

2014

Templar v1.7 Performance Benchmark

- This document explains the performance of Templar version 1.7 in comparison to the previous Templar version 1.6.49.3.



Disclaimer

This report was conducted by Templar Team with intention to provide customers with information on what performance they can expect from Templar v1.7 which is based on .NET Framework 4.5.

Templar team has put in their best efforts to conduct an unbiased test, but the performance of a website depends on many parameters, such as computer hardware, network configuration, client configuration, operating system and software configuration, site content, number of items in Templar database, information architecture, custom code and other factors.

The reader of this report uses all information in this report at his/her own risk.

If you have comments/queries about this documentation, email them to: templar@tavisca.com

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Execution Summary

Templar v1.7 provides performance improvements as compared to its previous versions. It's now built on top of .NET 4.5 to enhance performance and scalability. It makes use of and enables new features introduced in the .NET framework.

Key new features being used by Templar are listed below:

1. Async support for pages, modules and handlers.
2. ASP.NET 4.5 request validation.
3. Unobtrusive validation to avoid inline JavaScript for validation controls.
4. Bundling and minification provided by .NET 4.5
5. Third party Zip\Unzip is now moved to native .NET libraries.

The load/web tests were performed internally by Templar Team on common hardware. (ref: [Machine Configuration](#)).

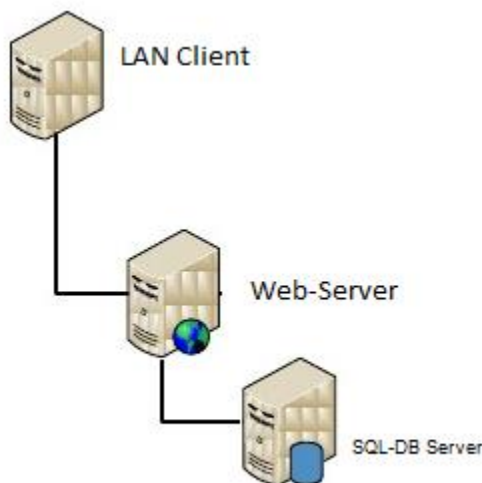
Benchmark was performed as per the following steps:

1. Templar **v1.6.49.3** was deployed on IIS 7.5 with site url <http://pt-templar-rtm.tavisca.com>
2. Templar **v1.7** was deployed on same IIS7.5 with site url <http://pt-templar-rc.tavisca.com>
3. Templar **v1.6.49.3** website was started while all others were stopped. IIS was then reset.
4. Test Cases were run on **v1.6.49.3** website with the help of VS 2010 & results were noted down.
5. Templar **v1.6.49.3** website was then stopped and **v1.7** was started. IIS was then reset.
6. Same tests were re-run on **v1.7** deployment & the results were noted.
7. Finally Results were compared.

Testing Configurations

Configuration - Two separate servers (a web server and a database server)

Microsoft Windows Server 2008 for web-Server, Microsoft Windows Server 2008 for Microsoft SQL Server 2008R2



For More Info, ref: [Machine Configuration](#)

Benchmark Background

This benchmarking was done on the following aspects of Templar performance:

1. Performance of content (pages having a master page associated) and non-content (pages not having a master page associated) pages for a site created on Templar application under stress for serving requests, i.e. Templar Avg. page load time, Requests/sec, Total Errors occurred during test duration, etc.
2. Templar Admin UI performance:
The following scenarios were covered by the performance tests.
 - a. Create Site from scratch
 - b. Create Site from Template
 - c. Create Template
 - d. Publish full Site
 - e. Publish Site Resources
 - f. Publish Site Pages
 - g. Download Global Theme
 - h. Download Global Culture
 - i. Download Site Culture
 - j. Sites Listing Pagination
 - k. Reloading Cache (Live, Design and Main)

Performance of site pages created on Templar:

In this test we monitored following parameters for comparison:
Page Avg. Response Time, Errors occurred, Requests per sec. etc.

For this test, a sample site was created on Templar, in which sample pages were created (refer Artifacts Folder for the site template). This test site consisted of 4 pages; a master page designed using a custom layout, 2 content pages using this master page and a non-content page also designed using a custom layout.

The **master page** used a **custom layout** and contained the following widgets:

Sr. No.	Widget Type	No. of instances on page
1	ContentPlaceHolder Widget	1
2.	Html Editor Widget	1

The **content page** contained the following widgets:

Sr. No.	Widget Type	No. of instances on page
1	Composite Widget	1
2.	Html Editor Widget	3

The **non-content** page also used a **custom layout** and contained the following widgets:

Sr. No.	Widget Type	No. of instances on page
1	Composite Widget	1
2.	Html Editor Widget	3

Test Configurations:

Load test name	TemplarPage
Description	Templar Page Load Performance
Warm-up duration	00:03:00
Duration	00:10:00
Controller	Local run
Number of agents	1
Max User Load	100
Step Duration	5 sec
Increase in load	10 users
Browser	IE 8.0
Network	LAN
Load Type	Step Pattern

How to run the test:

1. Open **Tavisca.Templar.PerformanceBenchmark.sln** Solution.
2. Build the solution.
3. Change Test Parameters in App.config as required

```
<add key="TemplarPageWithMasterPage" value="http://pt-templar-rtm.tavisca.com/samplesite/explore"/>
<add key="TemplarPageWithOutMasterPage" value="http://pt-templar-rtm.tavisca.com/samplesite/free"/>
```

i.e.
TemplarPageWithMasterPage - Should hold URL of a Templar Site Page that uses a master page.
TemplarPageWithOutMasterPage - Should hold URL of a Templar Site Page not using a master page.
4. Run the Test named **TemplarPage.loadtest** from TestView window.

Templar Admin UI performance

In this test, we were monitoring average response time for activities like Templar site creation from scratch, Templar site creation from Template, creation of Template, downloading cultures and themes, site list pagination, cache reloading etc.

How to run the test:

1. Open **Tavisca.Templar.PerformanceBenchmark.sln** Solution.
2. Build the solution.

3. Coded UI tests have been created in the solution for calculating the time required for various scenarios.
4. Change Test Parameters in App.config as required

```
<add key="TemplarAdminUIUrl" value="http://pt-templar-
rtm.tavisca.com/templar/Login.aspx"/>
<add key="UserName" value="sa"/>
<add key="PassWord" value="zaq1ZAQ!"/>
<add key="SiteName" value="PerfTest"/>
<add key="SiteTemplateName" value="PerfTest_Template"/>
```

i.e.

TemplarAdminUIUrl – Should point to URL of Templar login page.

UserName – Templar superuser login name.

Password – Templar superuser password.

SiteName – Name of site to be created by the Site Creation test.

SiteTemplateName – Name of the site template to be created by the Template Creation test.

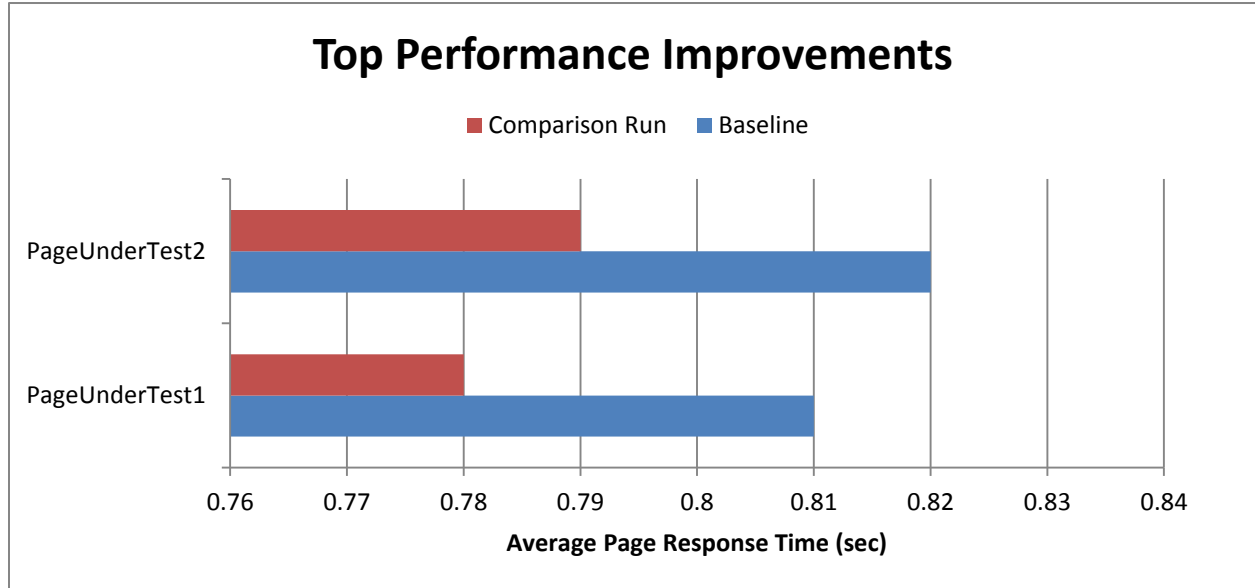
Run the following tests from the TestView window and note down the time calculated for execution for each test (displayed in the test results):

- a. *CreateSiteFromScratch*
- b. *CreateSiteFromTemplate*
- c. *CreateTemplate*
- d. *PublishFullSite*
- e. *PublishSiteResources*
- f. *PublishSitePages*
- g. *DownloadGlobalTheme*
- h. *DownloadGlobalCulture*
- i. *DownloadSiteCulture*
- j. *SitePaginationTest*
- k. *ReloadLiveModeCache*
- l. *ReloadDesignModeCache*
- m. *ReloadMainModeCache*

Comparison of Results

Performance of site pages created on Templar:

Templar v1.6.49.3 has been used as Baseline for comparison while Templar v1.7 is the Comparison Run.



Avg. Page Response Time (ms):

Test Case	Baseline	Comparison Run	Response Goal	% Change from Baseline	% from Goal
PageWithoutMasterPageCoded	0.81	0.78	2.00	3%	61%
PageWithMasterPageCoded	0.82	0.79	10.00	3%	92%

Machine Parameter Comparison:

Counter	Baseline	Comparison Run	% Change from Baseline
Errors/Sec	0.00	0.00	0%
Exceptions	0.00	0.00	0%
Http Errors	0.00	0.00	0%
Requests Timed Out	0.00	0.00	0%
Total Errors	0.00	0.00	0%
Avg. Page Time	0.50	0.49	3%
Pages/Sec	87.4	91.4	4%
Total Pages	52440.00	54840.00	5%
Avg. Connection Wait Time	0.00	0.00	0%
Avg. Content Length	20393.0	20396.0	1%
Avg. First Byte Time	0.49	0.48	3%
Avg. Response Time	0.49	0.48	3%
Cached Requests	52380.00	52490.00	2%

Failed Requests	0.00	0.00	0%
Passed Requests	53040.00	55440.00	5%
Requests/Sec	88.4	92.4	5%
Total Requests	53040.00	55440.00	5%
User Load	100.00	100.00	0%

Templar Admin UI performance

Scenario	Baseline	Comparison Run	% Change from Baseline
Create Site From Scratch	3387	3849	-11%
Create Site From Template	3722	4212	-11%
Create Template	2091	1478	29%
Publish Full Site	7685	6606	14%
Publish Site Resources	6777	6716	1%
Publish Site Pages	5662	5635	1%
Reload Live Mode Cache	4473	4231	5%
Reload Design Mode Cache	6802	6069	10%
Reload Main Mode Cache	6932	6495	6%
Download Global Theme	2885	669	76%
Download Global Culture	2740	1644	40%
Site Pagination	1654	1640	1%
Download Site Culture	1109	1232	-10%

Templar Page Load times (time in ms)

Scenario	Counter	Baseline	Comparison Run	% Change from Baseline
PageWithMasterPage	Total Time (ms)	6024	5212	14%
	Request Time (ms)	5487	3415	38%
	Response Bytes	225187	225101	0%
PageWithoutMasterPage	Total Time	214	154	28%
	Request Time	127	82	35%
	Response Bytes	216780	216770	0%

References

Machine Configurations

Web Server Configuration:

OS Name: Microsoft Windows Server 2008 R2 Standard
Version : 6.1.7601 Service Pack 1 Build 7601
OS Manufacturer: Microsoft Corporation
System Manufacturer: VMware, Inc.
System Model: VMware Virtual Platform
System Type: x64-based PC
Processor: Intel(R) Xeon(R) CPU X5650 @ 2.67GHz, 2666 MHz, 1 Core(s), 1 Logical Processor(s)
BIOS Version/Date: Phoenix Technologies LTD 6.00, 10/13/2009
Installed Physical Memory (RAM): 6.00 GB
Total Physical Memory: 6.00 GB
Available Physical Memory: 4.19 GB
Total Virtual Memory: 12.0 GB
Available Virtual Memory: 10.2 GB

Database Server Configuration:

OS Name: Microsoft Windows Server 2008 R2 Standard
Version : 6.1.7601 Service Pack 1 Build 7601
OS Manufacturer: Microsoft Corporation
System Manufacturer: VMware, Inc.
System Model: VMware Virtual Platform
System Type: x64-based PC
Processor: Intel(R) Xeon(R) CPU X5650 @ 2.67GHz, 2666 MHz, 1 Core(s), 1 Logical Processor(s)
BIOS Version/Date: Phoenix Technologies LTD 6.00, 10/13/2009
Installed Physical Memory (RAM): 6.00 GB
Total Physical Memory: 6.00 GB
Available Physical Memory: 4.19 GB
Total Virtual Memory: 12.0 GB
Available Virtual Memory: 10.2 GB