LeanServer ScaleUP

Breakthrough Solution for Web Uploads

"Thanks to ScaleUp, we've been able to double the upload speed, increase the amount of concurrent uploads per server, all while reducing the number of servers in our upload farm." - Ryan French, Director of Media Engineering, MySpace, Inc.

myspace

ScaleUp is an upload engine for web applications that provides:

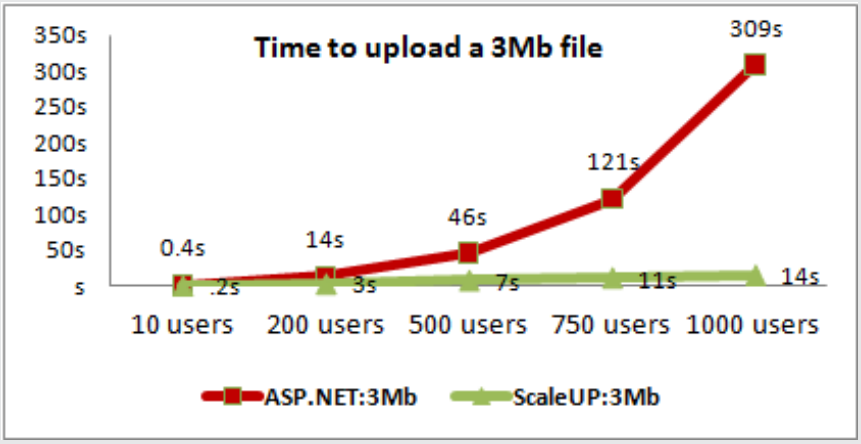
Up to 20x faster uploads

Unlimited upload size

Massive scalability with no errors or timeouts

Comprehensive features including progress reporting, streaming and filtering

Reduced server costs



ScaleUp delivers up to 20x higher upload speeds and excellent upload times, preventing timeouts and user disconnects under load[4].

ScaleUp is a breakthrough technology that solves all common upload problems on the IIS/ASP.NET platform.

Unlike existing solutions that inherit upload limitations from the underlying platform, ScaleUp uses low-level IIS 7.0 extensibility to transparently replace the built-in preload mechanism with its high-performance upload engine.

ScaleUp utilizes advanced Windows performance technologies to deliver significantly faster, more reliable and scalable uploads than previously possible on the Microsoft web platform - *without a special browser client*.

ScaleUp seamlessly integrates with existing ASP.NET, ASP, or PHP applications and immediately accelerates file uploads, AJAX callbacks and web services[1].

	LeanServer ScaleUP	IIS/ASP.NET or existing addons
Upload Size	***UNLIMITED*** Can upload 5Gb, 10Gb or 100Gb files directly into any application regardless of its upload limit[2].	**Limited to 2Gb/4Gb** ASP.NET and other frameworks limited to 2Gb, IIS limited to 4Gb for standard HTTP uploads.
Speed	***Up to 20x faster*** Supercharges upload speeds and keeps them high under load.	**Degrades under load** Upload speeds plummet under load.
Reliability	***Excellent reliability under load*** Maintains upload stability and fairness even under high load.	**Timeouts and user disconnects** Higher load and/or slow clients cause degraded upload rates, timeouts and user disconnects.
Application Impact	***Enhances application performance*** Eliminates thread starvation due to uploads, and reduces server resource utilization to significantly enhance application performance.	**Poor performance, thread starvation** High disk/memory impact and thread starvation from blocking uploads degrades and frequently deadlocks applications.
Scalability	***1000s of active uploads on a single server*** ScaleUp reduces the operational costs of supporting web uploads by handling significantly more uploads with fewer servers.	**Severely limited** Does not scale to many concurrent uploads due to high resource impact and thread starvation, requiring many more servers.
Application Support	**Works with any existing application** ScaleUp instantly enables enhanced uploads in any existing ASP.NET, ASP, PHP or other IIS 7.0 compatible application with little or no code changes[3].	**Varies by Application Framework** Each application framework poses different upload limitations. Existing upload solutions are framework-specific.

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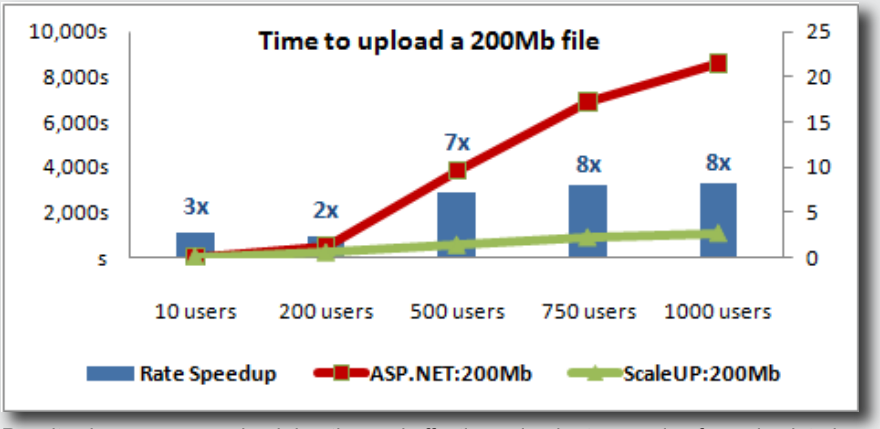
Comprehensive Features

- **Progress Reporting:** server-side upload progress reporting to a custom application handler
- **Streaming/Filtering:** efficiently inspect/modify POST data or uploaded files as they are being received
- **Enhanced Error Handling:** control how upload errors are sent to users to avoid the dreaded “connection reset”
- **Flexible Deployment/Configuration:** easily integrate and optimally configure ScaleUp for your application
- **Enterprise Performance Monitoring:** monitor upload traffic and performance with enterprise monitoring tools



Results show average upload duration and effective upload rate speedup for a simulated production load test at 10, 200, 500, 750, and 1000 concurrent users[4,6].

Upload Performance

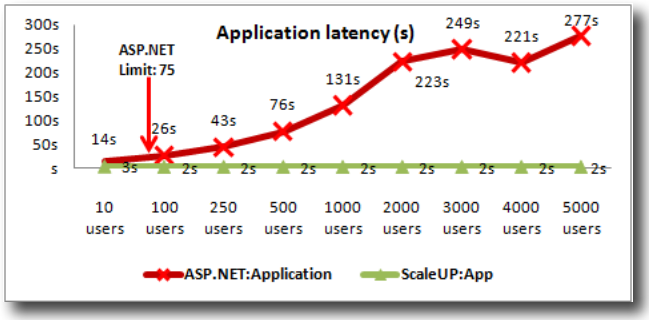
ScaleUp’s asynchronous preload engine uses advanced IO control and cache tuning to achieve significantly higher upload throughput than previously possible.

2-20x higher upload speed than ASP.NET

Scales to many users without losing performance

Eliminates errors and timeouts under load

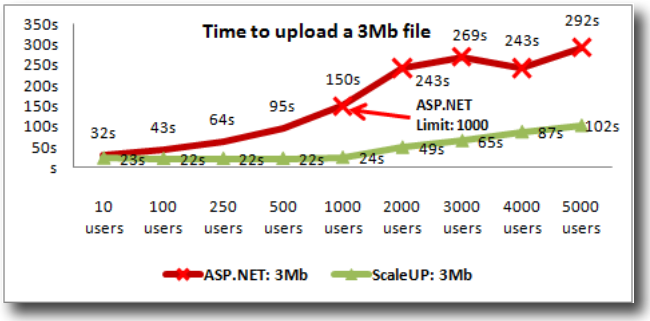
Applications can use ScaleUp to significantly reduce the number of servers required to support upload processing, while protecting upload rates and maintaining application performance.



Uploads frequently have a negative impact on the rest of the application, due to thread starvation inflicted by longer-running uploads consuming all available application threads, and high server resource usage. In results shown, ASP.NET experiences slow application response time (14s) at 10 uploads, and unacceptable application response time (>20s) at 75 uploads.

By contrast, ScaleUp isolates the application from upload impact, keeping the application response time healthy.

ScaleUp scales to over 5,000 concurrent uploads while preserving application response times and acceptable upload rates[5,6].



Today, upload performance degrades drastically with load, causing poor upload rates and eventually timeouts/user disconnects. In results shown, ASP.NET upload speed degrades quickly, becoming unacceptable due to errors and low speeds (<20KB/s) at around 1000 uploads.

ScaleUp’s efficient preload engine maintains excelent upload speeds and begins degrading slightly at 2000 uploads, remaining acceptable all the way up to 5000 uploads.

As a result, ScaleUp can often enable 50%+ server reduction for upload-intensive applications, resulting in significant OpEx (rack space, power, software licenses) and CapEx (server hardware) cost savings.

Evaluate ScaleUP Today

We are currently making LeanServer ScaleUp v1.0 commercially available to a limited number of users.

To obtain an evaluation version of ScaleUp and to learn more about how ScaleUp can help your application provide better upload performance and reduce operating costs, please contact us at ***scaleup@leanserver.com***.

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About *Lean*Server

LeanServer was founded in 2007 by Mike Volodarsky, a former Program Manager responsible for the core platform of ASP.NET 2.0 and IIS 7.0 products at Microsoft. LeanServer's mission is to help large web site operators scale and reduce operating costs with cutting edge performance and scalability technologies for the Microsoft web platform.

LeanServer's efficiency technologies help some of the largest web sites in the world scale better and reduce operational costs.

Learn more at ***www.leanserver.com***.

[1]ScaleUp improves performance and scalability of HTTP POSTs, including HTTP file uploads, AJAX callbacks, web services, and form submissions for mobile applications.
[2]Maximum upload size limited by available storage capacity.
[3]ScaleUp works with any IIS 7.0 compatible application. No code changes are required, to benefit from more advanced modes requires minor changes to open uploaded files using ScaleUp .NET API or by reading IIS server variables.
[4]Long-running load test simulating balanced production load, comprised of application requests (~30%) and 3Mb (~40%), 50Mb (~15%), 200Mb (~10%), and 1Gb (~3%) uploads. Uploads are saved to disk and subsequently deleted to simulate upload processing.
[5]Load test simulating production load, comprised of application requests (100 active clients) and 3Mb uploads (10 to 5000 active clients).
[6]Tests performed on DELL T300 Xeon X3363 16Gb on a dedicated 2Gbit network.