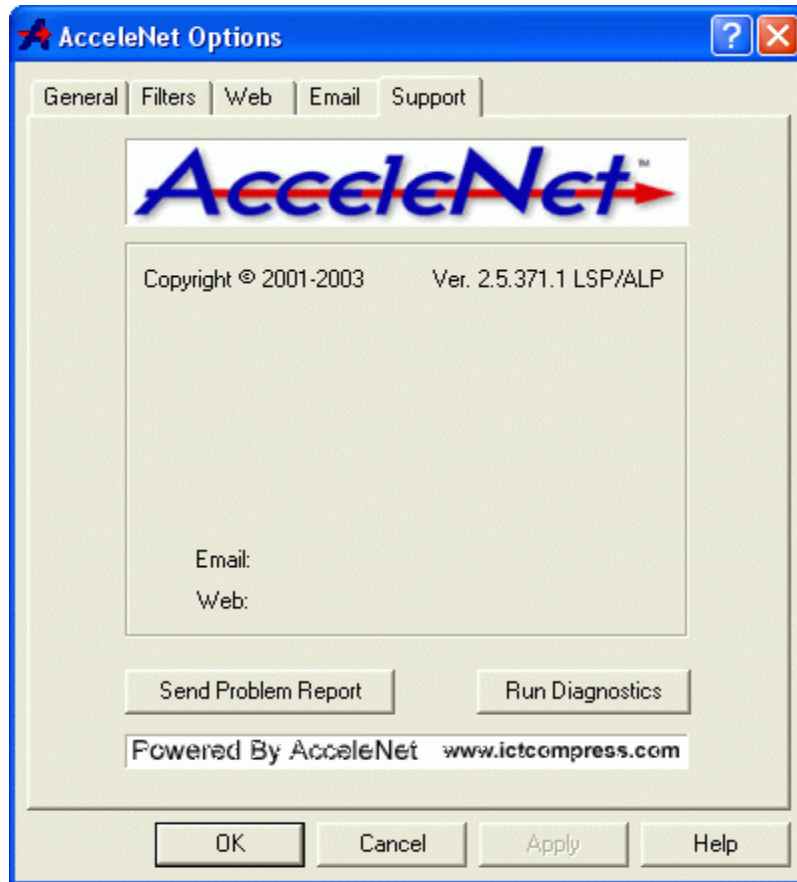
Viewing the Original Image

If you have selected an image quality setting lower than Perfect on your Web Options page, you will be trading lower image quality for greater acceleration. Often the lower image quality is not noticeable. Even when it is noticeable, for most web images this won't affect your use of the web page. But in cases where an image appears that you would like to see in its original, "perfect", form, you can obtain that image in either of two ways:

- If you are using Microsoft Internet Explorer as your browser, right-click on the image and select View Original Image from the pop-up menu.
- Change the image quality setting in the Web Options page to Perfect, and then reload the web page using your browser's Refresh command. Then reset the Web Options image quality setting when you want to return to your accustomed acceleration level.

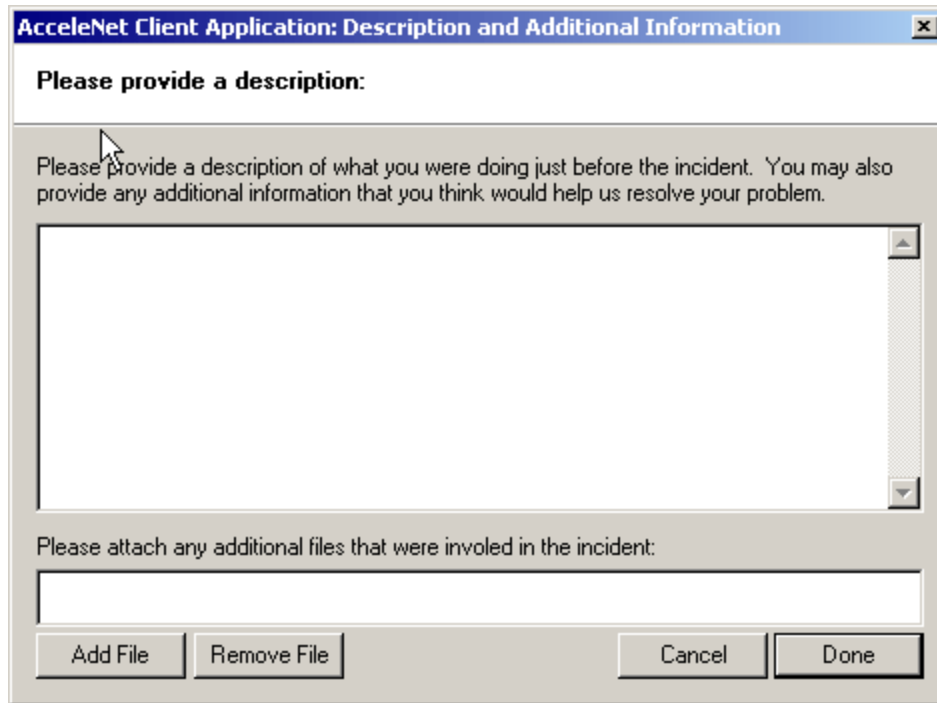
Support Page

When you select Support, the support page appears. In addition to providing you with the copyright date and build number of the software release you are using, the Support page also provides company name, address, telephone, email and web addresses for you to use when contacting Technical Support.



Send Problem Report

If a problem occurs while you are using Internet Accelerator Client, you may send a problem report directly from the Support page of the Options dialog by clicking the Send Problem Report button. A form will appear on the screen. Type in the relevant information. If the problem involves the transmission of a particular file, you may attach the file to the problem report. When you are finished, click 'Done' and the problem report will be sent to Technical Support.



Run Diagnostics

If a networking conflict with another program occurs while you are using Internet Accelerator Client, you may choose to manually run a diagnostic tool from the Support page of the Options dialog by clicking the Run Diagnostics button. Run diagnostics is a tool to help you diagnose a problem in instances where you experience a problem with your acceleration. In most cases, Internet Accelerator will automatically detect and try to resolve any possible conflicts, but you may choose to investigate and resolve possible conflicts by clicking this button.

Using Microsoft Outlook® with Internet Accelerator

If Microsoft Outlook is your email application, you should be aware of how its configuration on your computer affects the performance you will achieve with Internet Accelerator. In this section we describe the common configurations in which Outlook is used, and indicate the ramifications of each for using Outlook over an Internet Accelerator link.

One basic rule should be kept in mind: If you are using a LAN or other high-bandwidth connection, you should not be using Internet Accelerator. (See Section on “Connection Types” for an explanation.) Internet Accelerator is appropriate for narrow-bandwidth connections.

Exchange Folders Online (Offline Disabled)

This is Outlook's default or "out-of-the-box" mode and is therefore the most commonly used mode. For example, users on corporate LANs typically use this mode. When compared to other Outlook modes, this mode involves more "back and forth" communication between client and server. You might think that Internet Accelerator users would prefer a mode with less of this bandwidth-using communication, but this mode does have one very powerful advantage when used with Internet Accelerator: messages are stored on the server and when downloaded no copy is cached locally. This means that attachments can be downloaded quickly at fair image quality and then re-downloaded later at a higher quality if desired. This feature allows a user to run Internet Accelerator in its fastest mode without sacrificing image quality when desired. We recommend users run in this mode.

Exchange Folders Offline

This is a common mode for users who travel with their computer and therefore do not access their account over a fast LAN connection. Email is stored remotely on a Microsoft Exchange® server, but copies are stored locally along with a copy of the latest address book. Thus users can write, read, and manage their email while offline.

When running in Offline mode, copies are stored locally until the user connects to the server, at which time transmission occurs. (The user can also explicitly request synchronization between local and Exchange folders, but this function is typically only performed in online mode when connected to a LAN.)

This is an appropriate operating mode for Internet Accelerator users. Internet Accelerator will provide significant acceleration (i.e., compression of attached files) in this scenario.

Exchange Folders Online (Offline Enabled)

This is the mode that would be used when a traveling user who normally operates in the Exchange Folders Offline mode has temporary access to a fast LAN connection. Email is stored directly on the Exchange server. Exchange folders are synchronized with remote folders either by user command or automatically on exiting the application. This allows the user to switch back and forth easily between online mode (for LAN connection) and offline mode (for dial-up connection). One important configuration note: by default, the sent folder is synchronized when the user clicks the Send/Receive button. This often results in unnecessary downloads of sent files. In this mode, Outlook should be configured to synchronize all default folders except sent items.

If you are typically an Offline user who is temporarily working online, be sure to terminate Internet Accelerator before you begin your online session. Again, Internet Accelerator should not be used in conjunction with a high-bandwidth connection.

Personal Folders Offline

For users who elect to use Personal Folders rather than Exchange Folders, this is the appropriate mode when access to a high-speed LAN is not available and access to public folders stored on the Exchange server is not required. It is for travelers sending and receiving email.

This is an appropriate operating mode for Internet Accelerator users. Internet Accelerator will provide significant acceleration (i.e., compression of attached files) in this scenario.

Copyright 2003, Intelligent Compression Technologies, Inc.