Benchmarking TX Text Control .NET Server and Aspose.Words*

1 Introduction

Introduction

Centralizing word and document creation processes is a current trend in enterprise applications. Creating such business applications requires very stable and high-performance components that are able of handling thousands of documents per hour.

This paper discusses benchmark and stress tests that have been performed with two current server side word processing components.

- TX Text Control .NET Server
- Aspose.Word

Both products have been specifically designed to run in server side applications and therefore do not have a user interface. All interactions are performed programmatically from application code, thus making them ideal for batch processing or printing large volumes of documents.

TX Text Control .NET Server supports many industry standard document formats including MS Word, Rich Text Format (RTF), HTML, XML, ANSI TXT and Adobe PDF. Aspose.Word only supports MS Word. Therefore, it is used in connection with Aspose.PDF to perform the typical application that is realized in these benchmark tests. Aspose.Word supports an interface to call Aspose.PDF directly from code.

Benchmarks

One of the most typical applications for server-based applications is the modification of previously made documents. The benchmark test consists of three steps:

- Loading a 10 page MS Word document
- Replacing 2 strings on every page
- Saving the document as a Adobe PDF

In this test, the same server environment is used for both components. The components are used in two different ASP.NET web applications that open the test document, replace the strings and save

2 Server Hardware

the resulting document back to the server. The applications themselves convert just one document per request. This simulates a typical scenario, in which concurrent users trigger the document creation process in a web-based application.

Server Hardware

We performed the test on a single processor Intel Celeron 2.0 GHz server with 512 MB RAM, running Windows 2003 Server and IIS 6.0. The server was connected to a local area network, interfaced by a 100 MBit network card. The benchmark aims to illustrate how the components perform under minimum hardware conditions. Naturally, the faster the hardware, the faster the server based application will perform.

Benchmarking Software

To measure the response times, we used the benchmarking tool Apache-Bench from the Apache Software Foundation (www.apache.org). Apache-Bench is a tool for benchmarking the HyperText Transfer Protocol (HTTP). It has been developed to quantify the performance of web servers and web based applications. This especially shows how many requests per second the application is capable of serving. It allows a specific number of requests on a URL to be started. The number of concurrent requests are scalable as well. The benchmarking software runs on another server and sends the requests to the test server that contains the test applications. Both servers are connected through a private 100 MBit local network. The tests were performed under identical conditions to ensure valid results.
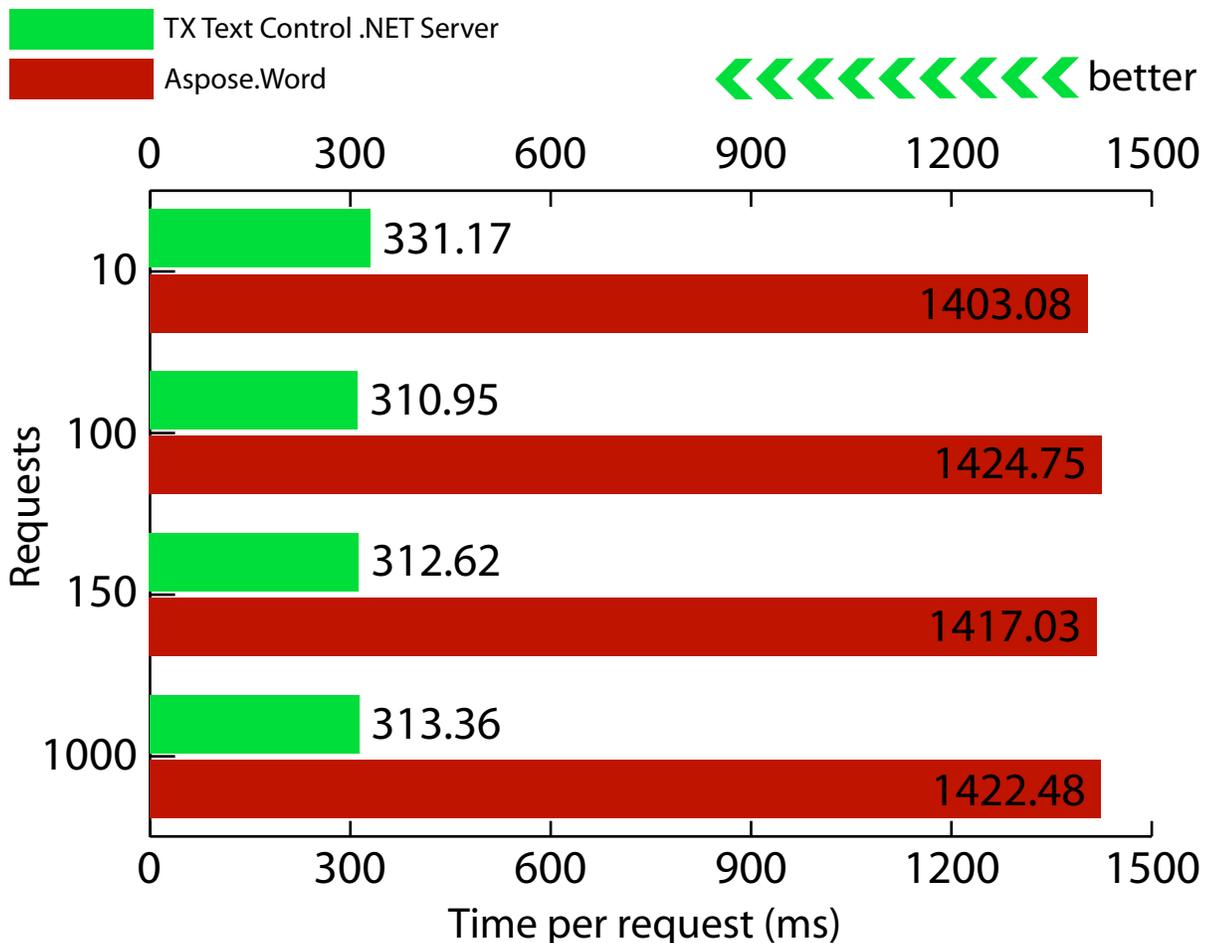
3 Results

Categories

Three different categories were tested:

1. Total time of entire test
2. Time per request
3. Requests per second

The first category is the complete amount of time the application needed to process all requests. Four different numbers of requests were sent to the test server: 10, 100, 150 and 1000 requests. That means that the server sent, for instance, 100 requests to the test page. In this first test, there were no concurrent requests. In other words the requests were sent one after another.

Total time

This is the time the server-based application took to process all requests. In the four tests, 10, 100, 150 and 1000 MS Word documents were loaded and exported as Adobe PDF. The results show that TX Text Control .NET Server needed 3.31 seconds to process 10 requests and 313.36 seconds to process 1000 documents, thus the time increases linearly. For the same document, Aspose.Word

Legend:
- TX Text Control .NET Server (green)
- Aspose.Word (red)

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Requests	TX Text Control .NET Server	Aspose.Word
10	3.31	14.31
100	31.95	142.48
150	46.89	212.55
1000	313.36	1422.48

Complete time in seconds

needed 14.31 seconds for 10 requests and 1422.48 seconds for 1000 requests. This is about 4 times longer than TX Text Control .NET Server.

ment took nearly 1.5 seconds. TX Text Control .NET Server was therefore about 4.5 times faster than Aspose.Word.

Time per request

This second graph illustrates that the time per request using TX Text Control .NET Server leveled off at an average value of 316 milliseconds. This is the time a document conversion process took on average. In contrast, Aspose.Word had an average request time of 1416 milliseconds. Using Apose.Word, converting one docu-

TX Text Control .NET Server
Aspose.Word

≪≪≪≪≪≪≪≪≪ better

		TX Text Control .NET Server	Aspose.Word
10		331.17	1403.08
100		310.95	1424.75
150		312.62	1417.03
1000		313.36	1422.48

Requests

Time per request (ms)

Requests per Second

This third graph illustrates the number of requests per second that were performed on both components. It shows that Aspose.Word was capable of handling 0.7 requests per second. TX Text Control .NET Server was able to process more than 3 requests per second. In 1 second, TX Text Control .NET Server was able to serve 2.5 requests more than Aspose. Word. In other words, TX Text Control .NET Server was able to perform the merging and conversion operations 4.5 times faster than Aspose.Word.

Additionally, we tested concurrent requests. In this test, we sent 100 requests to the application with a different concurrency level (1, 10 and 20). This test showed the same results. TX Text Control. NET Server needed 30.93 seconds to process 100 requests with a concurrency level of 10 and 3.21 seconds with 20 concurrent requests. Aspose.Word needed 117.87 seconds to process 100 requests with 10 concurrent requests and 11.71 seconds with 20 concurrent requests.

Requests per second — TX Text Control .NET Server vs Aspose.Word

Requests	TX Text Control .NET Server	Aspose.Word
10	3.02	0.71
100	3.22	0.7
150	3.2	0.71
1000	3.19	0.7

6 Conclusion

Conclusion

Performance is one of the most important aspects when choosing a specific server software.

These tests show that TX Text Control .NET Server is converting documents 4.5 times faster than Aspose.Word.

Consider a server-based application where the document creation processes are centralized on a server. A typical application is the automatic invoice creation in an online store or the creation of customized sales reports. In these applications, performance is very important to serve high-level documents as fast as possible. This saves CPU time for other processes to provide a stable web-based application.

TX Text Control .NET Server

TX Text Control .NET Server is a fully programmable word processing engine for deployment in an ASP.NET server environment. It primarily has been designed to develop document automation applications. It is shipped with a fully featured WYSIWYG editor interface for Windows Forms applications, including localizable tool bars and dialog boxes.

TX Text Control .NET Server is a member of the TX Text Control product family of word processing components that of-

fers developers all the features expected in a high end word processing package in reusable component form. TX Text Control was originally released in 1991, since then more than 35,000 copies have been sold. Starting off as a single, small DLL, TX Text Control has made its way through 16-bit DLL and VBX versions to today's Enterprise edition with its .NET and ActiveX components. The recent addition to the family, TX Text Control .NET Server, offers all of TX Text Control advanced word processing functionality in an easy-to-use server-side .NET component. Customers benefit from these years of experience, large user base, and at the same time, appreciate developing with a mature, reliable product.

Companies using TX Text Control:

DATEV AG

SIEMENS AG

US AIR FORCE

DEUTSCHE BANK AG

and many Fortune 500 companies.

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