

White Paper

MAGENTO 2.0 **VS** MAGENTO 1.9



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INTRODUCTION OF MAGENTO 1.9

Magento is an open-source e-commerce platform written in PHP. The software was originally developed by Varien Inc. Magento's market share among the 30 most popular e-commerce platforms is about 29.8%. Magento employs the MySQL/Maria DB relational database management system, the PHP programming language, and elements of the Zend Framework. It applies the conventions of object-oriented programming and model-view-controller architecture. Magento also uses the entity-attribute-value model to store data.



FEATURES OF MAGENTO 1.9

➤ Customer Segmentation, Targeted Promotions & Merchandising

Segment customers into groups and optimize marketing initiatives by identifying specific customer groups using specific characteristics (address, location, sex, etc.) and/or value (purchase history, on-site browsing, etc.). Advanced segmentation capabilities include the ability to identify unknown site visitors. Whether they're new visitors or returning customers who have not logged in, you'll now be able to identify and target them with special promotions to convert browsers into buyers.

➤ Dynamic Rule Based Product Relations

Dynamically target customers to present up-sells, cross-sells, and related products based on their specific product selections. Rules are easily administered through a condition based tool, allowing marketers to easily manage specific product suggestions, shopping cart price rules and banners to any customer segment to encourage additional purchases

➤ Automated Email Marketing Reminder

Increase customer retention by automating email reminders to customers with abandoned shopping carts and wish lists. Email reminder campaigns are configurable and customizable for a variety of parameters including frequency, cart value, quantity and more.

➤ **Content Management System**

Magento's CMS uses a WYSIWYG editor with support for rich content. Build complex content pages, create multiple versions of a page, restrict publishing privileges and create menus. Easily add CMS pages to the navigation menu and create, copy or delete different CMS hierarchy trees for each website and store view individually or en masse.

➤ **Scheduled Import/Export Functionality**

Import and export product catalogue data either locally or from remote FTP servers. Merchants can configure for error handling, status reporting and backup.

➤ **Backup and Rollback**

Manage and schedule a variety of backup operations with the option to roll back the changes to reverse any modifications. This feature is particularly useful when testing new modules or customizations, or when upgrading to a new version of Magento. You can review specific customizations and their impact on the new code. (We do not recommend using this feature in your production environment.)

Three types of backup are supported:

- System Backup
- Database Backup
- Database and Media Backup

➤ **Staging, Merging and Rollback of Content**

Create a staging site to test new categories, product information, promotions etc. Content can be merged to the live site after approval, either on-demand or per a schedule. Supports on-demand, scheduled merges and rollbacks of content.

➤ **Logging of Administrator Actions**

Track and review all actions taken by administrator users, with the ability to see views, edits and deletions of information. Logs are associated to specific administrator users, with the ability to see the action taken, when it was made, and more.



PROS & CONS OF MAGENTO 1.9

Pros

- It is user friendly E-commerce software.
- It is compatible with Smartphone's, tablets and other mobile devices.
- It provides multiple payment options so every visitor can make payment based on their preferred payment gateway.
- It has many extensions which supports for the development of an online store.

Cons

- Magento uses larger disk space and memory.
- It takes much time to build the customized functionality.
- It is very slow compared to other E-commerce sites.
- It needs proper hosting environment, if the hosting environment is improper the user can face the problems.



INTRODUCTION OF MAGENTO 2

In November 2015, Magento announced the new 2.0 platform for enterprise and community editions. The impending release of this new version sent waves through the Magento community. Some were excited for the change, while others felt Magento 1 was suitable for their ecommerce needs.

According to Builtwith statistics, Magento currently holds 14% of the market share for ecommerce platforms. With the release of Magento 2, it's possible this percentage could increase. Experts expect the number of Magento 2 stores to grow rapidly within the next year as Magento 1 is slowly phased out.

This rise will include existing Magento 1 stores that transition to Magento 2 in addition to brand new stores or businesses that migrate to Magento 2 for a better store platform.

It is important to note Magento 2 is in active development. During the Magento 2 Developer Release Candidate webinar it was revealed that there would be no major architectural changes to the core software. This is welcome news for extension developers, but there are a number of merchant related features that have not yet been released.

Furthermore, as performance and scalability are an ongoing focus for the Magento 2 Development team, some of what is discussed here is likely to change.

Although some have reservations about moving to Magento 2, it's clear this platform was designed to provide a better experience for customers and admin. It maintains the flexibility Magento is known for, but adds some important, useful features.



FEATURES OF MAGENTO 2

➤ Compatible more Popular Platforms

Magento 2.0 will use PHP 5.3 and Zend Framework for managing performances of cache engine, database access layer and translations. At the same time, it supports MSSQL and Oracle that is great for Windows Platform Server.

➤ jQuery Library

jQuery is the most popular lightweight to use JavaScript Library. In Magento 2.0, jQuery library is the default JavaScript library. The migration from prototype to jQuery is one of the most important changes in Magento 2.0.

➤ Performance Enhancement

Previously, speed and performance always is a problem Magento has to confront. But everything has changed in Magento 2.0. In this latest version, speed will be 20% faster than the old versions. This will be very dramatic changes in the Magento performance.

➤ Component Oriented Architecture

Such module as customer, catalogue, checkout, sales, CMS and others will exist as components. If you don't need to them, you can always disable it and replace with your own; especially, you don't have to hack the existing code base for that. Hence, site performance and flexibility will be enhanced incredibly.

➤ Directories Structure

There are significant changes in the structure of directory. New directory called "pub" is introduced. The aim of these changes is to provide a better a clear view structure for developer.

➤ Automated Testing

Magento 2.0 allows developer to setup automated test easily.

➤ Better security

This latest Magento version supports some steps to deal with server validation. Thanks to this, your online site will get better security.

➤ JQuery JavaScript Framework

Magento 2.0 supports only one JavaScript framework – JQuery. Thus, it will have much less JavaScript conflicts the new version Magento 2.0 compared to Magento version 1.x.



PROS AND CONS OF MAGENTO 2

Pros

- The Backend Admin is Designed for Non-Technical Users
- Magento 2 has a highly-improved admin interface, allowing non-technical users to accomplish more without having to rely on their developers.
- It's Faster
- It Integrates with Popular Payment Gateways.

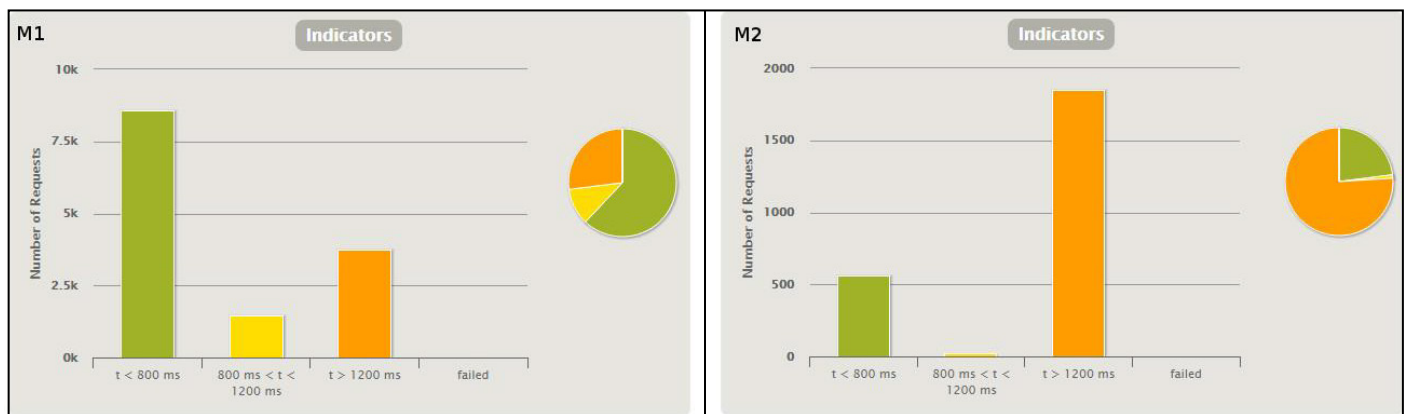
Cons

- Magento 1 Themes Can't Be Ported
- Not All Extensions Are Available Yet for Magento 2
- Magento 2 Enterprise Edition Cost Rises

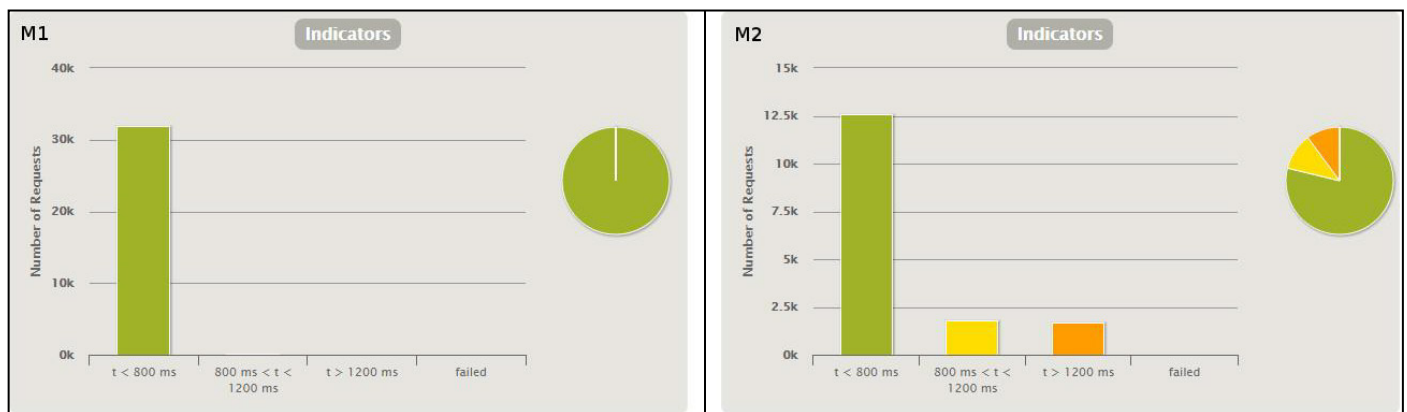


DIFFERENCE BETWEEN MAGENTO 1 & MAGENTO 2

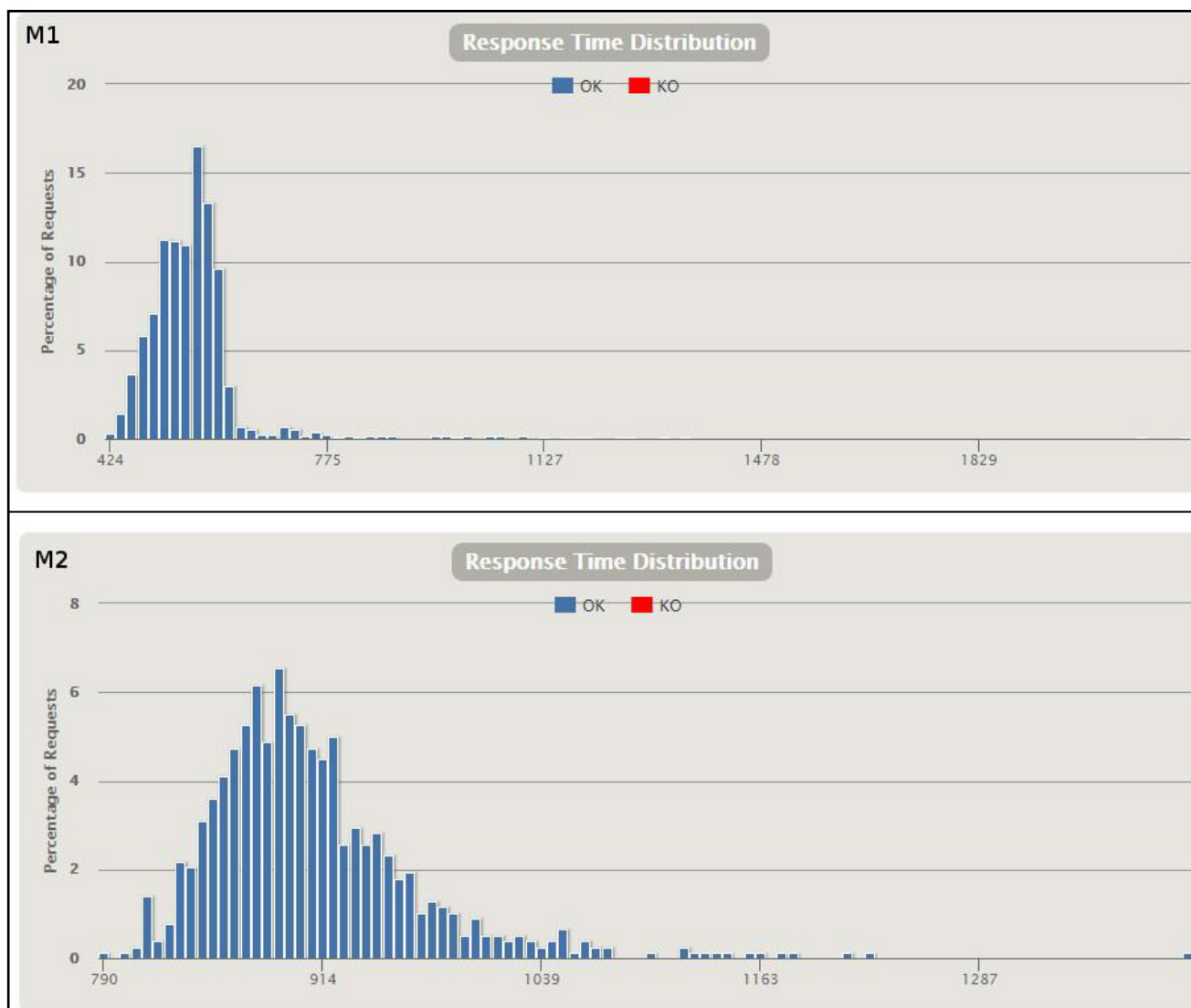
Graph 1. Difference between M1 and M2 deployment performance (number of request and response time) on E1 server (More requests in <800ms is better)



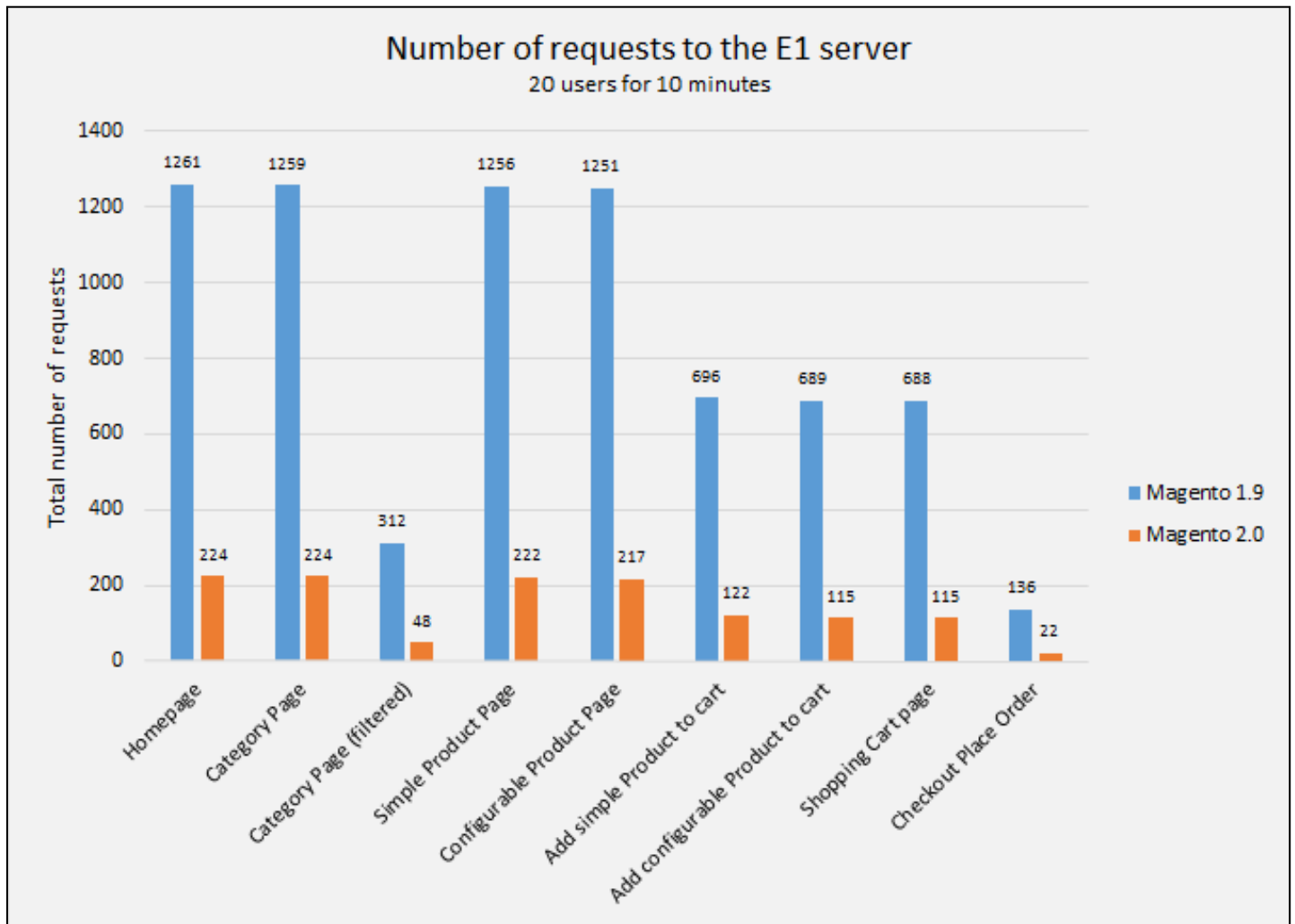
Graph 2. Difference between M1 and M2 deployment performance on E2 server (More requests in <800ms is better)



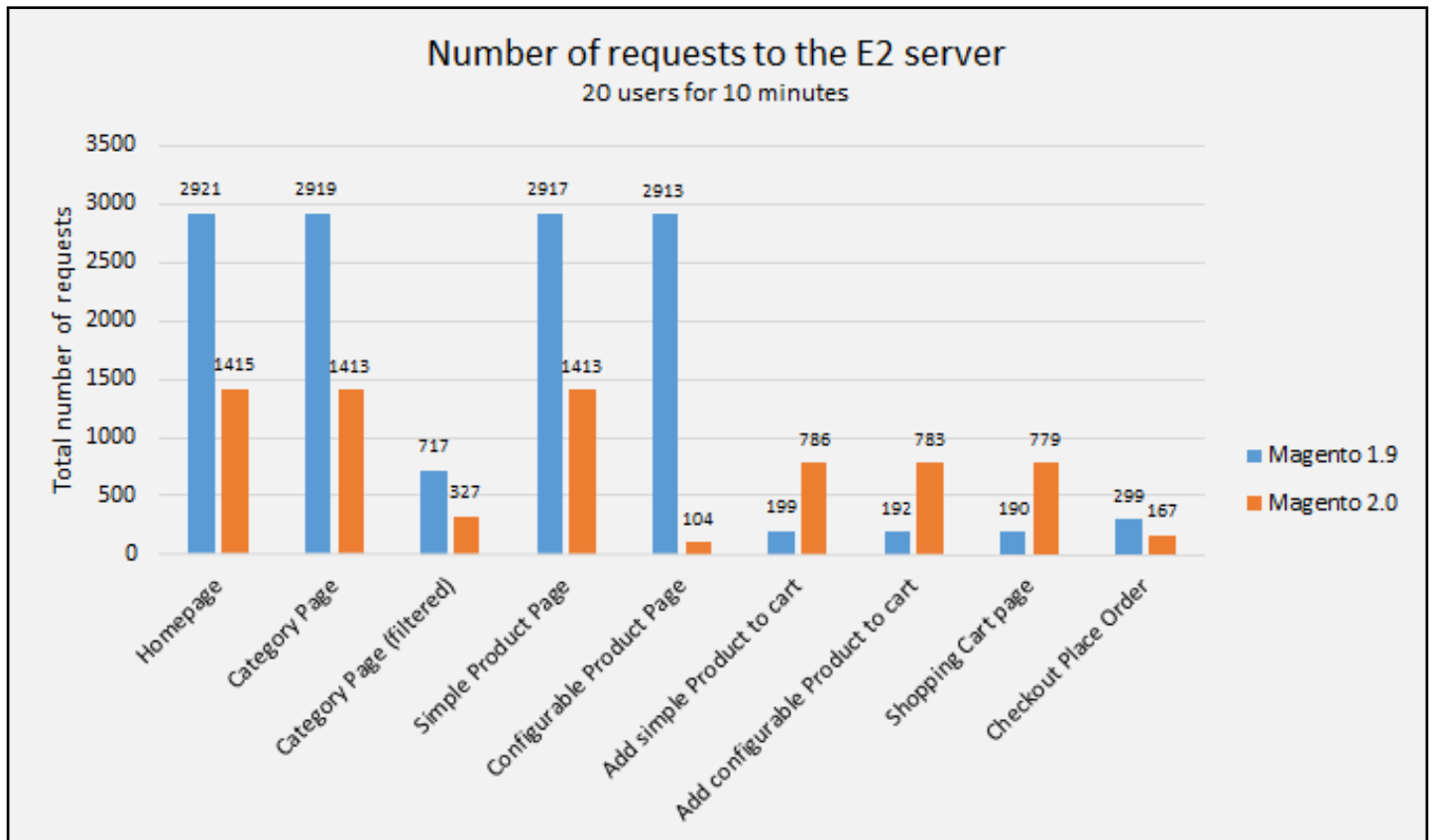
Graph 3. Response time distribution over the load test time for the simple product page – M1 and M2 comparison for the large on E2 server (More requests with lower response times is better)



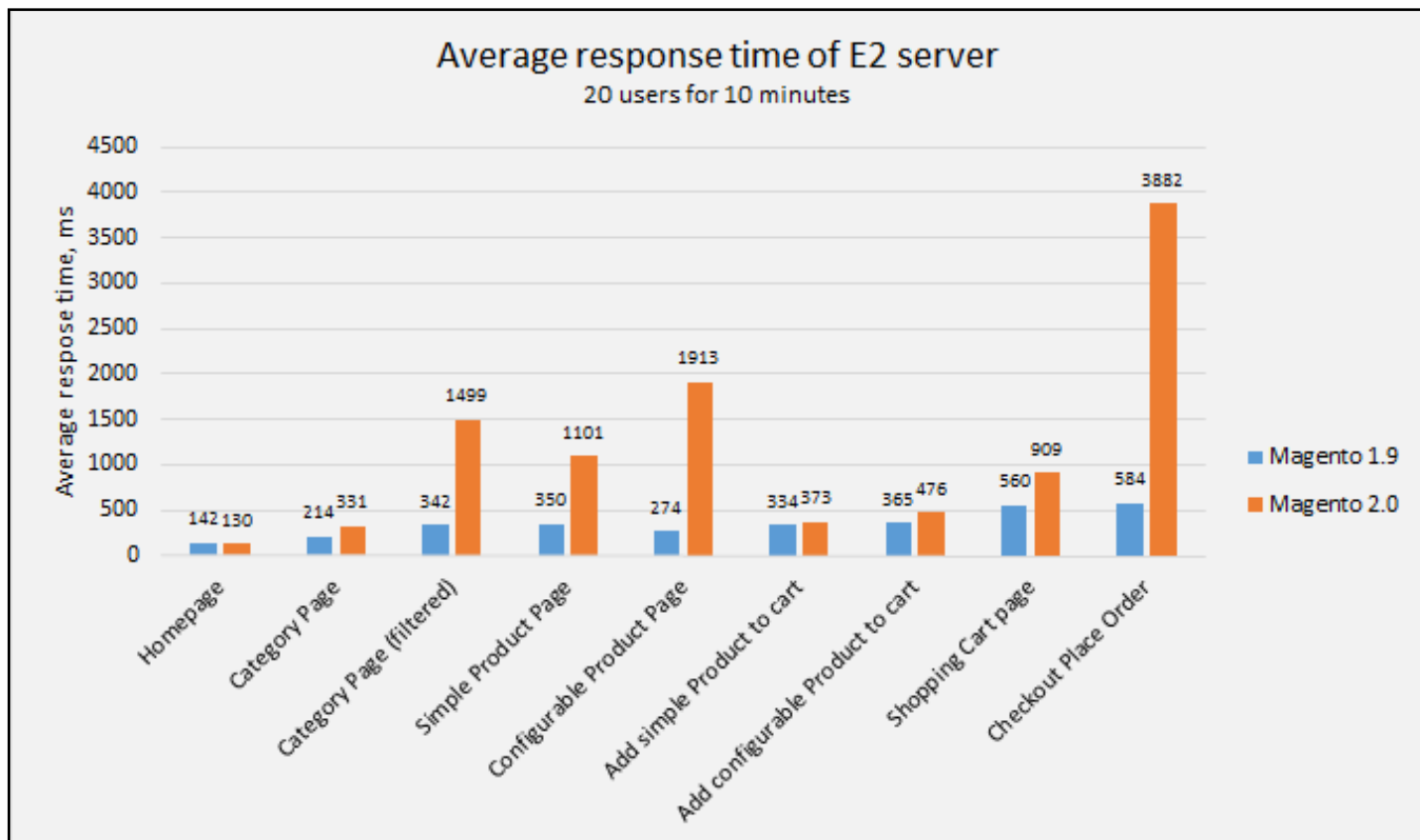
Graph 4. Load test results: Number of requests for M1 and M2 deployments on smaller E1 instance when running base scenario with 20 simultaneous operating on site for 10 minutes.



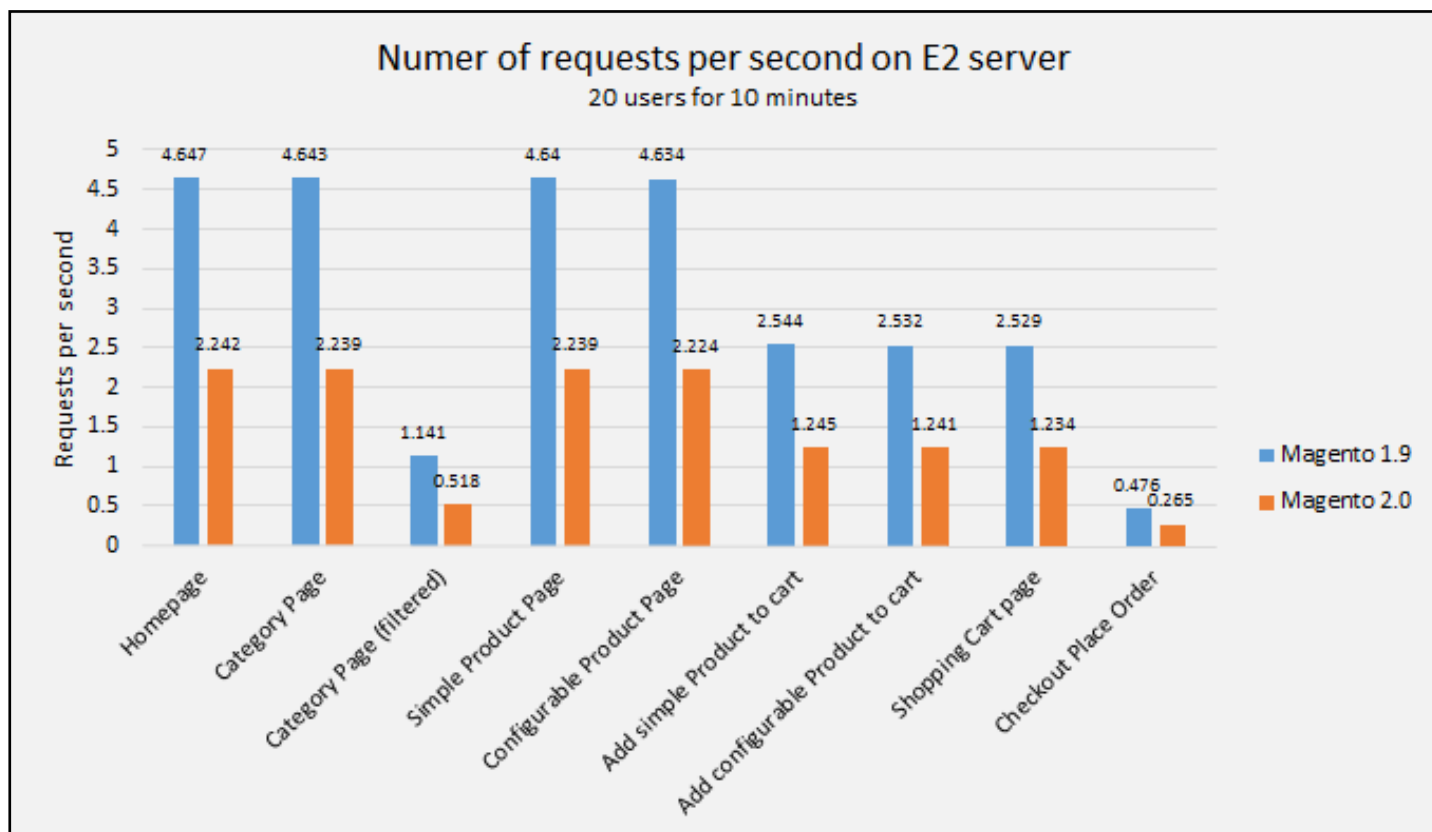
Graph 5. Load test results: Number of requests for M1 and M2 deployments on big E2 instance when running base scenario with 20 simultaneous operating on site for 10 minutes.



Graph 6. Load test results: Server response time for the base scenario.



Graph 7. Load test results: Number of requests processed within a second.





MAGENTO 1 VS MAGENTO 2

Features	Magento 2.0	Magento 1.93
File Structure	everything is placed directly under the “app” structure, except for config.xml	Complicated structure
Built-in Technologies	HTML5/ CSS3 HTML5 CSS3 RequireJS Apache 2.2 or later PHP 5.5.x PSR Compliance Install needed components via Composer Magento UI library CSS Pre-processor Full page caching Magento performance toolkit Dependency Injection	Sass/Compass Prototype JavaScript library in core JQuery in rwd package Additional JavaScript libraries
Upgrade Costs and Efforts	Reduces	Increases
Performance and Scalability	Improves	Normal
Default	Java Script Library	jQuery Library
Community	Inherit large Community	inherit medium Community
Command line	Magento 2 uses mainly Command Line	Magento 1 focuses on graphical user interface (GUI) with easy customization
Extensions	limited	extensive



MAGENTO 2 TO MAGENTO 1.9 MIGRATION

Migration to Magento 2 involves four components: data, extensions, themes, and customizations. To have a successful migration, use the following guidelines:

➤ BUILD AND TEST MAGENTO 2

To prepare for the migration, make sure you do all of the following:

- Set up a Magento 2.0 system using a topology and design that at least matches your existing Magento1 system
- To provide redundancy in the event of unexpected issues, we advise you to replicate your Magento 1.x database and use this Magento 1.x data for your migration
- Install Magento 2 on a system that meets our system requirements

➤ MIGRATE THEMES FROM MAGENTO 1 TO MAGENTO 2

Magento 1 themes cannot be migrated to Magento 2 directly but we provide the following options:

- Working with your frontend developer or designer to create a new theme for Magento 2. Use this chance to make sure your site is responsive and to follow best practices.
- Installing one of the available themes from the Magento Marketplace.

➤ MIGRATE EXTENSIONS FROM MAGENTO 1 TO MAGENTO 2

Magento 1 extensions in most cases will not be compatible with Magento 2 code. Many extension providers offer updated versions of their products available for purchase or download on the Magento Marketplace.

Use this chance to review the list of extensions. To simplify future upgrades, install only the extensions that are required for your business.

➤ MIGRATE CODE FROM MAGENTO 1 TO MAGENTO 2

Custom code used by your Magento 1 store is compatible with Magento 2 in most cases. The code will require either rewriting or migrating.

Magento offers code migration tools that can help with this process. Note that due to platform differences, the migration output requires additional work to make sure it can be successfully installed in a Magento 2 store.

➤ MIGRATE DATA FROM MAGENTO 1 TO MAGENTO 2

Data Migration allows you to migrate several types of data from your Magento 1 store to Magento 2 store.



START YOUR MIGRATION

1. Make sure that the Data Migration Tool has a network access to connect to Magento 1 and Magento 2 databases. Open ports in your firewall.
2. Stop all activity in the Magento 1.x Admin Panel (except for order management, such as shipping, creating invoice, credit memos etc.)

NOTE: Activity cannot resume until your Magento 2 store goes live.

3. Stop all Magento 1.x cron jobs.
4. Use the migration tool to migrate settings and websites.
5. Copy your Magento 1.x media files to Magento 2.0.
6. Use Data Migration Tool to migrate your data from Magento 1 database to Magento 2 database. If some of your extensions have data you want to migrate, you might need to install these extensions adapted for Magento 2. In case the extensions have a different structure in Magento 2 database, use the mapping files provided with the Data Migration Tool.
7. Use command to reindex all indexers.
8. Thoroughly test your Magento 2.0 site.



INCREMENTAL UPDATES

Now that you've migrated your data, you must incrementally capture data updates that are added in Magento 1 store (such as new orders, reviews and changes in customer profiles) and migrate it to Magento 2 store.

- Start the incremental migration; updates run continually.
- Test your Magento 2 site during this time so you can catch any issues as soon as possible.

Go live

Now that your Magento 2 site is up-to-date with Magento 1 and is functioning normally, do the following to cut over to the new site:

1. Put your Magento 1 system in maintenance mode (DOWNTIME STARTS).
2. Start your Magento 2 cron jobs.
3. In your Magento 2 system, reindex the stock indexer
4. Using a tool of your choice, hit pages in your Magento 2 system to cache pages in advance of customers using your storefront.
5. Perform any final verification of your Magento 2 site.
6. Change DNS, load balancers, and so on to point to new production hardware (DOWNTIME ENDS)
7. Magento 2 store is ready to use. You and Your customers can resume all activities.



WHEN SHOULD I UPGRADE TO MAGENTO 2?

This depends highly on your current site and its current condition – bottom line is, if your site is performing well (running smoothly, orders are coming in...), and you're using a version that's not really outdated (I'd say anything before 1.8 CE and 1.13 EE would be considered quite outdated), there is no rush, but you can (and should) start exploring Magento 2, ask your solution partner to give you their thoughts and start doing some basic plans.

If you're on an older version of the software or even on a newer version but having serious performance issues, and on top of that you have a number of 3rd party extensions installed, now would be a great time to plan for a revamp.

If you need to do something serious to significantly improve your store's performance (and we can help you figure out the condition your site is in and why), you should definitely plan the new investments to be done on Magento 2.

If your website is ok and you don't need any new feature but the customer footfall in the website is very high and it keeps on increasing then it is best to move to Magento 2 for better user performance.



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