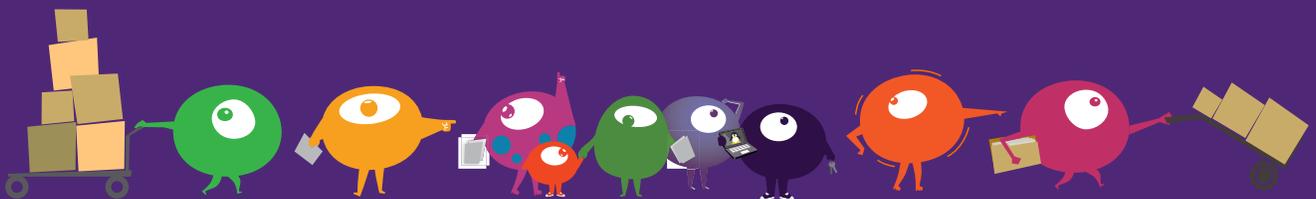




# Magento 2 Migration Guide

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Updating Magento 1 to Magento 2. Is it time?



Razoyo **empowers** merchants

# Introduction

Magento 2: Eventually, it will be king, and M1 will fade into the past. While it is true that merchants still have time to plan before committing to the move, we at Razoyo believe making the leap should happen sooner, rather than later. Any merchant who has been through the sunseting of a platform knows the value of not being the last one to move.

In the migrations we have performed to date, we have found many merchants were not prepared for or had difficulty navigating the numerous decisions to consider during the process, which is why we created this guide, dedicated to merchants and site administrators.

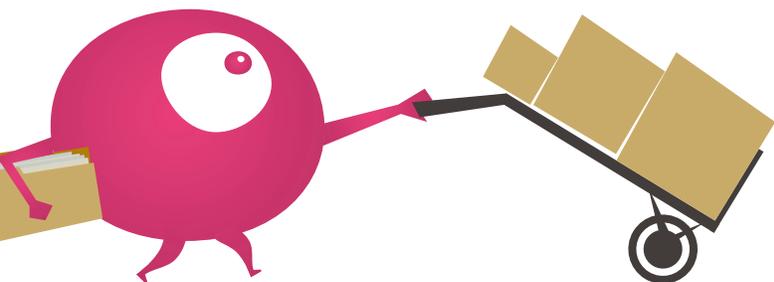
We hope that sharing our learnings with those looking to transition to Magento 2 will help the community make the jump.

**Paul Byrne**

**President, Razoyo**

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# Chapter 1: Overview of the Process

## FAMILIARIZE YOURSELF WITH MAGENTO 2

### Get a vanilla install of Magento 2

Most merchants won't be able to do this on their own. Get your developer (or contact Razoyo if you don't have one) to install one on a private server for you to play with.

### Orientation

First order of business: familiarize yourself with the admin panel. It's going to be a bit of a shock, but, hopefully full of nice surprises. The M2 admin panel removes the dozens of dropdowns from M1 and goes with a more navigation-friendly accordion layout. Take some time to click through the links. Memorize where certain features are located (i.e. Configuration, Attribute Sets, and Customer Groups are located in the "Stores" tab).

### Play

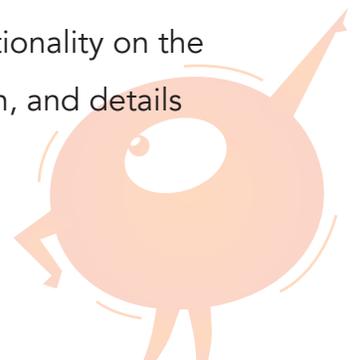
Consider the new possibilities the platform offers you and experiment with it. Set up a few products, create some pages and think about how to make things better in your move.

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## PREPARATION

This is a very extensive, and can be exhausting, but is the most important part of the migration process. You will need to know everything being moved, altered, implemented, and added to the new M2 site.

Will you be changing the catalog structure? Are you wanting additional functionality on the new site? Questions like this must be considered, planning must be thorough, and details need to be fleshed out.



One of the principal considerations is your current server setup. Do you have your own server, or is your current environment a cloud or shared (multi-tenant) setup? You will need this information before proceeding, as well as a plan to set up a new environment for M2. Discuss with your hosting company or developer how the needs for Magento 2 will differ from your current setup and what the implications may be for the migration process.

Keep in mind, every site consists of code, a database, media, and an environment. Changes to the database (like new products or CMS pages) should be pushed to your Magento 2 staging environment frequently during the process.

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## MAGENTO MIGRATION TOOL

The migration tool will be used in early and often in the migration process. This tool will carry over the following:

- **Settings** - stores, websites, and system configurations (shipping and payment methods, taxes, etc.)
- **Data** - customers, products, orders, reports
- **Changes** - created orders, reviews, customer profile changes

**Note: The migration tool does not carry over designs, extensions, or media.**

To visualize the tool and understand its uses and limitations, we recommend you have your developer run a 'basic' migration of your data into an empty Magento 2 store as a first step. This will help you visualize items that did not migrate as desired, items you will need to work on mapping, and items that can safely be left behind.

We find that merchants often don't have a strong understanding of the differentiation between code, data, media and design. Running the tool on a plain vanilla (blank) Magento 2 instance will help you understand what the data migration tool will do for you and what it will not.

Your live site (production store) is constantly creating new data in the form of customers, carts, orders, products, product quantities, and so forth. After you start working on your migration, you should have your developer run the developer tool to update the data that has been moved over. That way, when you do your final data push, there will be less data and you can keep the store in maintenance mode (closed to traffic) for a shorter period of time.

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## DESIGN AND TEMPLATES

Since the migration tool does not carry over design or themes, you will need to come up with the design/theme. You are essentially starting a design project from scratch, so, how you approach it is up to you. You might want to consider using a pre-created theme as a basis for a new design to save money.

Even if you are using a theme that is supported on Magento 2, it will not be 100% the same. You can use the out of the box settings, or, take advantage of the moment to correct all those little design flaws you've been meaning to take care of but just haven't.

***Consider: Is this the right time for a redesign?***

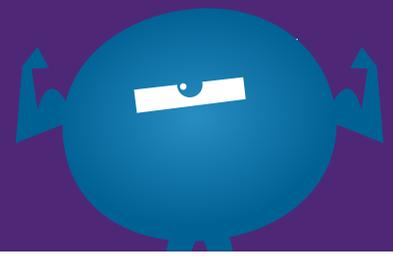
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## FINAL MOVE

This is it. When everything is ready to go, it's time to push to production. The Magento 2 store you built will now replace your live store.

It's the final data migration, so be sure everything is air-tight. When the migration is over, it's time to test.

# Chapter 2: Preparation



Upgrading from Magento 1 to Magento 2 is a type of replatforming. In a physical sense, it's like moving your business to a new building. Even if the new floorplan is identical to the old one, you have to plan your move carefully.

In a physical move, you will look at the new space and figure out where to put the shelves, what repairs to do and what modifications you may want done before moving to your new location. Before moving, you also need to make sure the water, internet, electricity and so forth have been hooked up and are operational. All of your furniture, fixtures, inventory, machines and other contents of your current location need to be boxed and labelled for placement in the new location.

Much of the same thought process will go into your upgrade. Magento 2 isn't exactly like Magento 1. Smart merchants will consider the differences and leverage them to their advantage. Fortunately, unlike a physical move, you can first move a 'copy' of your store, see if everything looks right, and rethink, even start over, without disrupting business.

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## SERVER

Before you begin anything, you must evaluate your current server situation. Not everyone knows their setup, which is fine. Simply get in touch with your provider.

**Your Magento 1 product store should be hosted on one of three different setups:**

1. Cloud-based
2. Shared (multi-tenant)
3. Your own server

Now, there are two different paths that must be taken, depending on your server situation. In either case, you need to set up a second server for your Magento 2 construction process that can meet [the technology stack requirements](#):

- 1)** If on a cloud-based or shared server, you will need to contact your host or developer to commission a small server. The M2 build will begin here, and you will need to scale it up during the final step. This server will eventually replace the one you are on.
- 2)** If you own or lease a physical server, you will need a temporary space. If your server can accommodate virtual machines, you can set up a second virtual server on the same physical server. If not, you will most likely need to contact a different provider and set up a temporary space.

On your development server, you will set up a temporary url like, 'development.myurl.com.' Because you will have to update your DNS record to do so, you should go ahead and minimize the TTL (time to live) of your main url ('www.myurl.com' in this example). This will cause ISPs (the ones who handle traffic on the internet) to look for updates to your address more frequently and help reduce the [propagation time](#) when you make the final switch to your new site.

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## CUSTOMIZATIONS

Since this is the preparation phase, it's best to take some time to decide upon the look and function of the site. You may want to change the aesthetics or add new layers of functionality for product pages, so it's best to plan, strategize, and come up with a plan of attack.

When you have a plan for your site, the next step is figuring out the implementation. Whether it's custom work or a set of extensions, implementation will take some time.

Speaking of extensions, list out your current extensions and see if they exist for Magento 2. In some cases, you might be able to avoid buying an extension because Magento 2 now offers the functionality in the core code. For example, many merchants have implemented one page checkout. Magento did a lot of research on the checkout experience for Magento 2, making it superior to most custom implementations.

On the downside, not all extensions available in Magento 1 exist for Magento 2. If the extension does exist, take some time to plan the data migration. Contact the extension developers to see if they have a data migration tool or a mapping for Magento's tool. As you can tell, this isn't always a cut and dry process.

An example of this would be [Shipping Overrides](#) from [WebShopApps](#). Several Razoyo clients utilize this extension to create specific shipping methods/conditions for products and customer groups. WebShopApps has not yet ported their extensions to M2, so [ShipperHQ](#) would be the current alternative.

In addition, check on current third-party services to see if M2 is an option. Not all services have a M2 connector available. You might have to find replacements. If they do support M2, make sure they work the same way.

As of April 2017 [MailChimp](#) does not have a Magento 2 connector. You may want to consider other services, such as [DotMailer](#).

We recommend putting together a list of all of the customizations, extensions and you are using in Magento 1. Next to each one, list how its functionality will be provided in Magento 2. Is it covered by a core feature, the Magento 2 extension, an external service, or will custom development be required? Having a plan for each feature of the site can save time and money during the implementation phase.

## CATALOG PROCESS

**Note: Much of the following only applies if you decide to migrate your catalog data by hand (not using the migration tool). Otherwise, using the Magento data migration tool will make the migration simple. The tool will create the attributes, attribute values, attribute sets, categories and products for you.**

Backup your catalog data before you start the project. You will probably make some changes to your current catalog as part of your process. Each time you make progress, take another backup and save them all away, just in case!

**If you are making structural changes to your catalog, you have two options:**

- Use the migration tool's mapping system to map old values to new ones.
- Export your catalog data to an external tool (PIM, Excel, ERP system, etc.) and make the changes there. If you follow this path, you may need to create the attribute and category data through the admin panel in Magento 2 before importing your data.

The project may span a long period of time during which your active product data may change. If you are using the export method, you'll want to organize a system that makes it easy to keep the data you are working on as current as possible.

One of the great advantages of using the Magento-provided migration tool is that you can codify changes (the process is called mapping) and apply them to the most recent products at the last minute. While mapping is convenient, it does make you think through all of the potential exceptions and changes. Merchants who are used to working with the upload process may prefer downloading, working in Excel, or uploading.



## SEO CONSIDERATIONS (REDIRECTS)

Since you are migrating to M2, you need to take URL redirects into consideration. A redirect takes an incoming browser request URL and directs it to a new one. For example, if your current site had a product at `http://www.yoursite.com/fancey-ring.html`, but, you decide to correct the typo during the move and it is now at `http://www.yoursite.com/fancy-ring.html`, your site will still accept `...fancey-ring.html` request from the browser, but, it will send the user to the `...fancy-ring.html` page.

If you are making changes to your category structure or the way your CMS pages are organized, the links might not be the exact same URLs that are on the M1 site. Redirects make sure your shoppers get to the right place on your site.

### Options for handling redirects:

- 1)** Set up redirects using the URL Redirects tool in Magento. It works the same way in Magento 2 as in Magento 1.
- 2)** If you have many redirects, you may want to provide a list to your developer and have them insert them into the database for you. Unfortunately, there is no upload tool for redirects in the Admin panel.
- 3)** If the redirects are permanent, you can have your developer set them up on the server level (Nginx or Apache). Just be careful of this since Magento will not be aware of the server-level redirects. If you redirect the same pages later, Magento's controller may not properly handle the requests causing a page not found (404) error. If in doubt, handle all of the redirects in Magento.

In most upgrades, some paths will change and redirects will preserve the value of the old links while building value for the new ones. Improperly handled URL redirects are one of the main reasons for a degradation in page ranking after a move. Have a solid strategy for handling them. Using the building move paradigm, having redirects in place is like having a magic door where shoppers can enter the door of your old store and be transported to the new one... even better than a sign saying 'we've moved.'



# Chapter 3: Execution

To continue our previous example of physically moving your business to a new building. You have checked out the new building, made sure the water runs and electricity works, and you have all of your current inventory boxed up. Now, it's time to set up the shelves, hang up posters, and apply a fresh coat of paint.

In other words, it's time to get your Magento 2 build looking good and functioning properly. But, just like a physical storefront, you need to put in some work to get everything up to your expectations. You will need to flesh out the site. Now is the time to begin adding any needed functionality and working out the kinks.

We use a form of the word 'test' 27 times in this guide. Testing takes time and resources, however, there are tools available to you to automate testing. Razoyo uses automated testing tools to keep the costs down without compromising thoroughness. Talk to us or your developer about how to maximize your testing capability without running up costs.

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## USE A STAGING ENVIRONMENT

This is where the server planning will come into play. If you own a server, you should have a temporary space set up on a different server. If you are on a cloud-based or shared platform, you should have a small server commissioned for the build. Either way, you will need to set up a staging environment to begin the building process.

A staging environment is a pre-production environment. It's a mirror of a production environment, including databases. Staging is used for testing, debugging, QA for new extensions, etc.

Essentially, this new environment will be where the real M2 work comes into play. This is where you and your team will construct the look and function of the site.

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## MIGRATE SETTINGS

If you are using the data migration tool, you should run it in the 'settings' mode, first. This will move any settings, including CMS blocks and pages, promotions, configurations and so forth. Test the site thoroughly and update the settings.

While it is possible to map settings and migrate them again, most merchants will find it quicker to simply make the changes as they work through the other steps of the process and not transfer settings in future sessions. Your desired settings (including CMS content) will change as you work through changes in extensions and customizations.

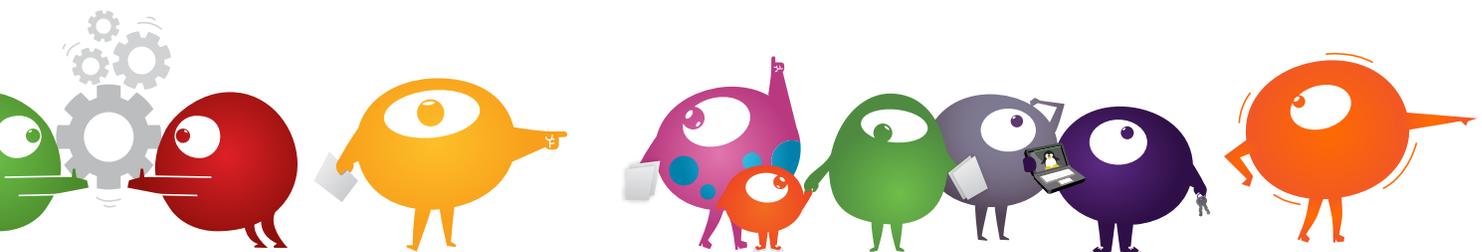
***Note: The data migration tool does not migrate admin user accounts. You'll have to set those up in the admin panel in your Magento 2 implementation.***

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## MIGRATE PRODUCTS - ROUND 1

You should migrate products early and often if using the tool. This will give you time to identify issues, allowing you to tweak the mapping settings for a better overall final migration. It's best to have actual products in the system so you can see how your design is coming and test extensions with your actual products.

***As noted before, you should migrate your product data often.***



## DEVELOPMENT/CUSTOMIZATION

Now that you have your features in mind, it's time to implement them. Remember, the site is made of code, a database, media and an environment, and each needs to be updated or moved.

Implement features or extensions one at a time. Do not add them all at once. If you run into a bug -- and you will run into bugs -- you don't want to dig through several features to determine the cause.

Perform both functionality and regression tests after adding each new feature. Basically, make sure the new function works properly and didn't break anything else on the site. Test everything with a special eye to unintended consequences.

If you are adding/installing extensions, make sure they work with M2. Our team ran into several issues with certain extensions, and we needed to work with extension developers to find a solution. M2 is still new and fresh, so bugs appearing from new extensions should be expected.

The better extension providers who have created M2 versions of their extensions will also provide data migration tools for developers. These will allow you to move over tables in the database that were created by the extension. Each extension, its data requirements and migration tools are unique, so, you may have to adjust your overall plan based on your

You'll need to include interaction with extension developers in your timeline. Most extensions for Magento 2 are less stable (more buggy) than Magento 1 extensions. Because Magento is a global community, some of these developers will be eight or more time zones away, so, multi-day interactions with their support desks are not uncommon.

Implement your design on the staging environment and browse your catalog. This is a good time to make sure the sizing is accurate, images aren't distorted or pixelated, and the colors do not clash. Go over each page. Make sure each one meets your standards.

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## CATALOG

### Manual upload process

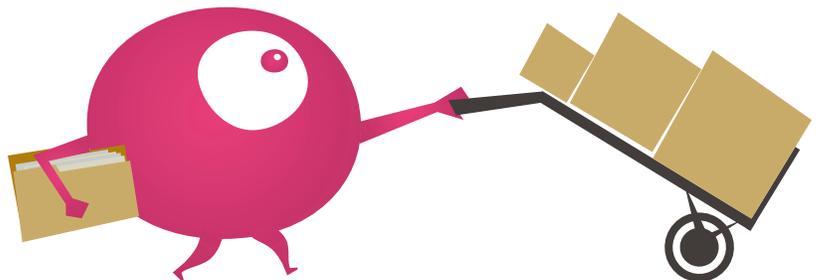
Here's where the fun begins. If you haven't already, add attributes, attribute sets, and categories to the site. Then it's time to import the product spreadsheet. Make sure you take some time cleaning up the M1 export. Use the "Check Data" button on the import page in the M2 Admin Panel to find any remaining errors. When everything is perfect, hit that import button.

Pull all images from your M1 site and place them in a folder. Use an FTP/SFTP client, such as [FileZilla](#), to access the media directory for M2. Add all the images to the `pub/media/import` folder. Your developer can also copy them over using SSH.

### Migration tool process

If you or your team is unfamiliar with using the migration tool, you can refer to the [Magento dev docs](#).

Each time you run the migration tool, spot check to see if all products and data made the migration. One good way to do this is to compare the total product counts in the catalog. We also recommend running regression tests each time if you have an automated test.



## TESTING/FINAL CHECKS

Time to make sure the new office is ready for the big move. Is the paint dry? Do the shelves hold inventory without collapsing? You don't want to move to the new building if it's not ready for your products and employees.

Your M2 site might be ready, but you will still need to run it through tests. As confident as you and your team might be with the work, there still might be lingering issues. Be sure to test not only the shopping experience, but, test the my account area. Does the order history show up? What about wish lists, addresses, and so forth.

Test the admin panel. Can you create new promotions? What about new products? What about configurable products? Do any of the menu links take you to an error page?

Spot check attributes. Are the attribute values on drop down and multi-selects all there? Check categories. Do you have the same number on both sites? When you go to some of your top categories, are all the filters there? Do they work? When you filter, does the product count match what is expected?

Look for little things. Sometimes, little issues can hide bigger ones.

In addition to testing the visible stuff, connect your Magento 2 staging site to staging versions of external services like your order management system (e.g., Shipstation, ShipWorks, ShippingEasy), external reviews system (e.g., YotPo, Feefo), email service provider (e.g., MailChimp, DotMailer, Bronto), shipping quotes (e.g., ShipperHQ), payment processor and so forth.

Test functions, not just add to cart, but, any custom functionality you have. Can you subscribe to a newsletter? Do your subscription modals populate data in your external CRM?

Check lots of carts. Look for purchases from your old site and replicate them on the new site.

Do the subtotals, shipping, tax and other amounts match?

Complete a test purchase for each payment method. Check your payment processor account to make sure the money made it through to the respective account. During the build process, you or your developer may have been using a payment processors sandbox account, or, the system may have been in test mode meaning payments were essentially simulated, but, no money was exchanged.

We also recommend you implement user testing from an outside party like UserTesting.com before letting your actual users on.



# Chapter 4: Final Move

Alright, it's time to call the movers and get everything situated at the new office. Be sure to put a sign on the door telling everyone where the new building is located. Oh, and don't forget to update Google Maps while you're at it.

Okay, we are pretty sure you get the example at this point. After everything has been tested, debugged, and updated, then it's time to make the final move. Get your team ready and start the migration. Your new M2 site is ready to go live.

## **Lock the Admin Panel**

Before starting your countdown, stop making changes to products, promotions, CMS content and settings in your Admin panel. You may want to consider locking everyone out except your migration captain.

If using the migration tool, run it after closing the admin to users. Your customers will still be able to transact orders at this point.

You should stop the M1 cron from running at this point, too.

## **Catalog**

If you are using the migration tool, your catalog should be up to date. Spot check your products and product totals to make sure this is the case.

You will also need to import your images. A developer can write and run a script that just looks for new images and copies them over to the new server. Otherwise, you should have been keeping a copy of any new product and CMS images in a handy place. Upload them now and test to make sure they were associated with the products.

Reindex the catalog and make sure all of the caches are turned on.

***We recommend another round of regression testing at this point.***

### Technical Stuff

By this point, you have a plan for your server based on your initial setup. The process may be slightly different depending on your hosting choice, however, the general steps will be as follows:

- Put Magento 1 site in maintenance mode. If you've been planning well, you'll have a "Down for temporary maintenance, be right back" page showing.
- If you are using the Migration Tool, run the last incremental update so that the orders and inventory quantities are up to date.
- Warm up the caches. This process simply means that the caches are turned on and have started populating data. If you don't do this step, your first users to the new site will experience painfully slow page load times.
- Start M2 Cron so that emails, indexing and other time-based functions are running.
- Update DNS records to point to the new site (unless you're wiping the old one from a server and overwriting).

Once your DNS records have been updated to the new URL, customers will be seeing the Magento 2 site instead of the maintenance page. This is where minimizing the TTL will pay off as the new address propagates through the internet.



# Chapter 5: Follow Through

After a physical move you would be bundling up the empty moving boxes, dusting, zip-tying cables, and so forth at this point. None of it is required for you to keep the business running, but, you want to make sure everything is back to normal. Except the walls are freshly painted, you have a better view, a nice new conference room and so forth. The move was worth it.

Once again run a round of tests and do test purchases. Check the admin panel to make sure your customers are successfully ordering as well. Check your Google analytics account to make sure Google is seeing your traffic. Check your shipping software. Are the new orders showing up? Did you remove any test orders? Check your merchant accounts? Is the money flowing in matching the orders on the site?

In addition to the tests you would have done while in development mode, make sure your SSL certificate is working

If you've done a thorough job as a team, the follow through should confirm that. If you missed something, better to address it now. You really can't easily roll back to the Magento 1 site at this point without creating problems, so, test and test again.



# About the Authors

This guide was collaboratively written by the people at Razoyo as a way to give back to the Magento Community.

Razoyo is an eCommerce consultancy and Magento Certified Developer serving the needs of small and medium-sized web stores around the world. We help online merchants set up their stores, manage their stores, delight their customers, and solve business problems.

We accomplish this through services performed, training, and consultation.

[sales@razoyo.com](mailto:sales@razoyo.com)

+1 877.240.2351





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