



## jetNEXUS for IIS in Operation

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## 1. Introduction

jetNEXUS for IIS is the highly successful acceleration engine designed and developed by Metal Minds Ltd. The jetNEXUS acceleration engine is now also used in the jetNEXUS Accelerator appliance.

jetNEXUS for IIS is designed to bring content acceleration to all Microsoft IIS web servers or HTTP-based services, to deliver the benefits of significantly reduced bandwidth usage along with dramatically improved page download times. jetNEXUS can be used by e-commerce sites, corporate data centres, extranets, web hosts, service providers, as well as applications dependent on HTTP services.

jetNEXUS for IIS applies maximum acceleration by ensuring the right content is accelerated for the requesting browser. Most HTTP transmissions (e.g. ASP, JSP, XML, CSS, JavaScript, DHTML, HTML, etc.) can be compressed by up to 90% with a typical bandwidth reduction and performance improvement of 50% or more.

If you have any questions, or would like to discuss any aspect of jetNEXUS or this document further, please do not hesitate to contact us.

## 2. How will jetNEXUS for IIS Benefit You?

MS Internet Explorer and Netscape Navigator, since version 4, all have the ability to accept some level of accelerated content WITHOUT requiring a plug-in or other modification to the browser. Web servers on the other hand have themselves provided little or no direct support for this ability. jetNEXUS for IIS provides the means to exploit this feature on Microsoft IIS servers, and in doing so significantly improves the customer experience as well as providing considerable network benefits.

Once installation has taken place jetNEXUS for IIS will provide your business with an instant reduction in bandwidth requirement (directly proportional with the level of acceleration achieved). Your customers will experience greatly improved page delivery times, so that both you, and your customers, will experience the benefits of jetNEXUS Acceleration. Also because jetNEXUS acceleration is a much less CPU Intensive task than SSL Encryption, so jetNEXUS for IIS could also buy back processing power by reducing the amount of data that needs encrypting.

jetNEXUS for IIS installs easily onto any Microsoft servers (IIS 4.0 SP6a to IIS 6.0) offering the instant benefits of Acceleration without the requirement for user plug-ins, changes to content, or changes to infrastructure.

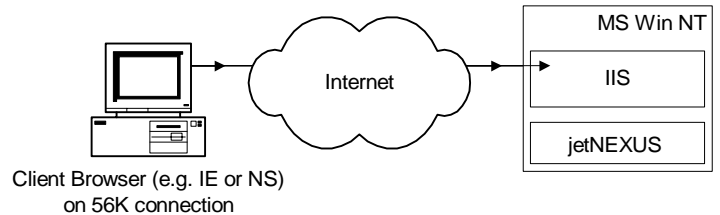
### 3. jetNEXUS for IIS in Operation

jetNEXUS takes advantage of a number of technologies to deliver its benefits.

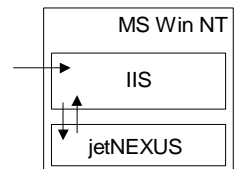
Microsoft IIS has a facility to allow third-party programs to hook into the cycle of delivering web pages at various points in the processing cycle. IIS uses this facility itself to provide SSL encryption and FrontPage extensions. jetNEXUS integrates into this cycle to deliver the benefits of on-the-fly acceleration.

The fundamental process is as follows:

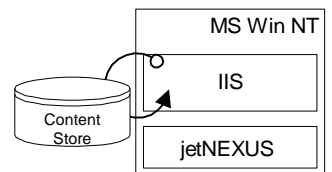
The user enters a URL or clicks on a link. This creates a connections followed by a request from the browser to the web server. As part of the HTTP protocol the browser identifies in its request header whether it is capable of receiving compressed content as well as the manner of acceleration it understands.



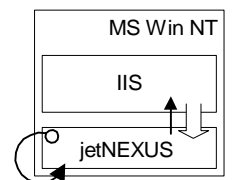
As IIS receives the request, it gives all hooked programs (including jetNEXUS) a chance to look at the incoming request. jetNEXUS uses this data to determine the browser's ability to receive compressed content and - based on browser type and version - the extent to which it can accept accelerated content.



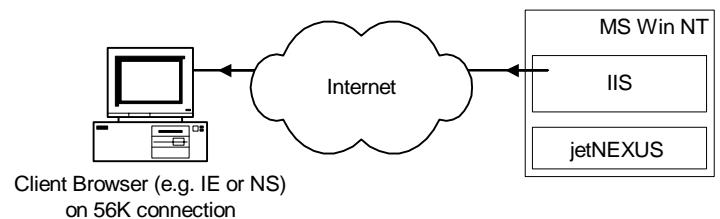
For example, Netscape Navigator version 4.x browsers can only process accelerated body content and cannot handle compressed CSS style sheets. MS Internet Explorer version 5.x browsers, on the other hand, can process both types of content in compressed format.



IIS then processes the request and generates the appropriate response. However, before sending this response to the requesting browser, IIS once again gives each hooked program in turn a chance to see and modify the response.



jetNEXUS examines the response header(s) and determines whether the output is of a compressible type. If the output is not of a type that jetNEXUS can compress (e.g. GIF, JPEG, etc.), it simply stays out of the way. However, if the output is a compressible type AND jetNEXUS knows from the request that the browser can accept compression, jetNEXUS modifies the response. The content of the response is accelerated and the response headers are modified to show this and the revised length of data.



IIS then completes the process by passing the response back to the browser. From the end user's point of view this whole process is transparent, apart from the fact that the page arrives much, much faster!

## 4. Administration

### *Installation*

jetNEXUS for IIS has been designed for easy installation onto your servers, typically taking less than 5 minutes. During installation jetNEXUS will need to restart IIS, this typically take a few seconds and is normally transparent to your users.

### *jetNEXUS Tray Features*

The jetNEXUS tray icon supports configuration of all the major operational features of jetNEXUS for IIS, including:

- Detailed performance statistics
- File Exclusions
- Document Acceleration
- Streaming Compression
- Licensing
- Statistic Logging
- Thread Memory Allocation

### *Detailed Performance Statistics*

JetNEXUS for IIS keeps statistics on hits, compression and throughput. The jetNEXUS Tray Monitor application allows access to the information and displays the overall throughput figures before and after compression. It also shows the content compression figures, indicating how jetNEXUS is performing on the page content that can be accelerated.

### *File Exclusions*

jetNEXUS has a means to suppress compression of certain content. Unfortunately, some software used on the internet does not fully obey the specifications to the letter as laid down by the WWW Consortium. In some rare situations, there is not an automatic means of avoiding these pitfalls. JetNEXUS Exclusions are in place to ensure smooth and efficient operation even in the presence of these difficulties, maintaining a flawless user experience.

### *Office Document Compression*

Many businesses these days use the HTTP and web infrastructures to deliver all sorts of content to branch offices, field workers. One common use is a central repository of documentation for external sales and customer support engineers to be accessed via wireless connection, or even a dial-up connection.

JetNEXUS is supplied ready-tuned to provide compression of such documentation improving intranet bandwidth management and improved access, especially where divisional departments or home users access central data repositories.

### *Streaming Compression*

Some content is not simple to produce. Sometimes database queries can take noticeable time and prevent delivery of a complete page for a period. In these circumstances, jetNEXUS can use streaming compression to provide content acceleration immediately during delivery. This is not quite as efficient as the normal jetNEXUS acceleration which is highly optimized for CPU resource and acceleration effectiveness, but offers a great solution for pages holding long commercial product lists, searches and complex database enquiries.

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### ***Statistic Logging***

jetNEXUS has the facility to augment the W3C log details to hold compression figures in addition to the usual W3C information.

jetNEXUS Tray Monitor can also create log files, updated once per minute or as required, that create a historical record of throughput and compression. jetNEXUS Tray Monitor looks after the history period and removes log files at the appropriate time automatically.

### ***Thread Memory Allocation***

jetNEXUS for IIS operates as efficiently as possible. In order to tailor jetNEXUS operation to individual server content profiles, there are settings available in jetNEXUS Tray Monitor that allow memory usage control. This optimizes the amount of memory jetNEXUS uses to deliver the content available on your servers. Optimum speed and throughput are maintained, even when the server is under strain using these settings.