IISxpress User Manual

Version 1.2.1A

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INTRODUCTION

IISxpress is a compression plug-in for Microsoft's IIS web server. Compression support in IIS is poorly supported and lacking a user-friendly interface – even in IIS 6, the most up to date version. IISxpress replaces the built in compression with a user friendly and highly configurable solution.

The major features of IISxpress are:

- Real-time monitoring of compression state
- Unparalleled control of the compression process via a powerful rule engine
- Simple to use and configure – IISxpress learns how best to compress your site
- Support for static and dynamic responses (ASP, ASP.NET, PHP, etc)
- Full HTTP standards compliance offering the broadest range of browser support
- Low CPU usage requirement and small memory footprint

IISxpress supports the following operating system platforms:

- Windows 2000 Professional
- Windows 2000 Servers
- Windows XP Professional
- Windows 2003 Servers

Products like PKZIP(R) and WinZip(R) significantly reduce the size of standard PC files - making compression an ideal solution for data transfer and long term storage. IISxpress brings a highly optimized compression solution to the web server world, now you can take faster server responses, lower bandwidth costs and happier users for granted – you will never send uncompressed data over the web again.

IISxpress uses the industry standard ZLIB compression library in order to attain the highest level of HTTP standards compliance – ensuring your users can always access 100% of your web site.

GETTING STARTED

First Time Installation

This section is intended as a guide to first time installation, if you are upgrading or reinstalling IISxpress then please feel free to skip to the next section.

In order to successfully install IISxpress you should be running at least Windows 2000 Professional[1] or higher with IIS already installed and logged as a system administrator. The IISxpress installer will warn you if you do not meet these prerequisites.

Before installing IISxpress check that you have the latest version.

Before proceeding it is wise to check that you have the latest version of IISxpress, to do this visit our web site at www.ripcordsoftware.com

You are now ready to run the installation, during this process you will be prompted to agree to the End User License Agreement (EULA), although just a standard software agreement we advise that you read and understand it before proceeding.

1 Windows XP Home does not contain support for IIS, you require Windows XP Professional if you want to run a web server on the XP platform.

Illustration 1 - License Agreement

Once you have accepted the EULA you will be prompted to enter your User Name and Company Name. This screen will also allow you to select whether to install for 'Anyone who uses this computer' or 'Only for me'. If you select 'Anyone who uses this computer' all user accounts on your computer will be configured with the IISxpress program group in their start menu and the IISxpress Status window will be added to their Startup group[2]. If you select 'Only for me' then only your account will be configured this way. This is useful if people share your computer and you want to prevent them from accessing IISxpress and its settings[3].

2 If you don't want the IISxpress Status Window to be started each time you log in just remove it from your Startup group, IISxpress will continue to function without it running.

3 The IISxpress Status Window prevents non-Administrator users from modifying IISxpress' settings.

Illustration 2 - Customer Information

You now need to select the destination directory, this can be anywhere on your computer's hard drive. We do not not advise installing on a network drive or removable media like a USB memory stick.

The installer will now ask to whether you are ready to proceed with the installation, if you click the Next button here you will not be able to go back to change your settings without uninstalling.

Illustration 3 - Start Copying Files

Once the installation is complete you should see the IISxpress icon in your system notification area.

Illustration 4 - Installation Complete Notification

On Windows XP and higher you should see the notification balloon informing you that installation is complete. If you click on this balloon the IISxpress Status Windows will be displayed, you can configure all IISxpress settings from this window.

If you are running IISxpress on Windows 2000 then you can access the status window by double clicking on the IISxpress icon or alternately right clicking on the notification icon and selecting 'Status' from the menu.

Illustration 5 - IISxpress Status Menu

Upgrade Installation

This section is intended to cover the issues encountered when you are upgrading from a previous version of IISxpress. If you are not about to perform an upgrade then please feel free to skip to the next section.

Once you have downloaded a the latest version of IISxpress you upgrade your existing installation by running the newly download installer. The installer automatically upgrades all application and configuration files found in the IISxpress directory. It is likely that the upgrade will require a reboot of your computer once it has completed.

Backup the Configuration File

We advise that you backup your configuration files before starting an upgrade. To do this open Windows Explorer and navigate to the directory where you originally installed IISxpress, typically this will be '\Program Files\Ripcord Software\IISxpress'. In this directory you will find a file called 'IISxpress.config', copy this file to a safe place – it contains all your existing IISxpress settings.

To restore your settings from the backup copy of the IISxpress.config file you need to follow these steps:

- Stop the IISxpress service – either via IISxpress Status Window or the Service Manager.
- Copy the original file into the IISxpress program directory, Windows Explorer will prompt you to confirm that you want to overwrite the existing file, if you are sure you wish to proceed then click yes.
- Restart the IISxpress service and check that your settings have been restored by viewing them in the IISxpress Status Window.

Validate Your Setup

You should now have successfully installed or upgraded IISxpress. You should now test that everything is working as intended. The following section assumes that you have not changed the default installation settings and that you have a working web site (the IIS default web site is fine).

Open the IISxpress Status Window by double clicking on the icon in the notification area of the taskbar. Select the General tab if it is not already selected. At the top of the Status Window you will see the state of IIS, the IISxpress filter driver and the IISxpress service, if any of these is not 'Running' at this point then IISxpress has not been installed correctly[4].

The easiest way to test that IISxpress' compression is working is to browse to a web page on your web server. For example, you could type http://192.168.0.10 (if this was the IP address of your web server) to access your web server's default page. To see if IISxpress has compressed the response you need to open the IISxpress Status Window (if it is not already open).

4 On IIS 6.0 on Windows 2003 (and Windows Vista when released) you may see that the IISxpress Filter shows a state of 'Installed' rather than 'Running'. IIS 6.0 delays loading the filter until the first compression request is made, then the state will change to 'Running' as shown in Illustration 6.

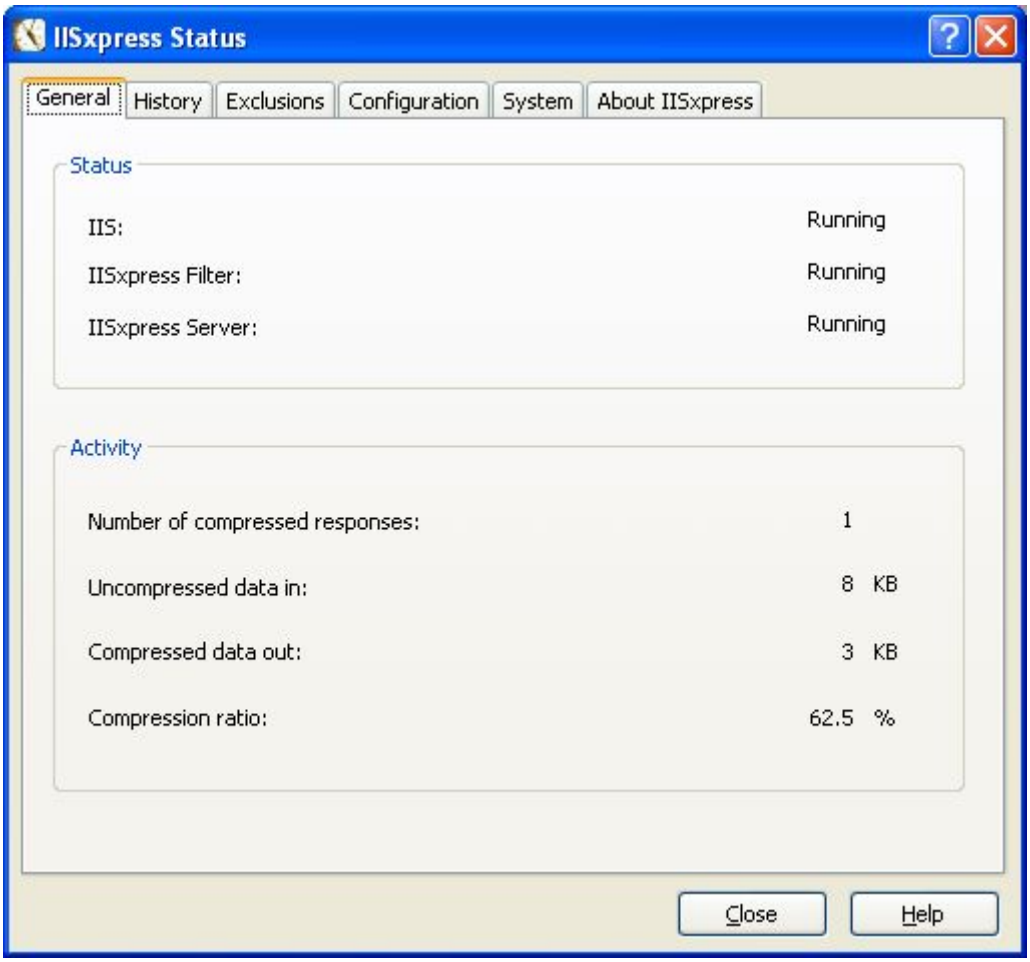

Illustration 6 - Validating Installation

The General tab of the Status Window will show how many responses have been compressed, a number greater than zero means the validation has been successful.

If the Status Window reports that no responses have been compressed and you are running your browser on the same computer as IIS and IISxpress then you need to turn off the 'Exclude compression requests from the local computer' option. You will find this setting by selecting the Exclusions tab and then the Networks item on the left of the window. Now remove the check mark from the checkbox, the setting will have immediate effect - so just refresh your browser to see if the response is now compressed.

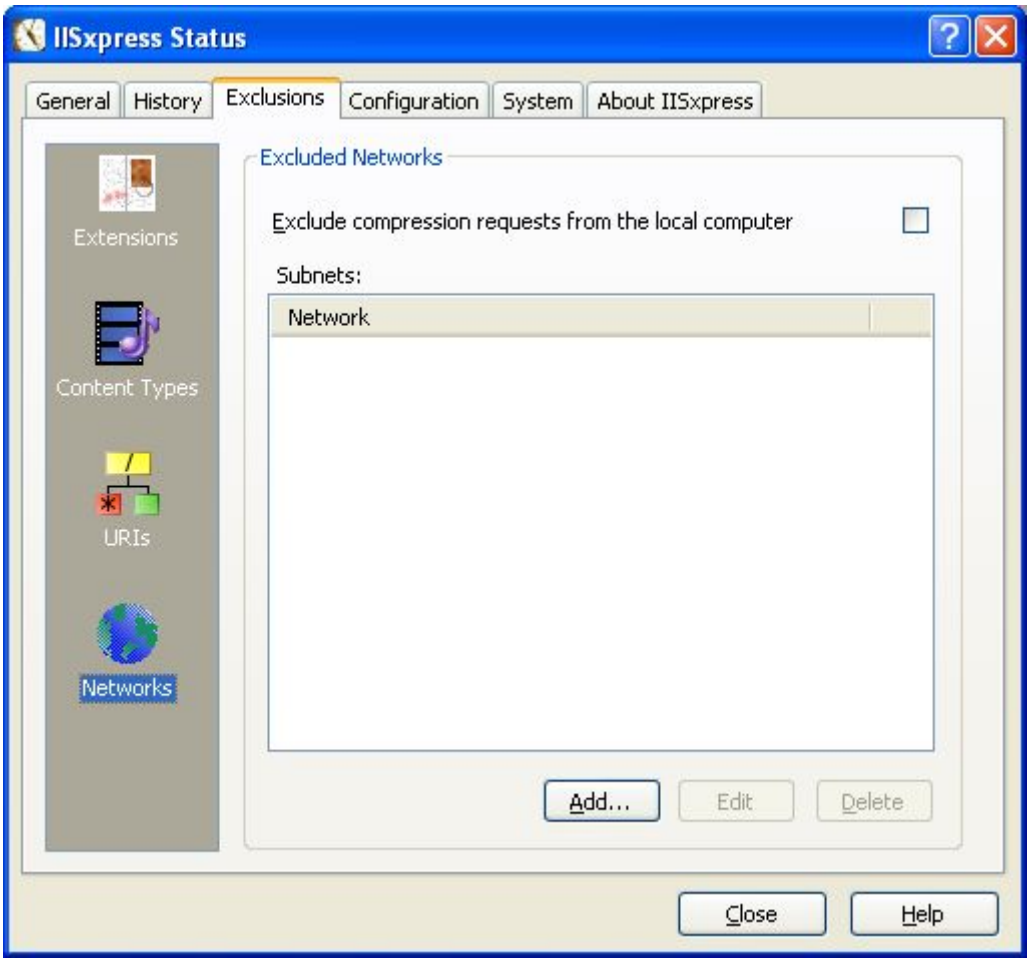

Illustration 7 - Exclude Compression Requests from the Local Computer

The 'Exclude compression requests from the local computer' setting is designed to prevent requests from the local computer loading the CPU unnecessarily (there is no gain from compressing responses intended for the local computer). This option is provided for testing of a web server and should be checked when in production use.

Trial and Registration

IISxpress is not free software. You can only have full access to the software by paying for it and entering a full product key to unlock all the features. You can check your trial/registration status from the IISxpress Status Window, just select the About tab when the window is displayed.

IISxpress supports trial and restricted modes, these are explained in the following sections.

Restricted Mode

IISxpress defaults to restricted mode unless you have a entered a valid trial key (and are within your trial period) or have a full product key.

Restricted mode allows you access to the features of IISxpress up to a limit of 10MB of compressed data each time your computer is started. This means that when 10MB of compressed data is processed by IISxpress it will stop compressing the responses until the computer is rebooted.

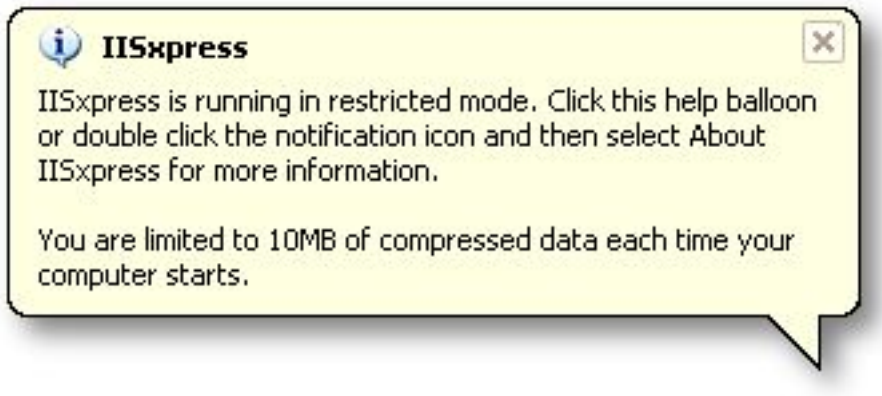

Illustration 8 - Restricted Mode Notification

Trial Mode

To obtain a trial key you need to visit our web site at www.ripcordsoftware.com and request a trial key. You will need a valid email address since the key will be sent to you via email[5].

You are only entitled to one trial key as part of your product evaluation, only the first trial key will be accepted, all subsequent keys will be rejected.

If you would like to extend your trial or reset your trial period then you must email us directly and request a special trial key.

Trial keys are issued each calendar month, so you can expect your trial to last anywhere between 7 and 30 days. Once the trial period has expired IISxpress will revert to restricted mode.

5 If you have spam filter enabled on your email account check that it will accept mail from addresses at ripcordsoftware.com.

Buying IISxpress

You can purchase IISxpress from our web site at www.ripcordsoftware.com. We use PayPal for our payment clearance system. However you do not need a PayPal account in order to purchase IISxpress. When you are directed to the PayPal web site make sure you select the 'If you do not currently have a PayPal account' button, this will allow you to purchase IISxpress directly without the need for PayPal registration.

Purchasing IISxpress allows us to continue to develop the product and most importantly continue to keep the price as low as possible.

USING IISXPRESS

USER INTERFACE

The IISxpress Status Window is the primary user interface for IISxpress. From this window you can analyze compression performance, view response details, create rules, control the web service and monitor your computer's usage levels. The following sections explain how to make the best use of the features of IISxpress via the Status Window interface.

STATUS WINDOW – GENERAL

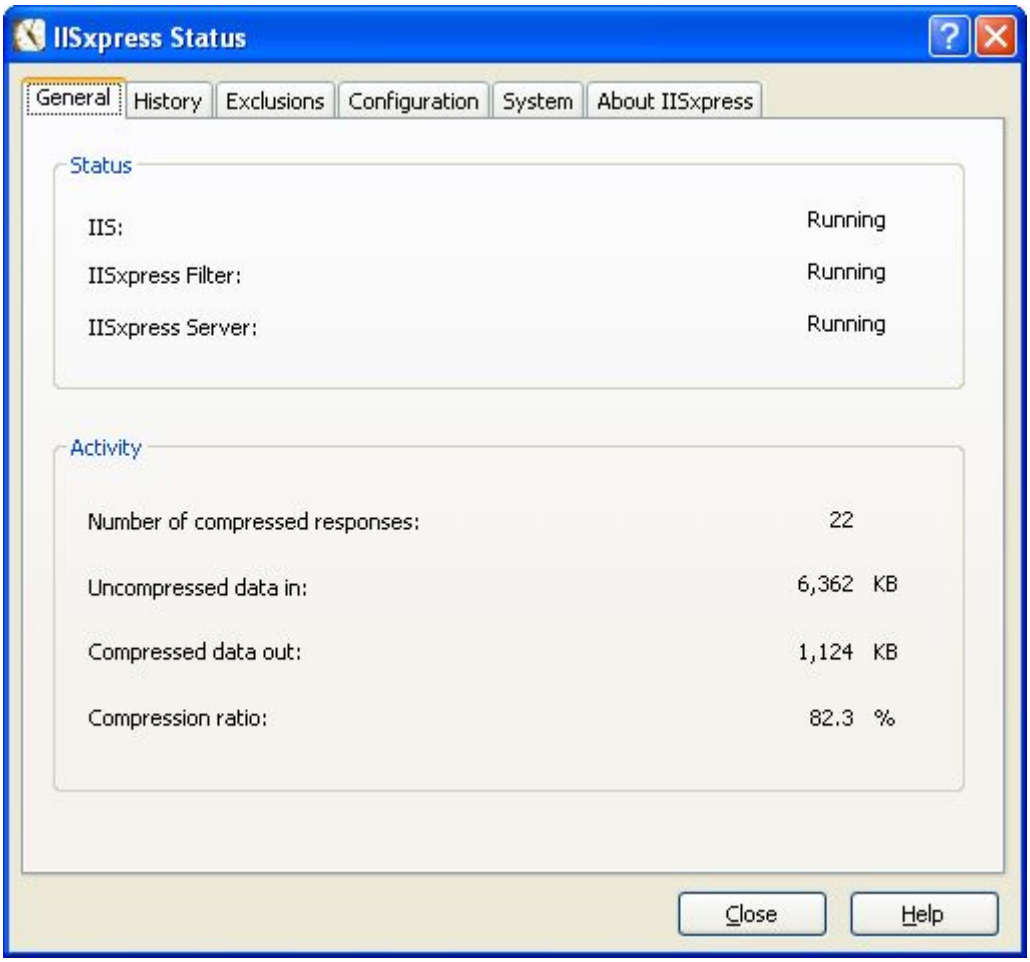

Illustration 9 - General tab of the Status Window

To open the status window you double click on the IISxpress icon in the notification area of the taskbar or right click on the notification icon and select 'Status' from the menu that is displayed[6].

The window will open with the 'General' tab selected, this tab contains the system level status information. The information displayed in this window is collected in real time.

The 'Status' area of the window contains the state information for IIS, the IISxpress Filter and the IISxpress Server. When IISxpress is functioning normally all will show as 'Running'.

The 'Activity' area of the window contains the global compression statistics collected since IISxpress was started. These fields are explained below:

Field	***Description***
Number of compressed responses	The total number of responses compressed by IISxpress since it was started.
Uncompressed data in	Displays the total number of uncompressed KB (or MB) IISxpress has processed since it started. This number is the original size of the response data before it was compressed.
Compressed data out	Shows the total number of compressed KB (or MB) sent by IISxpress to clients.
Compression ratio	This field is the overall compression ratio calculated from the ratio of uncompressed data verses compressed data.

If the IISxpress Service is not running the 'Activity' fields will be empty.

6 The IISxpress Status Window is added to your Startup group by the installer. Each time you log into Windows the Status Window will be started. If you remove IISxpress from the Startup group you will need to start it each time you log in.

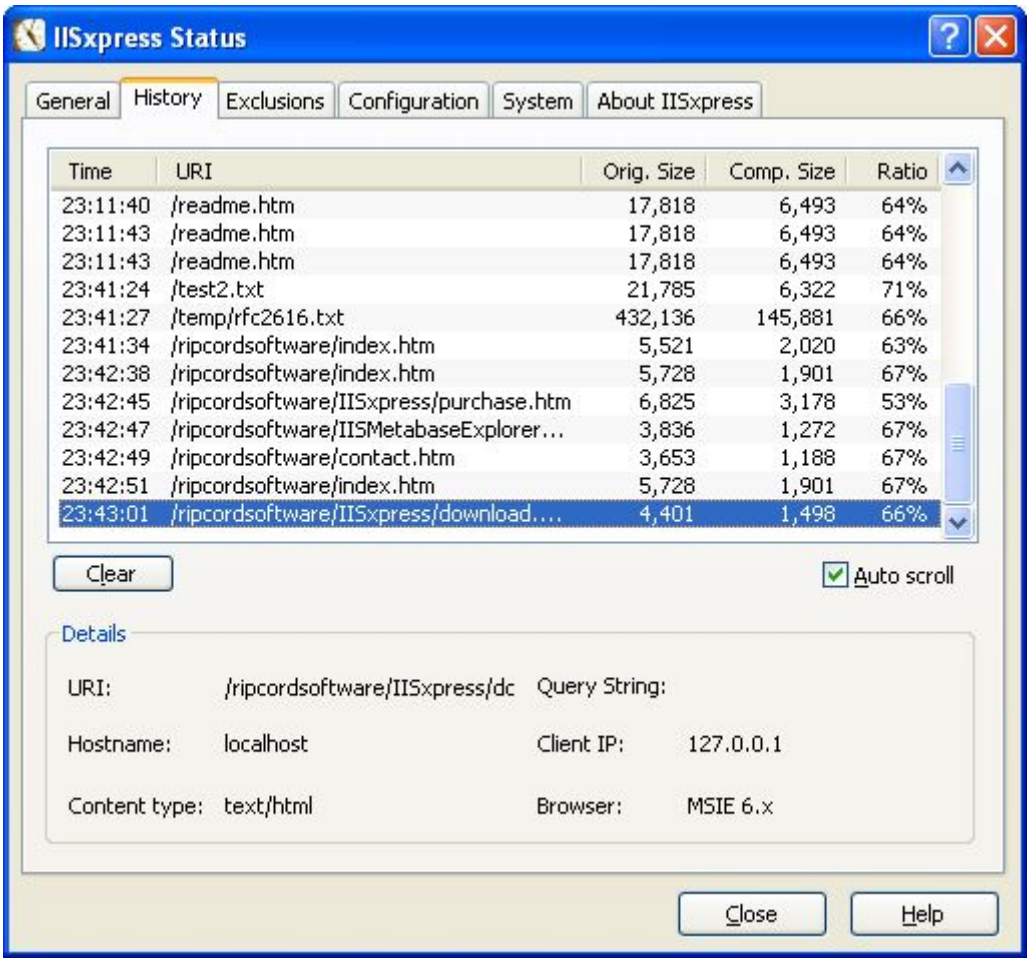

Illustration 10 - History tab of IISxpress Status Window

The History tab of the IISxpress Status Window shows the most recent compression activity. The response data is populated in real time as the clients are requesting it – however only requests that are compressed appear in this window, any requests that are not compressed by IISxpress are not displayed.

The window is divided into two areas, at the top is the real time response history. The most recent responses appear at the bottom and scroll to the top as more requests are processed. Use the scroll-bar to see all the responses compressed by IISxpress.

When new responses are compressed the list will automatically scroll to show them. Unchecking 'Auto scroll' will prevent the window from scrolling when new responses are processed.

The 'Clear' button removes all responses from the history window.

The lower portion of the window reveals more detailed information about the currently selected response. Here you can see the URI (the portion of the URL after the server name), the query string, the hostname used by the client to reach the web server, the IP address of the client, the context type of the response and the type of the browser.

IISxpress identifies the majority of the most popular browsers and a number of search engine agents, however if it is unable to identify the software making the request it will display the original user agent string.

STATUS WINDOW – EXCLUSIONS

Compression is controlled via Exclusion rules, selecting the 'Exclusion' tab displays the current rule set. When first installed IISxpress has a set of default rules, if you are running a fairly simple web site you may never need to change any of these settings.

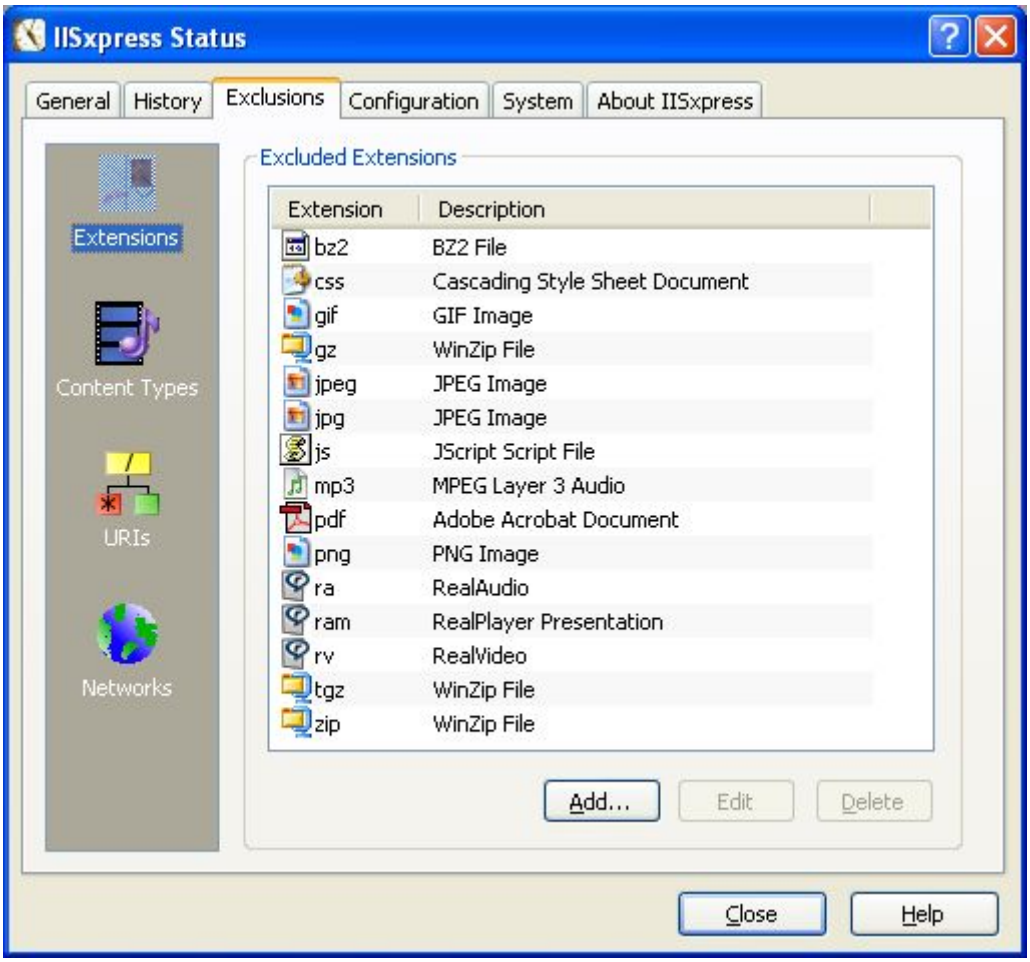

Illustration 11 - Exclusion tab of IISxpress Status Window

On the left of this window is a strip of icons, selecting any of these will change the contents of the rest of the window. From here you can add exclusion rules based on file extension, content type (MIME type), URI and network address.

For example, to prevent any file with the extension ZIP from being compressed you need to select the 'Extensions' icon, click the 'Add' button and then enter ZIP in the following dialog[7]. Now any request for files with the ZIP extension will not be compressed.

Sometimes it is not possible to determine what type of data a response will contain based on its file extension (or to be more accurate the characters after the last period in the URI). This case certainly applies with content generated dynamically by your web server. This type of content is typically generated by ASP, ASP.NET or CGI applications invoked by the web server when certain URIs are requested. For these cases IISxpress allows to specify a rule based on the content type of the response.

Further to these two rule types IISxpress provides URI exclusion rules, allowing you to control which parts of your web site you wish to exclude from compression. If you are running a server version of Windows and you have multiple web sites you can switch compression off for entire sites, not just portions of them.

Finally, IISxpress allows you to configure exclusion rules based on the IP address of the client making the request. This feature is most useful where you have a mix of clients connecting to your server via fast networks (LANs) or slower networks (WANs, xDSL, ISDN or dial-up).

Status window - Configuration

The Configuration tab allows control over the components of the IISxpress compression process.

The area at the top of the window allows you to control the IIS Web Server service: click start to run the web server or stop to terminate it. If the web server is stopped your users will not be able to access its content.

7 ZIP is excluded in the default configuration copied to your computer when IISxpress was installed, so you don't need to add it again.

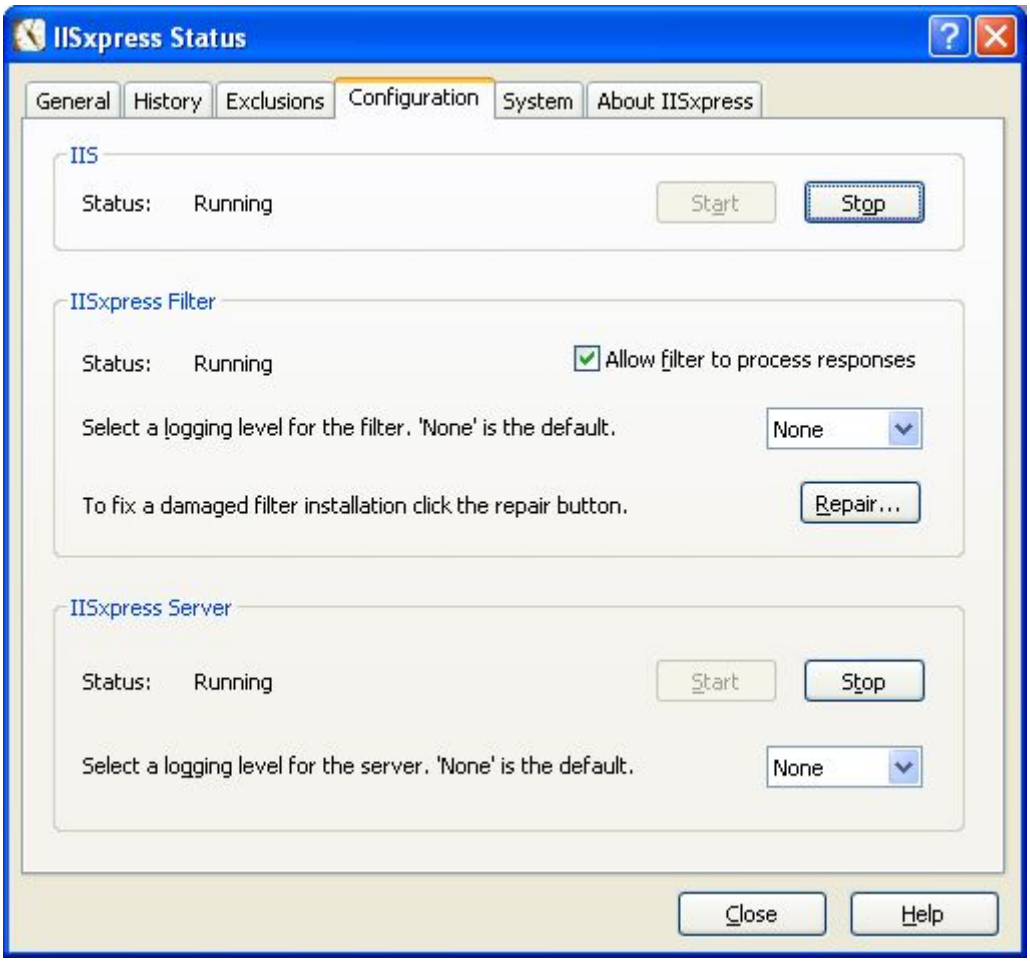

Illustration 12 - Configuration tab of the IISxpress Status WIndow

The IISxpress Filter area in the middle of the window allows you to disable the filter, enable logging for the filter and repair a damaged filter installation.

If you uncheck 'Allow filter to process responses' you will find that IISxpress will stop compressing all content that passes through the web server, this option is useful if you are tracking down a problem with your web server installation and you wish to temporarily disable compression to eliminate it from your inquiries. Checking the option again will allow IISxpress to proceed as before.

To enable logging for the IISxpress Filter change the logging state from 'None' to one of 'Basic', 'Enhanced' or 'Full'. When this feature is enabled the IISxpress Filter will output logging information to the 'Logs'[8] directory on your hard disk.

8 This directory will be created in 'Program Files\IISxpress\Ripcord Software' when either the IISxpress Filter or IISxpress Server logging options are enabled.

Sometimes the IISxpress Filter configuration may become damaged, for example if you were to uninstall IIS and then reinstall it, IISxpress' settings will be lost and it will not function. Clicking the 'Repair' button will restore the correct IISxpress Filter settings. If after using this option IISxpress still fails to load, then it is advisable to reinstall IISxpress.

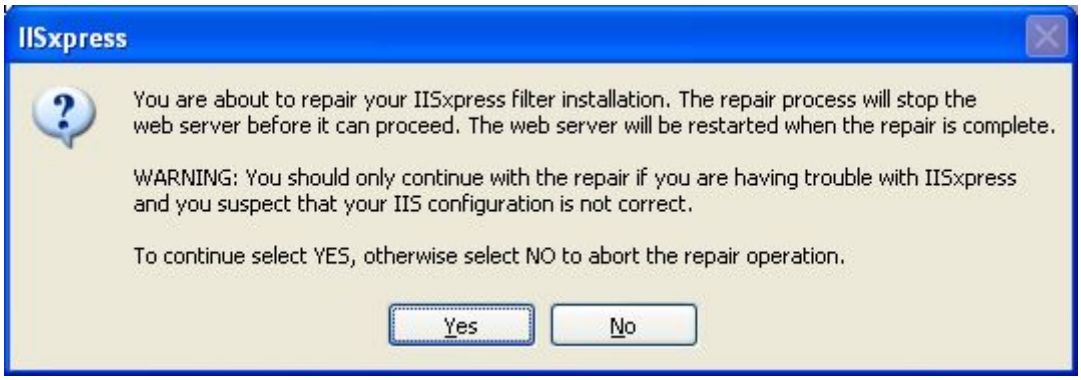

Illustration 13 - Repairing the IISxpress Filter

At the bottom of the window is the IISxpress Server area. From here you can start and stop the IISxpress Server service. When the IISxpress Server is stopped your users will not receive compressed responses from IISxpress.

When IISxpress is installed it adds itself to your computer's Service Manager database, each time your computer starts the IISxpress Server service will be automatically started, therefore the status for the IISxpress Service will usually be 'Running'. To prevent IISxpress compressing responses or to perform maintenance you may wish to stop this service.

You may also select a logging level for the IISxpress Server, this is similar to the logging options for the IISxpress Filter. The output log files will be written to your Logs[8] directory. We don't advise switching on logging on for production use.

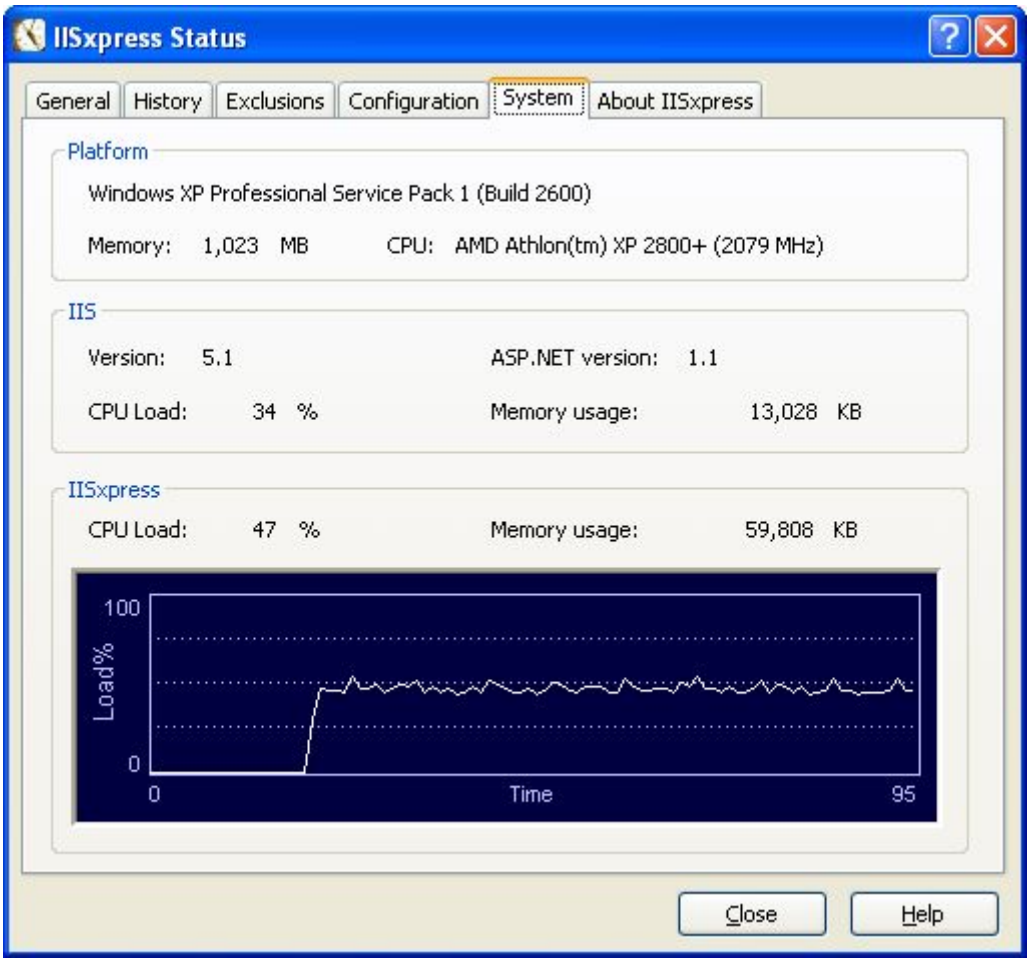

Illustration 14 - System tab of the IISxpress Status Window

The System tab of the IISxpress Status Window allows you to track the current state of your computer.

The 'Platform' area at the top of the window shows the Operating System version, the total amount of memory installed on the computer and the CPU type information reported by Windows.

The IIS area in the middle of the window displays the IIS version, the ASP.NET version, the IIS CPU load and the amount of memory used by IIS. CPU load and memory usage are updated approximately every 5 seconds.

The IISxpress area at the bottom of the window shows the CPU load, the memory usage and also a CPU load graph. This graph is updated approximately every 5 seconds. In Illustration 14 above you can see that IIS and IISxpress are under heavy load.

When experiencing high load conditions IISxpress will respond by utilizing an optimum level of system resources in order to achieve the best possible performance. When the load reduces IISxpress will adjust its resource utilization appropriately. This behavior ensures that your web server platform is never overloaded and can always respond quickly to any user request.

STATUS WINDOW - ABOUT

Illustration 15 - About tab of the IISxpress Status Window

The About tab displays the IISxpress version information, registration status, 'Request trial key', 'Purchase' and 'Enter key' buttons as well as copyright information.

Clicking the 'Request trial key' button will open a browser session and will navigate to the request trial key page of the Ripcord Software web site. From here you can request a key which will enable access to all of the features of IISxpress for a limited time period. Once the trial period has expired IISxpress will revert to restricted mode.

If you click the 'Purchase' button you will be directed to the purchase page of Ripcord Software's web site. From here you can purchase the latest version of IISxpress giving you full access to the product.

Once you have acquired a trial key or have purchased a full product key you need to enter it into IISxpress so that it is recognized. To do this click the 'Enter key' button and enter the key text into the dialog box that is displayed.

Context Sensitive Help

The IISxpress Status Window has an extensive help system. To display context sensitive help press the F1 key on your keyboard or the 'Help' button at the bottom of the window.

If you select the '?' from the caption bar of the Status Window you can click on any item in the window to get context sensitive help specifically for that item. The keyboard shortcut for this feature is SHIFT+F1 (press the shift and F1 keys together).

CUSTOMIZING IISXPRESS

BASIC SETTINGS

IISxpress ships with a suitable set of default settings, for many installations you may never need to change any of these. If however you wish to customize your setup or if you just want to learn what is possible then please read on.

It is not always possible or desirable to compress all the content on your web site, this may be because the data does not compress well or because the client user agent does not handle the compressed response correctly.

In addition to specifying rules to control compression IISxpress maintains a history of compression performance associated with each file (URI) on your web site. If a file as not been compressed in the past then IISxpress will not attempt to compress it again. However, if IISxpress detects that the file has changed since the last time it attempted to compress it then it will attempt to compress it again.

When you are configuring a web site to use IISxpress compression it is worthwhile tuning the settings to allow you get the best performance from IISxpress.

EXCLUSION RULES

IISxpress operates on the principle that if a request is made for a file it will try and compress the response. Generally this is a better approach than configuring compression for every file type on your web server.

To control IISxpress' compression engine you define a set of exclusion rules which tell IISxpress which responses it should not compress. Any response that does not match the exclusion rule will be compressed. If the compression is successful (the response is reduced in size) IISxpress will send the compressed data to the client. IISxpress will store the result of the compression in its history database so that next time it knows whether to attempt compression if asked for that file or URI again.

IISxpress supports the following exclusion rule types:

- Extension – IISxpress will match the extension at the end of the URI in the request against the exclusion rule database. If it gets a match it will not compress the response. For example, a request for the file /downloads/product1.zip will most likely not be compressible, so to prevent IISxpress wasting CPU time compressing it you would add ZIP as an exclusion rule.

- Content (MIME Type) – IIS informs IISxpress what the content type of a response is. This rule type is useful where the extension (if there is one) used in the request is not a good guide to the content of the response. For example the client may make a request to /db/allusers.asp, this dynamic web page may return HTML to some clients, XML to others and ZIP'd data to others. Therefore you would probably want to exclude the latter response from compression but allow the others to be compressed.
- URI – All client requests are directed to a URI on your web site. This may be to */images/banner.jpg*, or to */authenticate/ldap.cgi*. This rule type allows you to exclude entire portions of your web site from compression. For example if the */images* directory only contained JPG, GIF and PNG files then you may wish to not compress these. You can therefore specify a URI exclusion rule for the */images* directory. All requests for files in this directory will not be compressed by IISxpress.
- Network – IISxpress can exclude individual client computers and networks based on their IP address. This rule type is most useful in a mixed LAN/WAN/VPN/Internet configuration where the web server is accessed by clients using fast networks and clients using slower network links. You can instruct IISxpress to not send compressed responses to the fast network clients keeping the maximum CPU time available for processing other requests.

Controlling Compression - File Extensions

Using the extension at the end of the filename (really URI) to control compression is probably the easiest route to setting up a fast and efficient compression configuration. IISxpress has a default set of file extensions which reflect the types of files a web server contains, you are free to add and remove from this list as you see fit.

Typically files that do not compress well are those that are already compressed (e.g. ZIP, gz, PNG) and those that are encoded to achieve a smaller size (JPG, MP3, WMA, etc.).

You may find that GIF files, even though they already compressed will still benefit from IISxpress' compression. This is because the GIF compression algorithm is not as efficient as ZLIB, allowing ZLIB to remove some of the excess control data and therefore achieve a lower file size. GIF is a default exclusion rule when IISxpress is installed, to experiment with this file type remove the extension from the list and view the compression performance in the History window.

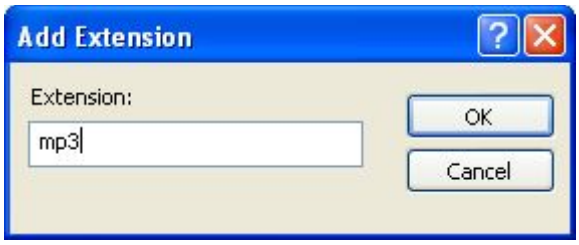

Illustration 16 - Adding an extension exclusion rule

To add a new extension rule click the 'Add' button and enter the extension in the dialog box that appears, then press OK. IISxpress will now exclude all requests with this extension.

To remove an extension from the list simply select the extension you wish to remove and press the 'Delete' button. You will be asked to confirm the deletion.

Beyond Extensions – Content Types

The content type rules are probably a more powerful rule criteria than excluding by extension, the drawback is that it is more difficult to predict the context type that will be returned by IIS.

The content type of a response is derived from the content type field contained in the HTTP header supplied by IIS for all responses. For example, if the client has requested a file with the extension '.txt' IIS will set the content type to text/plain, if the extension was '.xml' the content type would be text/xml.

You can determine the content type related to a specific file by running a browser session and requesting the file from IIS. If there are no exclusion rules for this file type then IISxpress will handle the request. Now open the IISxpress Status Window, select the 'History' tab and locate the request in the history list and select it. The 'Detail' area of the will show the content type of the response along with other pieces of useful information about the response.

Illustration 17 - Detail area of History tab of IISxpress Status Window

In Illustration 17 we can see that the user has requested the file 'rfc2616.txt' from the server 192.168.0.2[9], the client's IP address was 192.168.0.11 and the browser used was Microsoft Internet Explorer 6. The content type returned by IIS was 'text/plain'.

IISxpress supports excluding response content types in two ways, for example to exclude all text responses you could add the rule 'text/*' to the list of excluded content types. Alternately you could enter 'text/xml' to explicitly exclude XML content from being compressed.

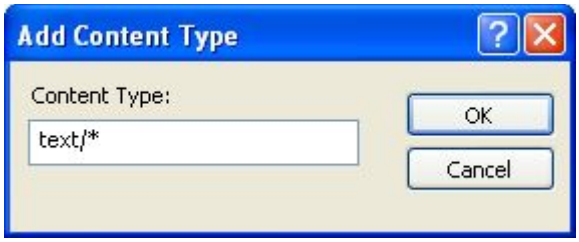

Illustration 18- Excluding all text responses via a rule

Excluding text files is given here as a example, we don't recommend this rule since text files compress very well in practice.

9 Usually the full DNS name of the server would appear here rather than just the IP address.

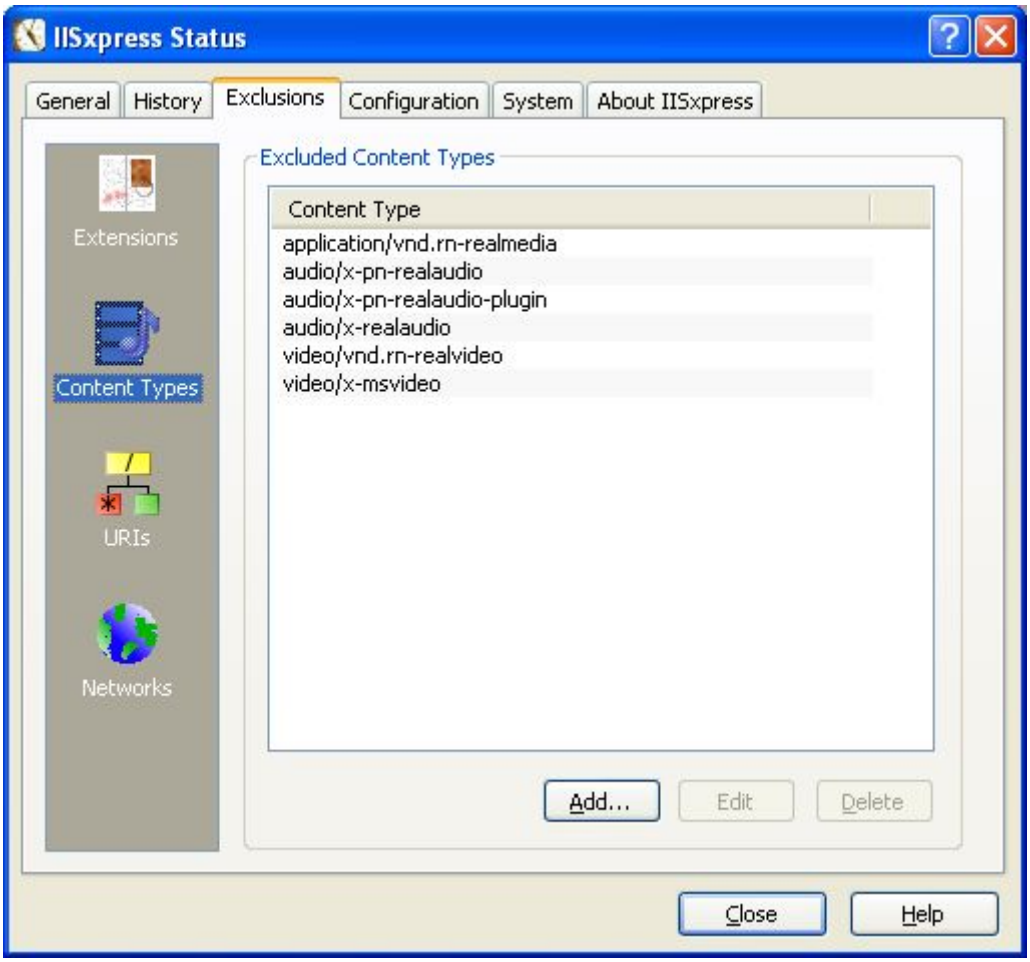

Illustration 19 - Standard content type rules

Illustration 19 shows the default content type exclusion rules that are created when you first install IISxpress.

Exclude URIs - Directories and Virtual Directories

The previous sections detailed how to exclude a file by its extension and by its content type, neither of these rules takes into account the location of the file on your web site.

For example, you could place all the images used by your web site in a single directory called /images. Within this directory you could have further sub-directories called, for example, backgrounds and logos. You would therefore have the following structure:

- /images
- /images/backgrounds

- /images/logos

IISxpress allows you to create exclusion rules based on the directory where the content resides. IISxpress supports two URI rule modes: wildcard and non-wildcard mode.

Wildcard mode allows you to specify that a directory and all of its child directories are excluded from compression, for example if we decide that no files in the /images tree are to be compressed then we could add a wildcard URI rule as shown in Illustration 20 below.

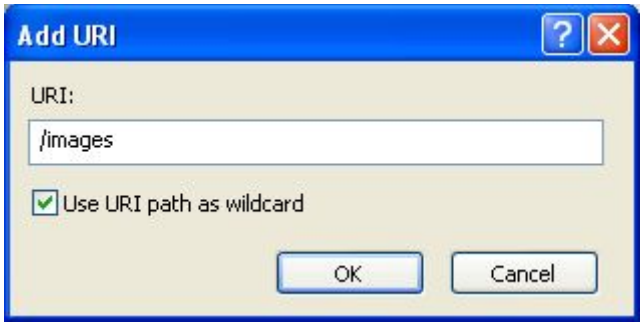

Illustration 20 - Adding a wildcard URI rule

The difference between a wildcard rule and non-wildcard is the 'Use URI path as wildcard' check-box. When the box is checked IISxpress understands this to mean: include all sub-directories too.

If we had unchecked the box the rule would be interpreted solely as: don't compress content from the /images directory. Therefore requests directed to sub-directories would not trigger this rule and would continue to be compressed.

The key to creating a powerful set of URI rules is understanding the relationship between the web server directory structure on your hard disk and the URI used by the client browser when it makes a request.

If you were to create a virtual directory under the root of your web server called /photos and configured it to be outside the directory structure of your web server then IISxpress would still interpret the URI path as being http://www.test.com/photos. To exclude the photos virtual directory you would add an exclusion rule of '/photos' for the web site www.test.com.

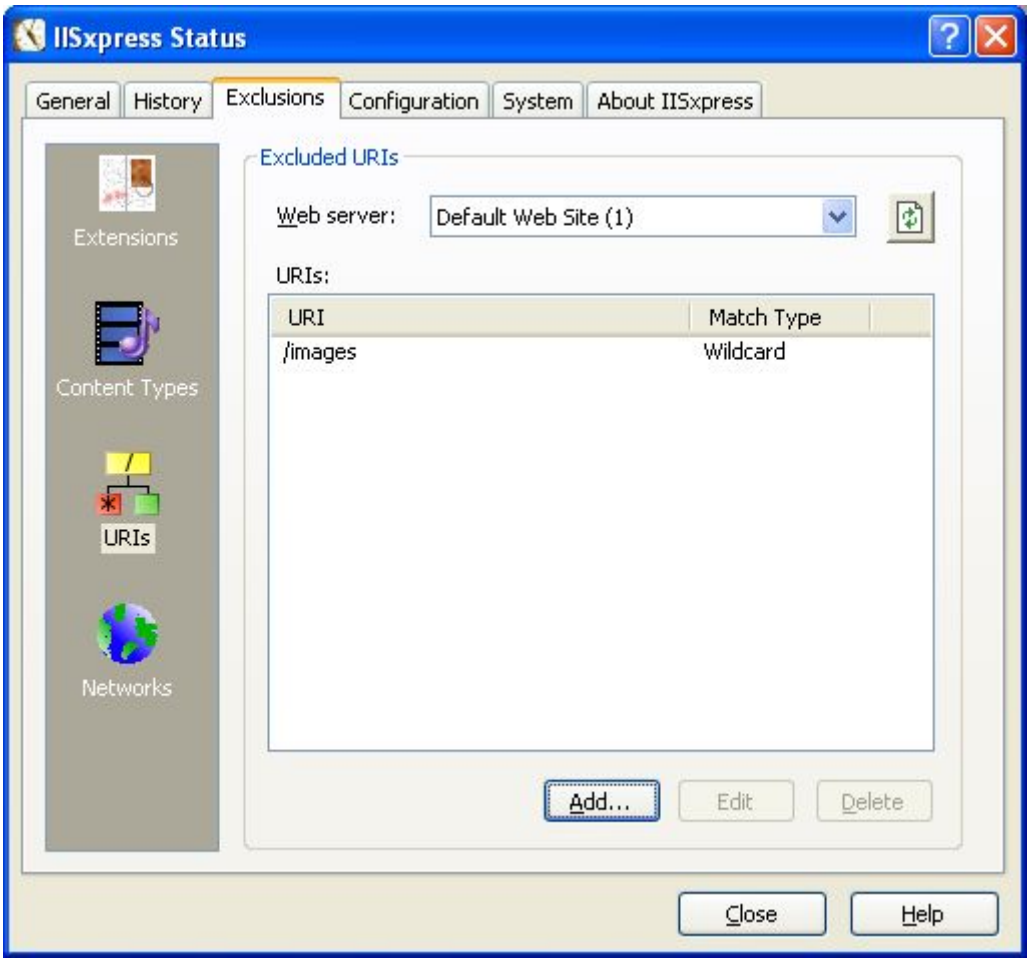

Illustration 21 - Creating URI based exclusion rules

When you click on the URI icon on the left of the 'Exclusions' tab window you see the list of URIs that are excluded from compression appears on the right. At the top of the window there is a drop down selection box, this contains all the web sites that are configured in IIS. Each web site has its own set of exclusion rules unique to it. For example, the earlier '/images' rule only applies to the web site we created the rule for, all other sites will not apply this rule even if they happen to have an '/images' directory.

IISxpress will allow you to create a rule which will prevent all of a web site's content from being compressed: simply create a wildcard rule with the URI '/'. Now all the content on that web site will be excluded from compression. This feature is useful when you are running a server version of IIS and you have multiple web sites - you may wish to prevent compression on certain sites.

Illustration 22 - Excluding a whole web site with a URI rule

Selecting Clients – IP Exclusions

CPU time is precious for your web server, so why compress all responses when some clients do not require compression? IISxpress allows the exclusion of clients based on their IP address, for example clients on the same LAN as your web server can be excluded from compression while WAN and Internet clients can benefit from the extra performance it affords.

IISxpress does not have pre-configured exclusion rules for networks since each environment will be different - it is up to you to configure the rules to get the most from your installation.

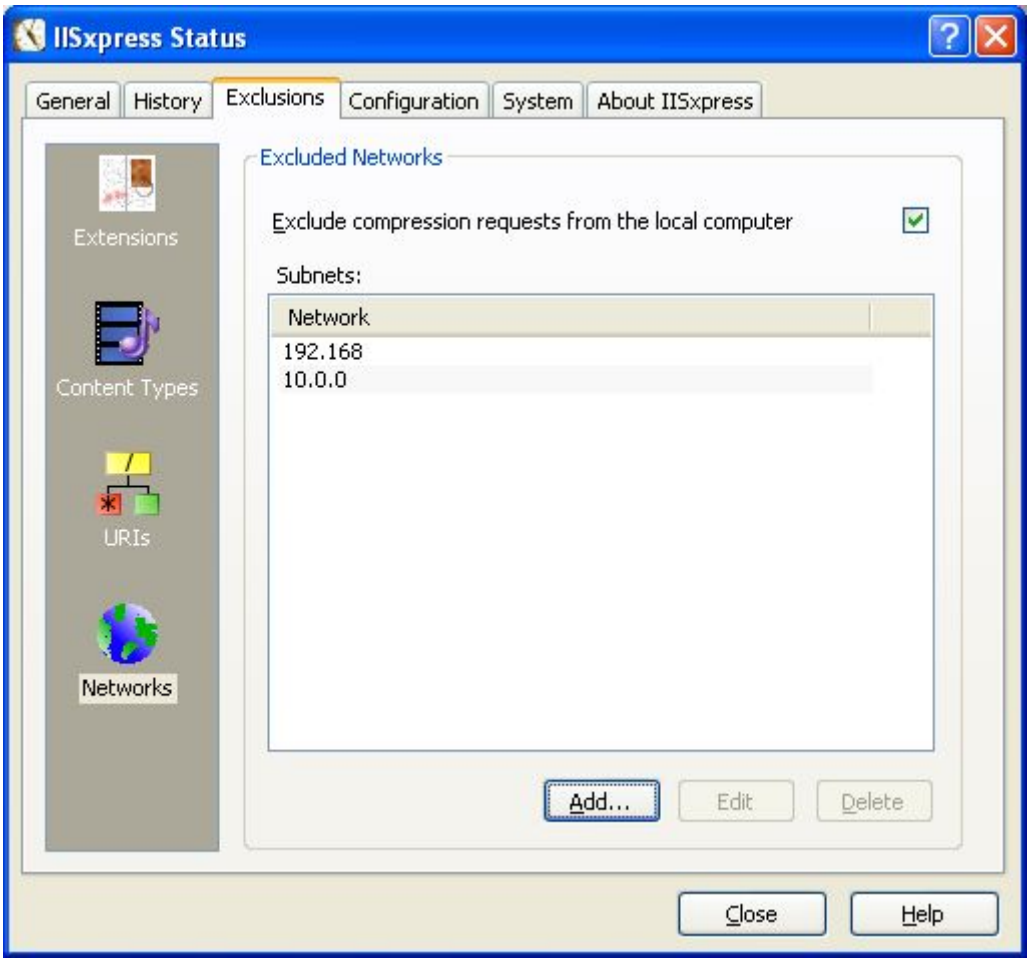

Illustration 23 - Exclude clients by IP address

All TCP/IP based networks are numerically arranged in segments – this means that clients on a LAN typically occupy a given IP address range which is not used anywhere else on the network. Using this topography knowledge you can create a set of exclusion rules to maximize server performance by only compressing responses for clients which will benefit and excluding those that won't.

The following table shows an example network topology:

Name	*IP Address*	*Speed*	*Utilization*	*Description*
Web Server	10.1.0.7	1Gb	N/A	The web server with IISxpress installed.
LAN1 subnet	10.1.0.*	1Gb	Acceptable	The local LAN for the web server.
LAN2 subnet	10.5.*	100Mb	High	Another LAN connected to the web server via a router.
LAN3 subnet	10.6.*	100Mb	Low	Another LAN connected to the web server via a router.
WAN1 subnet	10.7.1.*	10Mb	Acceptable	A remote network.
WAN2 subnet	10.7.2.*	1Mb	High	A remote network.
WAN3 subnet	172.16.*	256Kb	High	A remote network.
VPN subnet	192.168.0.*	56Kb+	High	Telecommuters on modems, ISDN or ADSL accessing the web server.
Internet	*	10Mb	High	The entire internet, accessing the web server via a 10Mb symmetrical link. Clients can be using modems, ISDN, ADSL, etc.

In this network environment we can see that clients on LAN1 have a fast connection and therefore do not require compression. LAN2 is heavily loaded, even though the link is fast there isn't much capacity. LAN3 is a fast link with spare capacity, so we decide that compression will not be of great benefit. All other networks are either slow, heavily loaded or both and will benefit from compression.

Therefore we decide to create exclusion rules for clients from LAN1 and LAN3, to do this we add two rules with the IP addresses 10.1.0 and 10.6.

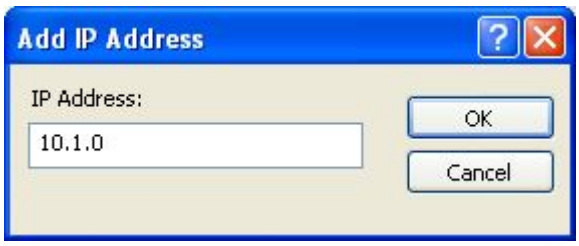

Illustration 24 - Exclude IP Address dialog

IISxpress will now match the leading octets (numbers) of the incoming IP address against its exclusion rule table, if it gets a match it will not compress the response for that client. For example requests from the client 10.1.0.22 (on LAN1) will match the 10.1.0 rule since the first three octets match, therefore this client will not receive a compressed response. A client with the address 207.191.22.43 will not match any rule and will therefore receive a compressed response.

You are not limited to matching solely on the leading octets, you can match the entire IP address if you wish. For example to exclude the client 148.22.9.34 from compression add its whole address to the exclusion rule list, IISxpress will now match this address and exclude it from compression.

When dealing with clients IISxpress treats the local computer as a special case and has a specific configuration setting to handle it. The 'Exclude compression requests from the local computer' option allows you to enable or disable compression for requests coming from the web server computer itself. The default IISxpress configuration will not compress requests from the local computer, this reduces the load on the CPU since there is no benefit in compressing requests intended for the local computer. Sometimes you may wish to test your compression configuration by running a browser on the server, by unchecking this option IISxpress will allow local requests to be compressed giving you the same compression experience as other clients.

ADVANCED USAGE

IISXPRESS SERVICE

The IISxpress compression engine comprises of a system service registered with your computer's Service Manager. You can therefore use standard Windows tools and programming APIs to control this service.

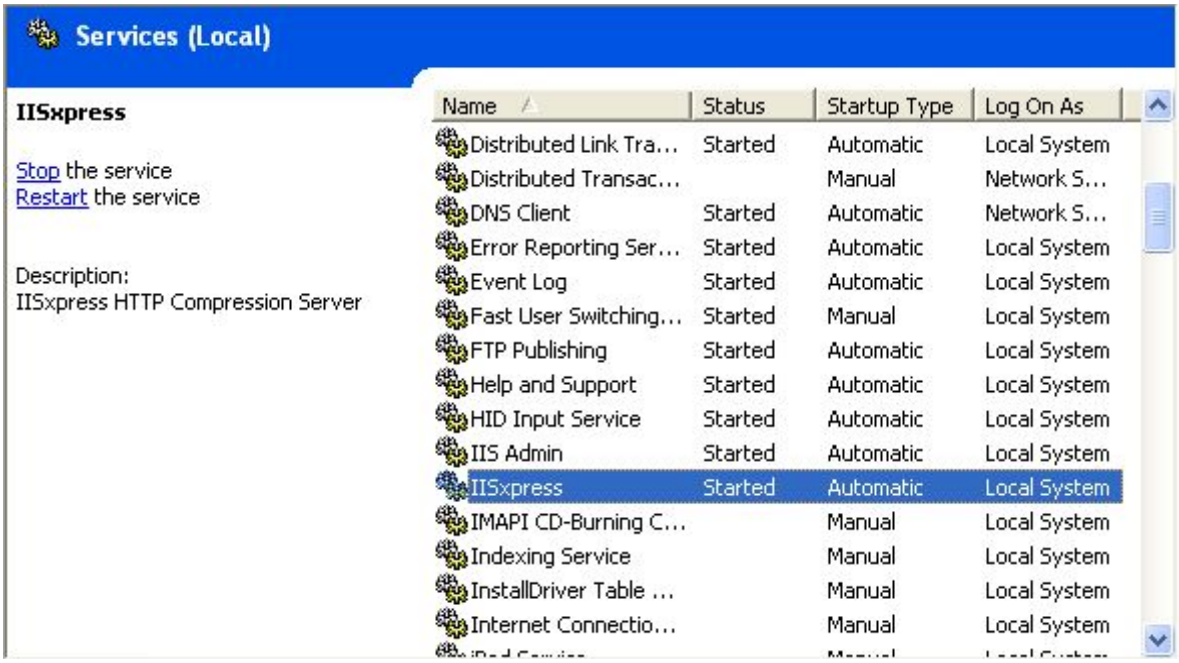

Illustration 25 - Windows Service Manager

Open the Service Manager window from your Windows start menu by selecting Control Panel, Administration Tools and then double click on the Services icon. From here you can start and stop the IISxpress service.

You can also control the service from the command prompt by using the *net* command. To do this open a command prompt window and type the following text to start IISxpress:

```
c:\> net start IISxpress
```

To stop IISxpress use *net stop IISxpress*.

IISxpress will default to automatically start when your computer starts, it is recommended that you do not change this setting.

Of course you do not need to use the Service Manager to start and stop IISxpress, you can do this from the IISxpress Status Window Configuration tab – you can also start and stop IIS from this window.

IIS Administration Tool

IISxpress integrates with IIS via a custom ISAPI filter DLL. IIS ships with a standard set of ISAPI filters, when you install IISxpress your IIS configuration is modified to include the IISxpress filter DLL. To check that the filter is installed you open the IIS Administration Tool, right click on the Web Sites item in the tree on the left of the main window and select the Properties item from the menu displayed.

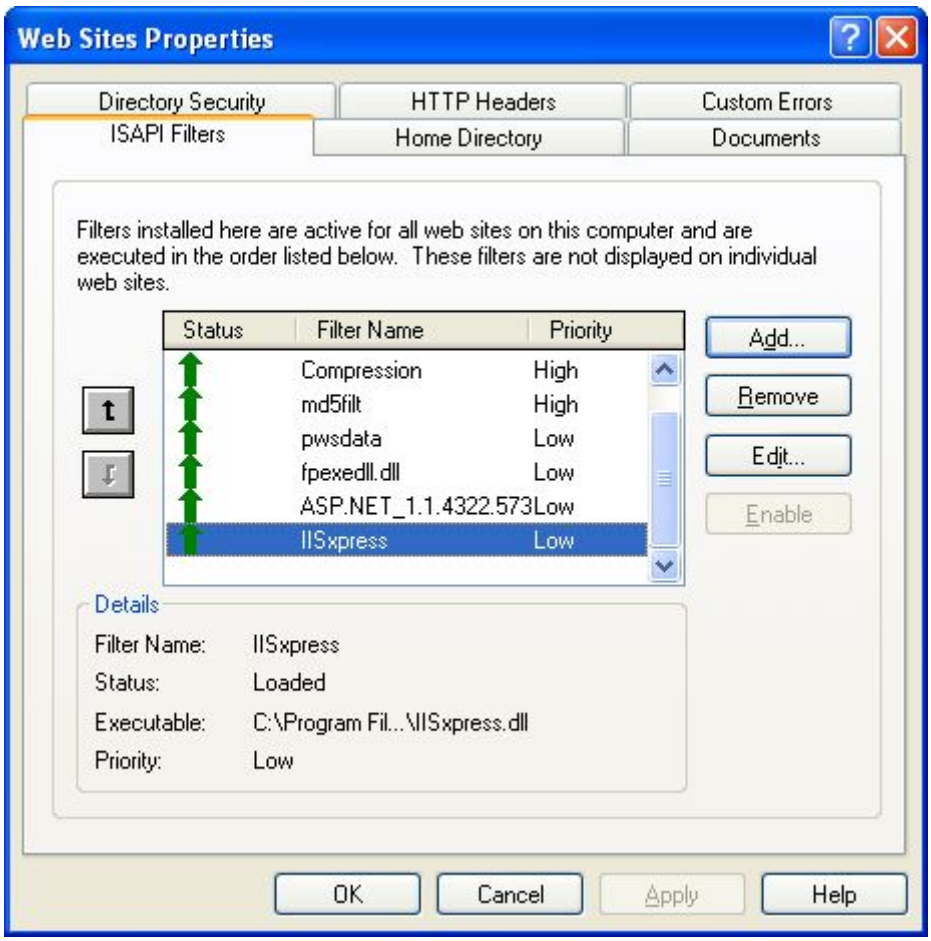

Illustration 26 - IIS Admin Tool

Now click on the ISAPI Filters tab, you will see the the dialog box shown in Illustration 26 above.

Sometimes your IISxpress filter configuration may become corrupted, for example if you uninstall IIS and then reinstall it – you will lose the IISxpress ISAPI filter configuration settings. To recover from this scenario you use the Repair option of the IISxpress Status Window, select the Configuration tab and click the Repair button in the IISxpress Filter area of the screen. IISxpress will now be restored to a working state. Please be aware that the repair process will stop IIS for a short period of time before restarting it.

Configuration File

IISxpress stores its configuration data in a file called *IISxpress.config* which is located in your IISxpress installation directory. If you copy this file you have effectively created a backup of your IISxpress configuration - you can then store this file in a safe location to be restored if an emergency situation arises.

To backup the configuration file you should follow these steps:

- Stop the IISxpress service by opening the IISxpress Status Window, select the Configuration tab and then click the Stop button in the IISxpress area at the bottom of the window.
- Copy the file to a secure location and restart the service by clicking the Start button in the Status Window.

To restore the file follow these steps:

- Stop the IISxpress service by opening the IISxpress Status Window, select the Configuration tab and then click the Stop button in the IISxpress area at the bottom of the window.
- Copy the backup file over the existing *IISxpress.config* file and restart the service by clicking the Start button in the Status Window.

If a configuration file is not present then IISxpress will create a new one, therefore if you wish to experiment with a completely new configuration you can just stop the service, rename the original file and and then start the service. An empty configuration will be created, once you have finished your experimentation you simply restore the original file or keep your new settings.

Setting the Compression Mode

IISxpress supports two compression modes. The default mode favors speed over size, however you can increase the compression effectiveness at the expense of CPU time by changing this to a more aggressive setting.

You will find a directory called 'Registry Files' in your IISxpress installation directory, this directory contains two files:

- *IISxpress_CompressionMode_Speed.reg*
- *IISxpress_CompressionMode_Size.reg*

The first file contains the default settings - these strike a balance between speed and size. The second file contains the settings for 'favor size', this option configures IISxpress to use more CPU time resulting in a smaller response file.

To configure IISxpress to favor size over speed double click on the second file in Windows Explorer, you will be prompted to confirm that you wish to accept these settings, click the Yes button. You must now stop the IISxpress service and start it again for the settings to take effect (use the IISxpress Status window or the Service Manager for this).

The 'favor size' setting will use more CPU time per response than the default option so it is not necessarily suited to heavy load scenarios. However, if your server has plenty of spare CPU capacity then configuring IISxpress for 'favor size' may be the best option for you.

If you decide to change the compression mode remember to restart the IISxpress service in order for the settings to take effect.

APPENDIX

Contacting Ripcord Software

For help with technical queries or assistance with problems please email our support team at the following address: support@ripcordsoftware.com.

All sales inquiries should be directed to our sales team at: sales@ripcordsoftware.com.

Client Identification

The following user agents are identified by IISxpress:

- Internet Explorer 7, 6, 5.5, 5 and 4.
- Opera masquerading as Internet Explorer.
- Mozilla Firefox 1.5, 1.0.7, 1.0.6, 1.0.5, 1.0.4, etc.
- Mozilla1.7, 1.6, 1.5, 1.4, 1.3, etc.
- Netscape 8, 7, 6.
- Opera 9, 8, 7 and 6.
- Safari 2.0, 1.3, 1.2 and 1.0.
- Googlebot.
- MSNbot.
- Yahoo! Slurp.

If IISxpress can identify the browser but not its version it will display the product name without the version string. If it cannot identify the client browser at all IISxpress will display the entire user agent string sent by the client to the server.