

Open Source CMS A performance comparision

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Topics

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 - Test Environment
- Test Cases (home, catalogue, product pages)
 - Performance
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 - Speed Test using Pingdom
 - Scalability
 - Load Test using Blitz
 - Maintainability
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 - Community to maintain the source code
 - W3C Markup Validations
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Introduction



Introduction

Open Source Products, compared with Odoo





odoo commerce

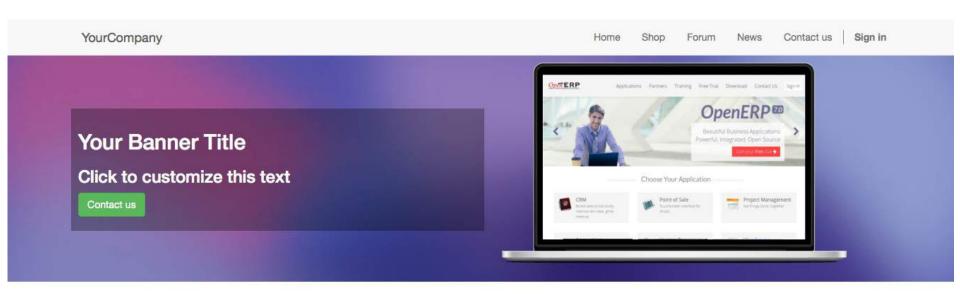






Odoo

- Version Saas4
- Standard Data / Modules
 - Demo data with Odoo Website, Commerce, Forum, News, etc





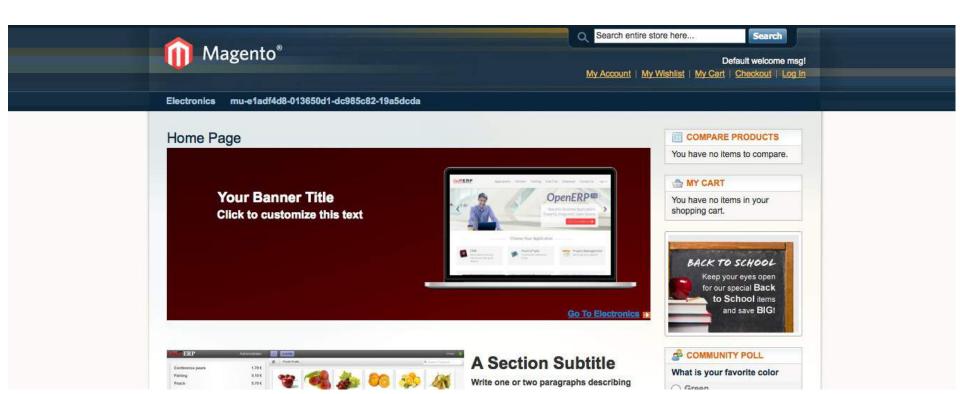






Magento

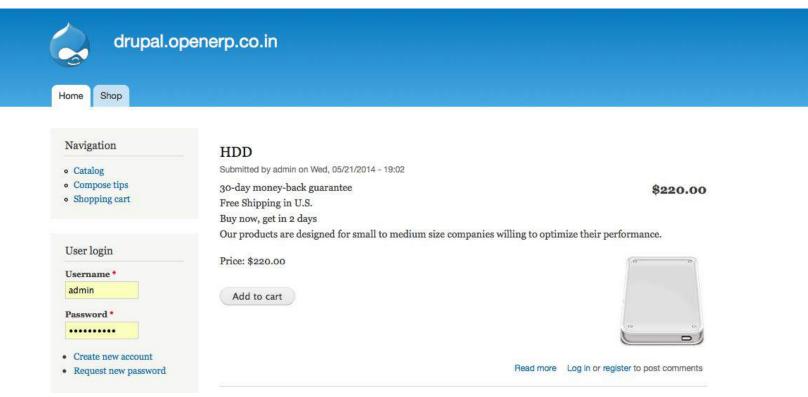
- Version 1.8.1.0
- Custom Data / Module
 - Home page and widgets
 - Added some products and their description





Drupal

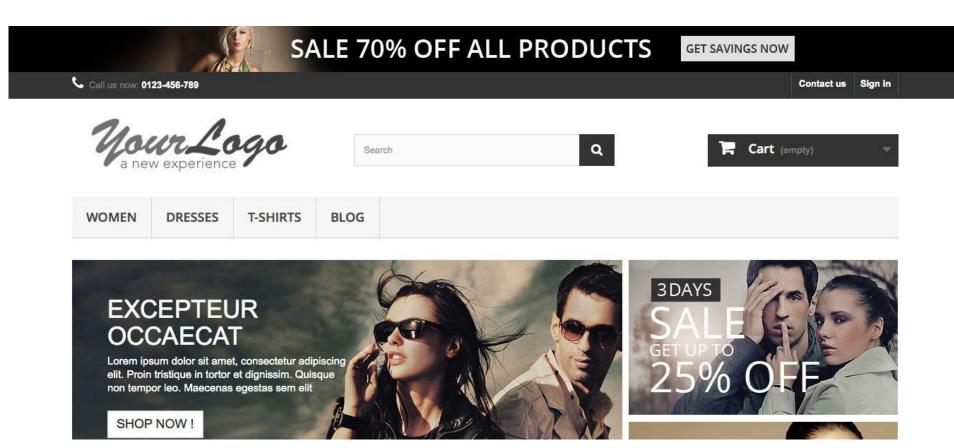
- Version 7.27
- Custom Data / Modules
 - CK-Editor & CK-Finder
 - Ubercart for e-commerce, Rules, ctools, views, entity





Prestashop

- Version 1.6
- No Custom Data / Modules
 - Use default demo shop





Performance

Google PageSpeed Insight & Pingdom



Google PageSpeed Insights

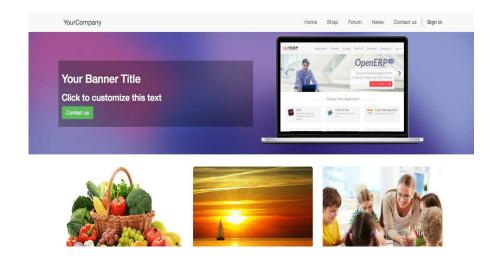
Home page on desktop

Computed by Google Page Speed Insight:

https://developers.google.com/speed/pagespeed/insights/

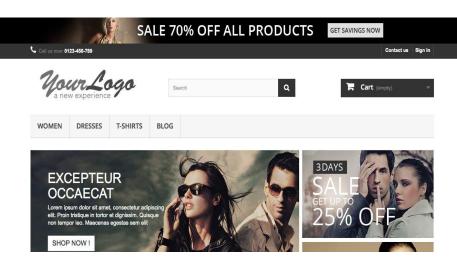


Home Page











Odoo vs Drupal

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)
Home Page	89 Rating	85 Rating
Render-blocking JavaScript ?	1	3
Render-blocking CSS ?	1	11
Minify Javascript	✓	×
Minify CSS	✓	×
Minify HTML	✓	✓
Leverage browser caching	✓	×
Avoid landing page redirects ?	✓	✓
Fast Response Time	✓	×



Odoo vs Magento

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Magento (ver. 1.8.1.0)
Home Page	89 Rating	76 Rating
Render-blocking JavaScript ?	1	13
Render-blocking CSS ?	1	2
Minify Javascript	✓	×
Minify CSS	✓	×
Minify HTML	✓	✓
Leverage browser caching	✓	×
Avoid landing page redirects ?	✓	✓
Fast Response Time	✓	×



Odoo vs Prestashop

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Prestashop (ver. 1.6.0.6)
Home Page	89 Rating	66 Rating
Render-blocking JavaScript ?	1	0
Render-blocking CSS ?	1	25
Minify Javascript	✓	×
Minify CSS	✓	×
Minify HTML	✓	×
Leverage browser caching	✓	×
Avoid landing page redirects ?	✓	✓
Fast Response Time	✓	×



Summary: Google Page Speed

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Home Page	89 Rating	85 Rating	76 Rating	66 Rating
Render-blocking JavaScript ?	1	3	13	0
Render-blocking CSS ?	1	11	2	25
Minify Javascript	✓	×	×	×
Minify CSS	✓	×	×	×
Minify HTML	✓	✓	✓	×
Leverage browser caching	✓	×	×	×
Avoid landing page redirects ?	✓	✓	✓	✓
Fast Response Time	✓	×	×	×



Google Page Speed Insights

Home page on mobile

Computed by Google Page Speed Insight:

https://developers.google.com/speed/pagespeed/insights/



Odoo Vs Drupal

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)
Home	User Exp.: 99 Rating	User Exp. : 88 Rating
Page	Speed: 71 Rating	Speed: 68 Rating
Legible Font Size	✓	✓
Size tap targets appropriately	✓	×
Viewport Configured	✓	✓
Viewport Content size	✓	×



Odoo Vs Magento

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Magento (ver. 1.8.1.0)
Home	User Exp. : 99 Rating	User Exp. : 58 Rating
- Page	Speed: 71 Rating	Speed: 64 Rating
Legible Font Size	✓	×
Size tap targets appropriately	✓	×
Viewport Configured	✓	×
Viewport Content size	✓	✓



Odoo Vs Prestashop

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Prestashop (ver. 1.6.0.6)
Home	User Exp. : 99 Rating	User Exp. : 99 Rating
L. Page	Speed: 71 Rating	Speed: 55 Rating
Legible Font Size	✓	✓
Size tap targets appropriately	✓	×
Viewport Configured	✓	✓
Viewport Content size	✓	✓



Summary: Google Page Speed

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Home	User Exp. : 99 Rating	User Exp. : 88 Rating	User Exp. : 58 Rating	User Exp. : 99 Rating
Page	Speed: 71 Rating	Speed: 68 Rating	Speed: 64 Rating	Speed: 55 Rating
Legible Font Size	✓	✓	×	✓
Size tap targets appropriately	✓	×	×	×
Viewport Configured	✓	✓	×	✓
Viewport Content size	✓	×	✓	✓



Google PageSpeed Insights

Product Catalogue on Desktop

Computed by Google Page Speed Insight:

https://developers.google.com/speed/pagespeed/insights/



Odoo Vs Drupal

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)
Product Catalog	84 Rating	89 Rating
Render-blocking JavaScript ?	3	4
Render-blocking CSS ?	3	10
Minify Javascript	×	×
Minify CSS	×	×
Minify HTML	✓	✓
Leverage browser caching	✓	×
Avoid landing page redirects ?	✓	✓
Fast Response Time	✓	×



Odoo Vs Magento

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Magento (ver. 1.8.1.0)
Product Catalog	84 Rating	71 Rating
Render-blocking JavaScript ?	3	13
Render-blocking CSS ?	3	2
Minify Javascript	×	×
Minify CSS	×	×
Minify HTML	✓	✓
Leverage browser caching	✓	×
Avoid landing page redirects ?	✓	✓
Fast Response Time	✓	×



Odoo Vs Prestashop

Using: Google PageSpeed Insights	Odoo (ver. Saas4)	Prestashop (ver. 1.6.0.6)
Product Catalog	84 Rating	63 Rating
Render-blocking JavaScript ?	3	0
Render-blocking CSS ?	3	30
Minify Javascript	×	×
Minify CSS	×	×
Minify HTML	✓	×
Leverage browser caching	✓	×
Avoid landing page redirects ?	✓	✓
Fast Response Time	✓	×



Summary: Google Page Speed

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Product Catalog	84 Rating	89 Rating	71 Rating	63 Rating
Render-blocking JavaScript ?	3	4	13	0
Render-blocking CSS ?	3	10	2	30
Minify Javascript	×	×	×	×
Minify CSS	×	×	×	×
Minify HTML	✓	✓	✓	×
Leverage browser caching	✓	×	×	×
Avoid landing page redirects ?	✓	✓	✓	~
Fast Response Time	✓	×	×	X



Google PageSpeed Insights

Product Catalogue on Mobile

Computed by Google Page Speed Insight:

https://developers.google.com/speed/pagespeed/insights/



Odoo Vs Drupal

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	
Product Catalog	User Exp. : 98 Rating	User Exp. : 86 Rating	
□ Catalog	Speed: 68 Rating	Speed: 73 Rating	
Legible Font Size	✓	✓	
Size tap targets appropriately	✓	×	
Viewport Configured	✓	✓	
Viewport Content size	✓	×	



Odoo Vs Magento

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Magento (ver. 1.8.1.0)	
Product	User Exp. : 98 Rating	User Exp. : 59 Rating	
- Catalog	Speed: 68 Rating	Speed: 59 Rating	
Legible Font Size	✓	×	
Size tap targets appropriately	✓	×	
Viewport Configured	✓	×	
Viewport Content size	✓	✓	



Odoo Vs Prestashop

Using: Google PageSpeed Insights	Odoo (ver. Saas4)	Prestashop (ver. 1.6.0.6)	
Product Catalog	User Exp. : 98 Rating	User Exp. : 99 Rating	
L Catalog	Speed: 68 Rating	Speed: 48 Rating	
Legible Font Size	✓	✓	
Size tap targets appropriately	✓	×	
Viewport Configured	✓	✓	
Viewport Content size	✓	✓	



Summary: Google Page Speed

Using: Google PageSpeed Insights	Odoo (ver. Saas4)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Product Catalog	User Exp. : 98 Rating Speed: 68 Rating	User Exp. : 86 Rating Speed: 73 Rating	User Exp. : 59 Rating Speed: 59 Rating	User Exp. : 99 Rating Speed: 48 Rating
Legible Font Size	✓	✓	×	✓
Size tap targets appropriately	✓	×	×	×
Viewport Configured	✓	✓	×	✓
Viewport Content size	✓	×	✓	✓



Google PageSpeed Insights

Product Page on Desktop

Computed by Google Page Speed Insight:

https://developers.google.com/speed/pagespeed/insights/



Odoo Vs Drupal

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	
Product Form	89 Rating	87 Rating	
Render-blocking JavaScript ?	2	4	
Render-blocking CSS ?	3	10	
Minify Javascript	✓	×	
Minify CSS	✓	×	
Minify HTML	✓	✓	
Leverage browser caching	✓	×	
Avoid landing page redirects ?	✓	✓	
Fast Response Time	×	✓	



Odoo Vs Magento

Using: Google PageSpeed Insights	Odoo (ver. Saas4)	<u>Mag</u> ento (ver. 1.8.1.0)	
Product Form	89 Rating	70 Rating	
Render-blocking JavaScript ?	2	17	
Render-blocking CSS ?	3	3	
Minify Javascript	✓	×	
Minify CSS	✓	×	
Minify HTML	✓	✓	
Leverage browser caching	✓	×	
Avoid landing page redirects ?	✓	✓	
Fast Response Time	×	×	



Odoo Vs Prestashop

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Prestashop (ver. 1.6.0.6)	
Product Form	89 Rating	58 Rating	
Render-blocking JavaScript ?	2	0	
Render-blocking CSS ?	3	27	
Minify Javascript	✓	×	
Minify CSS	✓	×	
Minify HTML	✓	×	
Leverage browser caching	✓	×	
Avoid landing page redirects ?	✓	✓	
Fast Response Time	×	×	



Summary: Google Page Speed

Using: Google PageSpeed Insights	OpenERP (ver. Saas4)	<u>Drupal</u> (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Product Form	89 Rating	87 Rating	70 Rating	58 Rating
Render-blocking JavaScript ?	2	4	17	0
Render-blocking CSS ?	3	10	3	27
Minify Javascript	✓	×	×	×
Minify CSS	✓	×	×	×
Minify HTML	✓	✓	✓	×
Leverage browser caching	✓	×	×	×
Avoid landing page redirects ?	✓	✓	✓	✓
Fast Response Time	×	✓	×	×



Google PageSpeed Insights

Product Page on Mobile

Computed by Google Page Speed Insight:

https://developers.google.com/speed/pagespeed/insights/



Odoo Vs Drupal

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)
Product	User Exp. : 96 Rating	User Exp. : 73 Rating
Form	Speed: 71 Rating	Speed: 78 Rating
Legible Font Size	✓	✓
Size tap targets appropriately	✓	×
Viewport Configured	✓	✓
Viewport Content size	✓	×



Odoo Vs Magento

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	M agento (ver. 1.8.1.0)
Product	User Exp. : 96 Rating	User Exp. : 58 Rating
Form	Speed: 71 Rating	Speed: 59 Rating
Legible Font Size	✓	×
Size tap targets appropriately	✓	×
Viewport Configured	✓	×
Viewport Content size	✓	✓



Odoo Vs Preshashop

Using: Google PageSpeed Insights	Odoo (ver. <u>Saas4</u>)	Prestashop (ver. 1.6.0.6)
Product Form	User Exp. : 96 Rating Speed: 71 Rating	User Exp. : 99 Rating Speed: 48 Rating
Legible Font Size	✓	✓
Size tap targets appropriately	✓	×
Viewport Configured	✓	✓
Viewport Content size	✓	✓



Summary: Google Page Speed

Using: Google PageSpeed Insights	OpenERP (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Product Form	User Exp. : 96 Rating Speed: 71 Rating	User Exp. : 73 Rating Speed: 78 Rating	User Exp. : 58 Rating Speed: 59 Rating	User Exp. : 99 Rating Speed: 48 Rating
Legible Font Size	√	√	×	√
Size tap targets appropriately	✓	×	×	X
Viewport Configured	✓	✓	×	✓
Viewport Content size	✓	×	✓	✓



Speed Test using Pingdom

Resources Loads to render page



Resources Load to render page

Home Page	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)	
Performance Grade	91 / 100	87/100	85/100	59/100	
Requests	14	37	38	103	
# of JS	2	3	13	26	
# of CSS	2	19	3	27	
	Time Spent per State Connect 35.57% Wait 32.79% Receive 31.20% DNS 0.42% Send 0.02%	Time Spent per State Connect	Time Spent per State Connect 51.44%	Time Spent per State Connect 84.52% Wait 11.67% Receive 3.28% DNS 0.47% SSL 0.05% Send 0.01%	

As browser can load only 4 files in parallal on midsie traffic website, then latency time and number of resources to donwload impact time to load more resources

Odoo load **faster** because concatenate several files, minify and gzip the content, even all the modules installed



Resources Load to render page

Product Catalogue	Odoo (ver. <u>Saas4</u>)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Performance Grade	89 / 100	87 / 100	85 / 100	75 / 100
# of Products on page	15	10	9	10
Requests	25	37	50	91
# of JS	4	4	13	28
# of CSS	4	19	3	30
	Time Spent per State Walt	Time Spent per State Connect	Time Spent per State Correct 66.65%	Time Spent per State Connect 83,93%



Resources Load to render page

Product Form	Odoo (ver. Saas4)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)	
Performance Grade	84 / 100	87 / 100	86/100	58/ 100	
Requests	13	31	54	74	
# of JS	4	3	17	29	
# of CSS	3	19	4	28	
	Time Spent per State Receive 43.99% Wat 36.11% Connect 16.41% DNS 3.48% Send 0.00%	Time Spent per State Connect	Time Spent per State Connect 57.31%	Time Spent per State Connect 82.79% Wat 14.72% Receive 2.05% DNS 0.47% Send 0.02%	



Scaleablity

Using Blitz, simulate the 250 users



Load Test using Blitz

Region – Virginia | Duration – 60 Seconds | Load – 1 To 250 Users

Computed using Blitz: https://www.blitz.io



Software Configurations

Magento, Prestashop, Drupa

- Ubuntu 14.04 latest LTS
- Apache 2.2 Server
- PHP 5 Framework
- MySQL Server 5.0

Odoo

- Ubuntu 14.04 latest LTS
- Nginx 1.4
- Odoo Framework
- PostgreSQL 9.1



Hardware Configuration

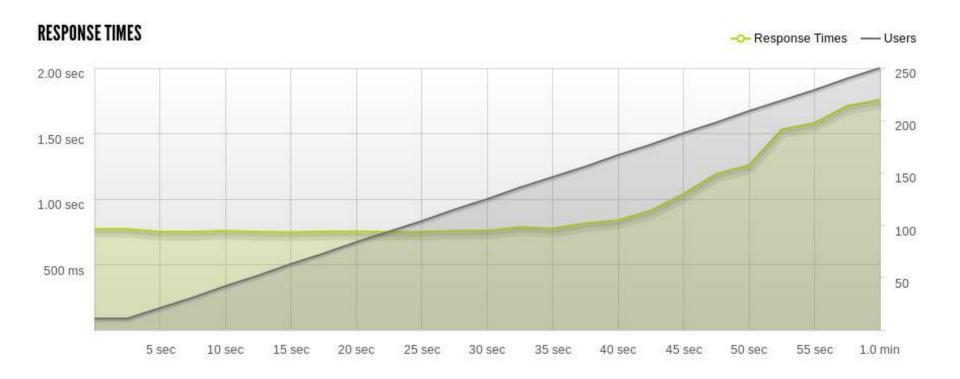
- IBM Server Series X3500 M4, 15 MB L3 Cache
- 300 GB GSAS Drive 10K RPMs
- Intel(R) Xeon(R) CPU E5-2620 0 @ 2.00GHz, 12 cores
- 8 GB Physical RAM
- 15 MBPS Dedicated Internet connection line

Network:

15 MBPS dedicated Internet connection



Odoo



Configuration:

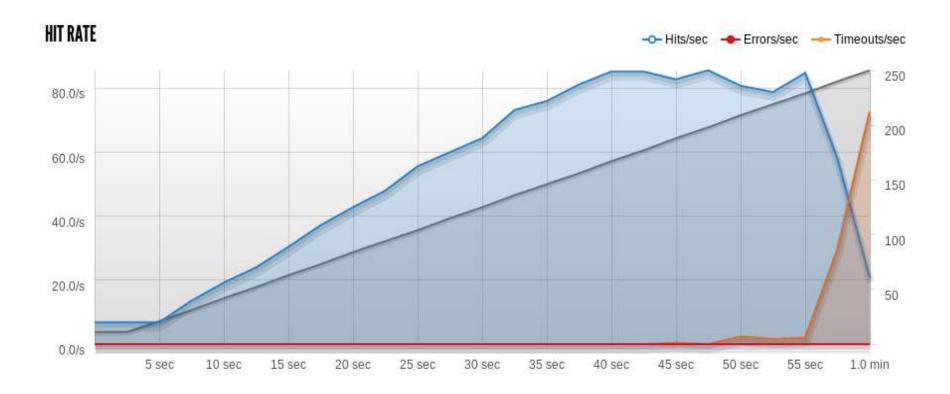
Region – Virginia | Duration – 60 Seconds | Load – 1 To 250 Users

The max hit rate was: 88 hits per second

Website and Ecommerce apps installed



Odoo

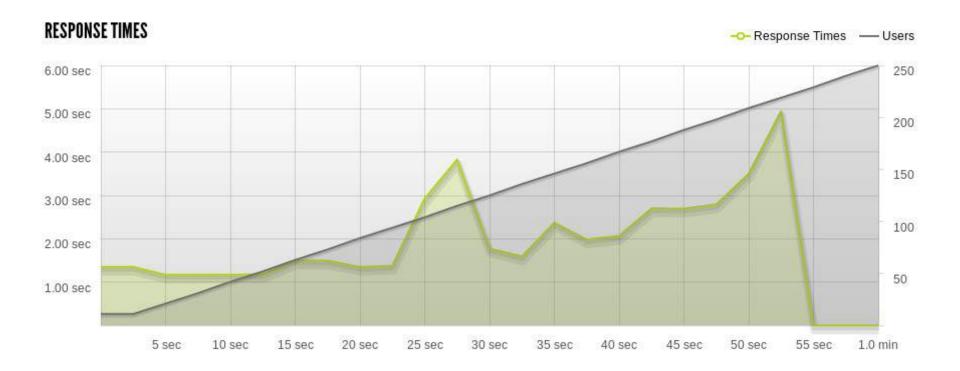


Response Time:

- Fastest: 530 ms | Slowest: 1655 ms | Average: 829 ms
- First time out happened at 47.4 second at 198 users
- 3646 successful hits in 60 sec, avg 52,45,920 hits/day capacity.



Drupal



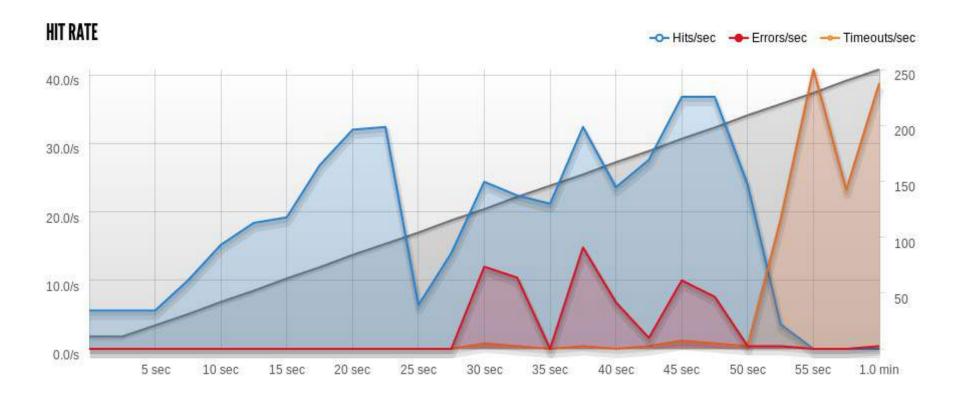
Configuration:

Region – Virginia | Duration – 60 Seconds | Load – 1 To 250 Users

The max hit rate was: 37 hits per second



Drupal

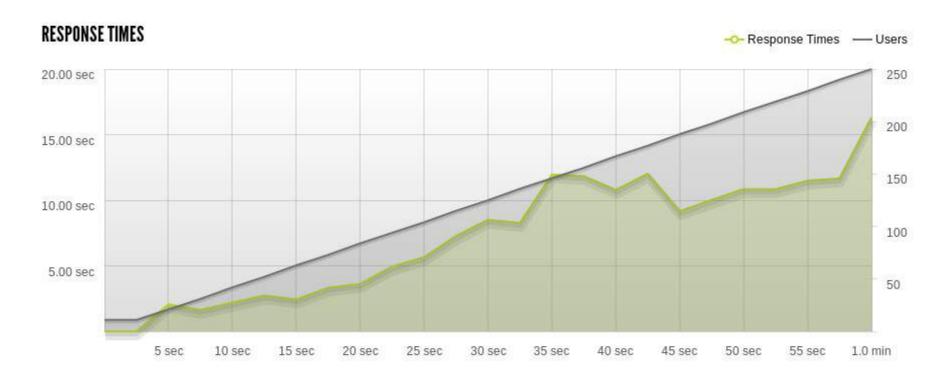


Response Time:

- Fastest: **1172 ms** | Slowest: **4943 ms** | Average: **2141 ms**
- First time out happened at 30 second at 125 users
- 1,083 successful hits in 60 sec, avg 15,59,520 hits/day capacity.



Magento



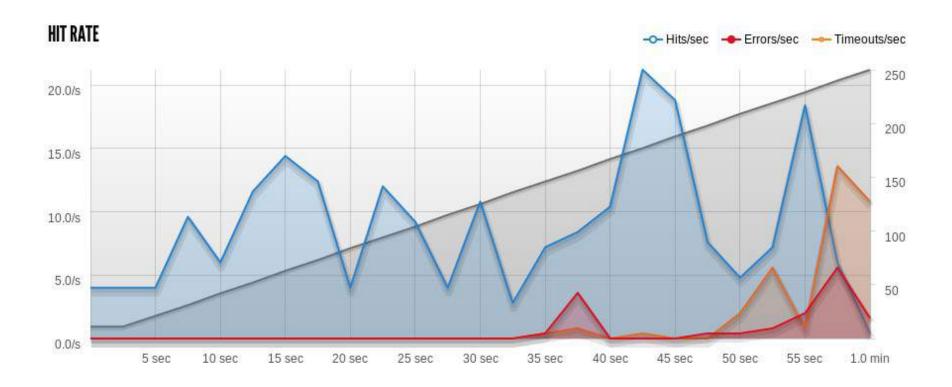
Configuration:

Region – Virginia | Duration – 60 Seconds | Load – 1 To 250 Users

The max hit rate was: 21 hits per second



Magento

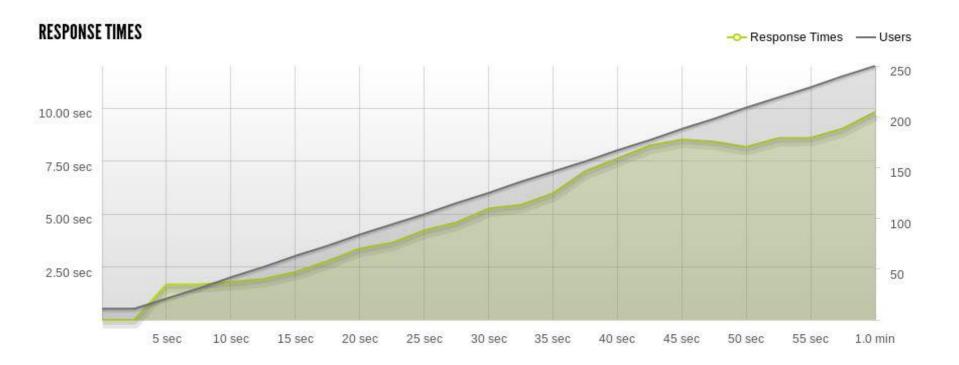


Response Time:

- Fastest: 1639 ms | Slowest: 16315 ms | Average: 7813 ms
- First time out happened at 35 second at 146 users
- 528 successful hits in 60 sec, avg 0.7 M hits/day capacity.



Prestashop



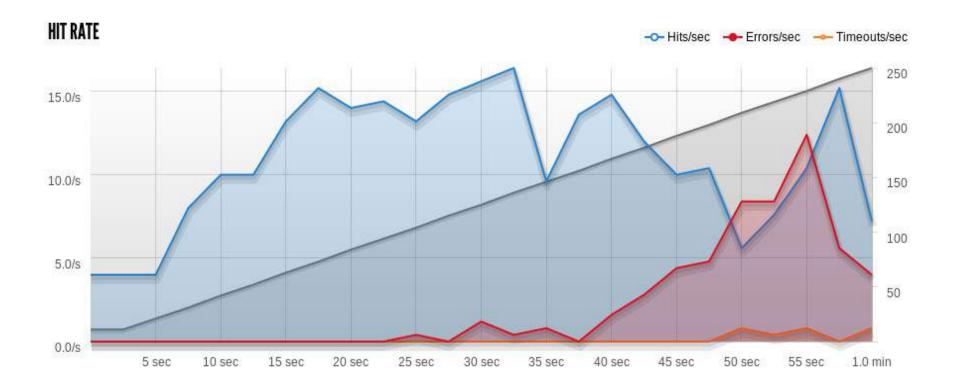
Configuration:

Region – Virginia | Duration – 60 Seconds | Load – 1 To 250 Users

The max hit rate was: 16 hits per second



Prestashop

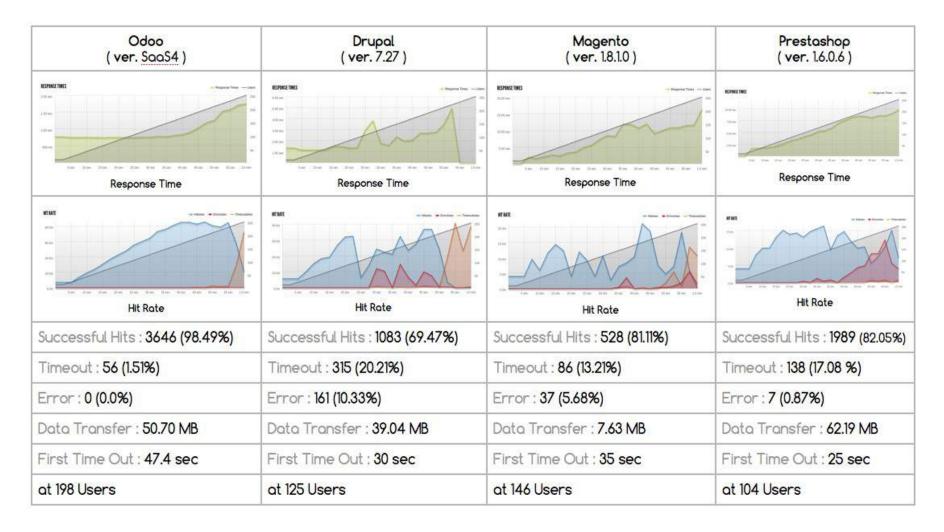


Response Time:

- Fastest: **1678 ms** | Slowest: **9228 ms** | Average: **5598 ms**
- First time out happened at 25 second at 104 users
- 663 successful hits in 60 sec, avg 0.95 M hits/day capacity.



Load Test Summary





Summary

Speed:

- Odoo is 3x times faster than the Drupal
- Odoo is 6x times faster than the Magento
- Odoo is 2x times faster than the Prestashop

Scalability:

- Odoo timeout at 198 users
- Drupal timeout at 125 users
- Magento timeout at 148 users
- Prestashop timeout at 104 users



W3C Markup Validation

HTML Validation



W3C Check

Using: W3C Markup Validation	Odoo (ver. <u>Saas</u> 4)	Drupal (ver. 7.27)	M agento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
Home Page	29 Errors	0 Errors	2 Errors	4 Error
Product Catalogue	68 Errors	2 Errors	2 Errors	122 Errors
Product	10 Errors	0 Errors	1Error	4 Errors

Odoo's main problem

- Element meta is missing one or more of the following attributes: content, property.
- An img element must have an alt attribute, except under certain conditions
- The width attribute on the table element is obsolete. Use CSS instead.

Team is working on those issues, will be fixed soon



Maintainability

lines of code and contributors



Test 1: Source Code

Code : using cloc	Odoo (ver. Saas4)	Drupal (ver. 7.27)	Magento (ver. 1.8.1.0)	Prestashop (ver. 1.6.0.6)
JavaScript	49K	124K	95K	56K
CSS	29K	28K	31K	74K
HTML / XML	8K + 376K	16K	6K + 295K	5k + 8K
Python / PHP	114K	58K + 99K	630K	223K

Comparision between:

- Odoo: includes all modules. I.e accounting, wms, mrp, websites, etc...
- Drupal, Magento and Prestashop: only core modules

Odoo is:

- 1.3x times smaller then the drupal
- 5.5x times smaller then the magento
- 1.9x times smaller then the prestashop



Odoo

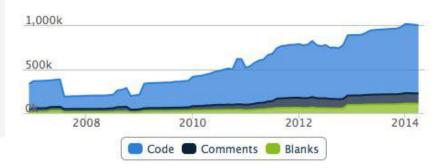
In a Nutshell, Odoo...

- ... has had 95,464 commits made by 1,054 contributors representing 767,582 lines of code
- ... is mostly written in Python
 with an average number of source code comments
- ... has a well established, mature codebase maintained by a very large development team with decreasing Y-O-Y commits
- ... took an estimated 207 years of effort (COCOMO model) starting with its first commit in December, 2006 ending with its most recent commit about 1 month ago

Languages



Lines of Code



30 Day Summary 12 Mor

Mar 18 2014 - Apr 17 2014

1343 Commits

45 Contributors including 7 new contributors

12 Month Summary

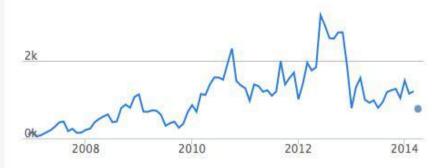
Apr 17 2013 - Apr 17 2014

13571 Commits

Down -11979 (46%) from previous 12 months

179 Contributors

Down -87 (32%) from previous 12 months





Drupal

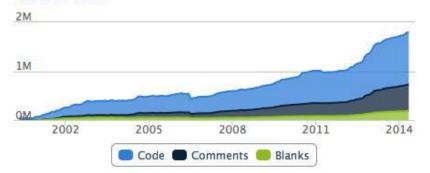
In a Nutshell, Drupal (core)...

- ... has had 94,504 commits made by 149 contributors representing 1,060,131 lines of code
- ... is mostly written in PHP
 with an average number of source code comments
- ... has a well established, mature codebase maintained by a large development team with stable Y-O-Y commits
- ... took an estimated 297 years of effort (COCOMO model) starting with its first commit in May, 2000 ending with its most recent commit 2 days ago

Languages



Lines of Code



30 Day Summary

May 1 2014 - May 31 2014

289 Commits 6 Contributors

12 Month Summary

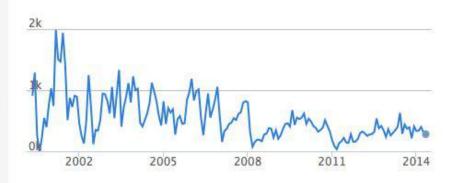
May 31 2013 - May 31 2014

4527 Commits

Up +215 (4%) from previous 12 months

9 Contributors

Down -60 (86%) from previous 12 months





Magento

In a Nutshell, Magento...

- ... has had 499 commits made by 8 contributors representing 8,331,528 lines of code
- ... is mostly written in PHP
 with a well-commented source code
- ... has a well established, mature codebase maintained by a average size development team with stable Y-O-Y commits
- ... took an estimated 2,536 years of effort (COCOMO model) starting with its first commit in June, 2008 ending with its most recent commit 3 days ago

Languages



Lines of Code



30 Day Summary

Apr 30 2014 - May 30 2014

5 Commits

1 Contributor

12 Month Summary

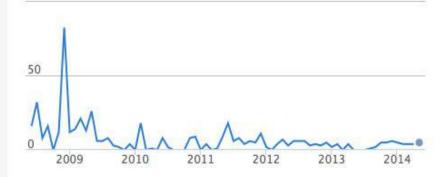
May 30 2013 - May 30 2014

41 Commits

Down -2 (4%) from previous 12 months

4 Contributors

Up +2 (100%) from previous 12 months





Prestashop

In a Nutshell, PrestaShop...

- --- has had 25,861 commits made by 277 contributors representing 284,845 lines of code
- ... is mostly written in PHP
 with an average number of source code comments
- ... has a codebase with a long source history maintained by a very large development team with stable Y-O-Y commits
- ... took an estimated 74 years of effort (COCOMO model) starting with its first commit in April, 2011 ending with its most recent commit 3 days ago

May 2 2014 — Jun 1 2014

344 Commits

30 Day Summary

34 Contributors including 12 new contributors

12 Month Summary

Jun 1 2013 - Jun 1 2014

8836 Commits

Up +1689 (23%) from previous 12 months

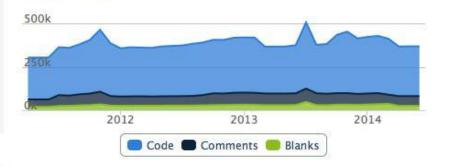
197 Contributors

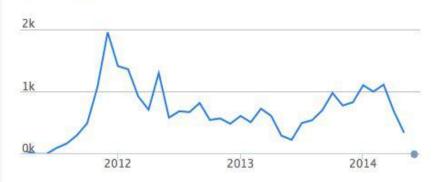
Up +106 (116%) from previous 12 months

Languages



Lines of Code







Conclusion



Conclusion

Performance:

- Odoo is 3x times faster than the Drupal
- Odoo is 6x times faster than the Magento
- Odoo is 2x times faster than the Prestashop

Scalability:

- Odoo timeout at 198 users
- Drupal timeout at 125 users
- Magento timeout at 148 users
- Prestashop timeout at 104 users

Maintainability:

- 1.3x times smaller then the drupal
- 5.5x times smaller then the magento
- 1.9x times smaller then the prestashop

odoo

Questions?



Thank You

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