

PGR Data Migration Project

Introduction and Background

A specific fundraising option was set up on the PGR website to raise funds dedicated to this project. Individual State captains were asked to donate at least \$400 from each of their states. Though not all states were able to donate, many states donated over the requested amount, and some individuals also donated. The goal was \$20,000, and the total committed donations was \$24,415.

Historical Data

In July of 2018, Herb Parsons (VP of operations) approached the board about the possibility of converting the old data on the website from vBulletin format to WordPress along with other site improvements. There were a number of reasons to do this, but primary was retention of historical data, portability to other hosting companies, improvement in performance of the website, and a return of forum discussion boards.

Engaging a Developer

Herb attended a WordPress support group meeting in Fort Worth, TX, and spoke to organizers to get recommendations for someone that could give us an estimate on pricing. Marc Gratch, an independent WordPress developer (who lives in the DFW area) was mentioned and approached by Herb. Several phone calls and meetings took place during the following weeks, and Marc presented a proposal that was passed on to the board.

Engaging Marc Gratch

Marc initially estimated that it would cost about \$14,000 to do the migration. He requested a \$600 fee to do a full audit of our site and to prepare a detailed survey with recommendations and a proposal (10 hours at \$60 per hour). The audit was approved by the BoD in a conference call and Marc proceeded with the audit.

After completion of the audit, Marc alerted Herb that the cost was going to be higher than originally anticipated, and presented a formal audit and proposal that included multiple options; but the option we planned on came to \$18,000. In a subsequent conference call with Marc and the Board of Directors on 9/9/18, Marc expressed that he was willing to do the project for \$16,000.

Second Bid

In subsequent conversations with the Board of Directors, it was confirmed that this was something we needed to do, but it was also confirmed that we did not have the funds to do it at this time. In addition, it was requested that Herb seek out at least one additional competing bid.

Herb did some preliminary searches for a programmer or company that had the needed skillsets that included WordPress knowledge, PHP programming, and knowledge of Events Calendar by Modern Tribe. He was unsuccessful in finding an programmer or company that would look at the conversion for less that \$20,000

Herb then posted the project to a website that helps connect developers with customers. There was some concern about even posting the project, as Codeables requires payment in advance to an escrow fund to ensure that payment is made, and that the customer is satisfied with final result (payment is held in escrow until the project goals are confirmed); but it was posted in the hopes of getting at least an estimate of the costs.

Two companies initially responded on the Codeables website, WPExperts and SAU/CAL.

After forwarding the details of the project provided in Marc Gratch's audit, WPExperts backed out of offering additional information on the project.

In further conversations on the website with SAU/CAL, they too offered to do an audit of the website at \$81 per hour, and gave a rough estimate of \$18,000 – \$25,000 for the project. Since this rough estimate was higher than the confirmed price from Marc, it was decided that we would not pay \$81 an hour for further auditing of the project.

Board of Directors Meeting

At the Board of Directors meeting held in Branson, Missouri on November 3, 2018, the project was discussed in depth, with various options discussed on how to move forward. It was again determined that there were no funds available to proceed with the project. A proposal was made that we approach individual states to see if they would donate \$400 each (or more) out of state funds to complete the project. The BoD would then decide how to proceed based on the outcome of that fundraising.

A specific fundraising option was set up on the PGR website, and states responded well. A goal of \$20,000 was set for the project, with \$24,415 actually raised.

Additional Input on Project

Herb was asked again to seek an additional bid, but was unable to do so. In early December, Herb and Bob Dorey, VP of Captains received an email from Doug Bley, the Regional Captain for the High Plains Region, giving contact information for a member of the Minnesota PGR board that was involved with the IT industry and might have resources to help.

Herb contacted Chris Hawver, who works with Red Hat Linux. Chris stated that he was unable to help directly, but would look over the proposal and give his thoughts. The email he sent with recommendations is shown below in the **Chris Hawver Email** addendum.

Project Funding

Because there were no funds available in the PGR general fund, the BoD decided to do a fundraiser specific to this project.

A targeted fundraising option was set up on the PGR website to raise funds dedicated to this project. Individual State captains were asked to donate at least \$400 from each of their states, with a total goal of \$20,000 from all 50 states combined.

The plan was to allow 90 days for the PGR to raise the funds, then proceed based on how much was raised. If we did not meet the goal, we would re-evaluate the need. If we met or exceed the goal, we would proceed with the project with any additional funds being used specifically for PGR Information Technology needs.

Though not all states were able to donate, many states donated over the requested amount, and some individuals also donated. The goal was \$20,000, and the total committed donations was \$24,415.

Final Vote on Project

Based on the email from Chris, a vote was held on 12/8/18 via email and it was approved to move forward on the project at \$16,000.

Final Proposal & Payment Scheduling

Marc Gratch submitted an invoice with the revised pricing and a tentative milestone schedule. The invoice can be seen on his [invoice web site](#).

Total payment is to be \$16,000, with equal \$4,000 payments made at the following milestones (with anticipated dates):

1. **Payment Due before January 15, 2019:** Initial 25% payment.
2. **Payment Due before February 15, 2019:** 25% payment upon converting current PGR site to a Multisite installation including BB Press.
3. **Payment Due before March 15, 2019:** 25% payment upon completion of event migration to Events Calendar Pro & Migration to Elastic Search instance.
4. **Payment Due before April 15, 2019:** 25% payment upon completion and push to production server.

The overview of the individual charges are as follows:

- \$8,000 – Migrate vBulletin4 Events to Events Calendar Pro.
- \$2,000 – Setup ElasticSearch installation leverage Event Calendar Pro's ElasticPress integration.
- \$1,000 – Convert current Patriot Guard website to Multi-Site install.
- \$1,000 – Install and Setup bbPress

- \$3,000 – Migrate remaining vBulletin4 forums/threads to bbPress.
- \$1,000 – Push to Live Server.
- \$16,000 – Total Project Cost

Chris Hawver Email

Herb,

I enjoyed our conversation and our explaining the scope of the project.

I have had the opportunity to thoroughly review the proposal. From a technology perspective, he is spot on with the open source apps he will be using as well as his recommendation for cloud use and backup. I would ask him his recommendation on using AWS versus Azure.

Regarding Marc, he is well known in the open source developer community. He has an excellent reputation, so you have a very good vendor. I do not know him personally, only his reputation... well regarded.

Regarding his pricing proposal, my recommendation is accept and engage. I do not think you will better price value ration given Marc's experience and reputation.

I hope my review is of benefit for you Herb.

All the best,
Chris

[Chris Hawver](#)

Mobile +1 612 840 9909

From: Herb Parsons <hparsons@patriotguard.org>

Sent: Tuesday, December 4, 2018 2:49 PM

To: Chris.hawver@gmail.com

Cc: Bob Dorey; david. noble

Subject: Re: Fwd: Contact information

Chris,

Thank you for taking the time to chat with me today about our project. I'm including our President, David Noble, and our VP of Captains, in this email to keep them in the loop.

As we discussed, I've got a firm bid, along with a full scope of the project details from a WordPress developer. I'm attaching that, but wanted to let you know the pricing he used was a bit confusing, and when we had him in a conference call a few weeks back, he agreed to a price of \$16,000 for the full conversion.

I think the rest of the information in the bid is pretty self-explanatory. As we discussed, it's a pretty involved project, but I believe the audit and bid he put together will give you a good idea of the scope.

Thanks again for looking at this.

Herb '*Nightrider*' Parsons
Patriot Guard Riders
National Board of Directors
Vice President of Operations

On 12/1/2018 8:37 PM, Doug Bley wrote:
National team....

Chris Hawver is on the BoD for the MN Patriot Guard. We had a Board meeting today and we were discussion the National IT project for the post history.

Chris is a marketing executive in the technology field and has many contacts that could possibly assist us in this.

He asked I pass his contact on to you.

Thanks!!!

----- Forwarded message -----

From: **Chris Hawver** <chrishawver@hotmail.com>

Date: Sat, Dec 1, 2018 at 12:27 PM

Subject: Contact information

To: Doug Bley <dougb@mnpatriotguard.org>

Chris.hawver@gmail.com

Chawver@redhat.com

612 840 9909

Chris Hawver

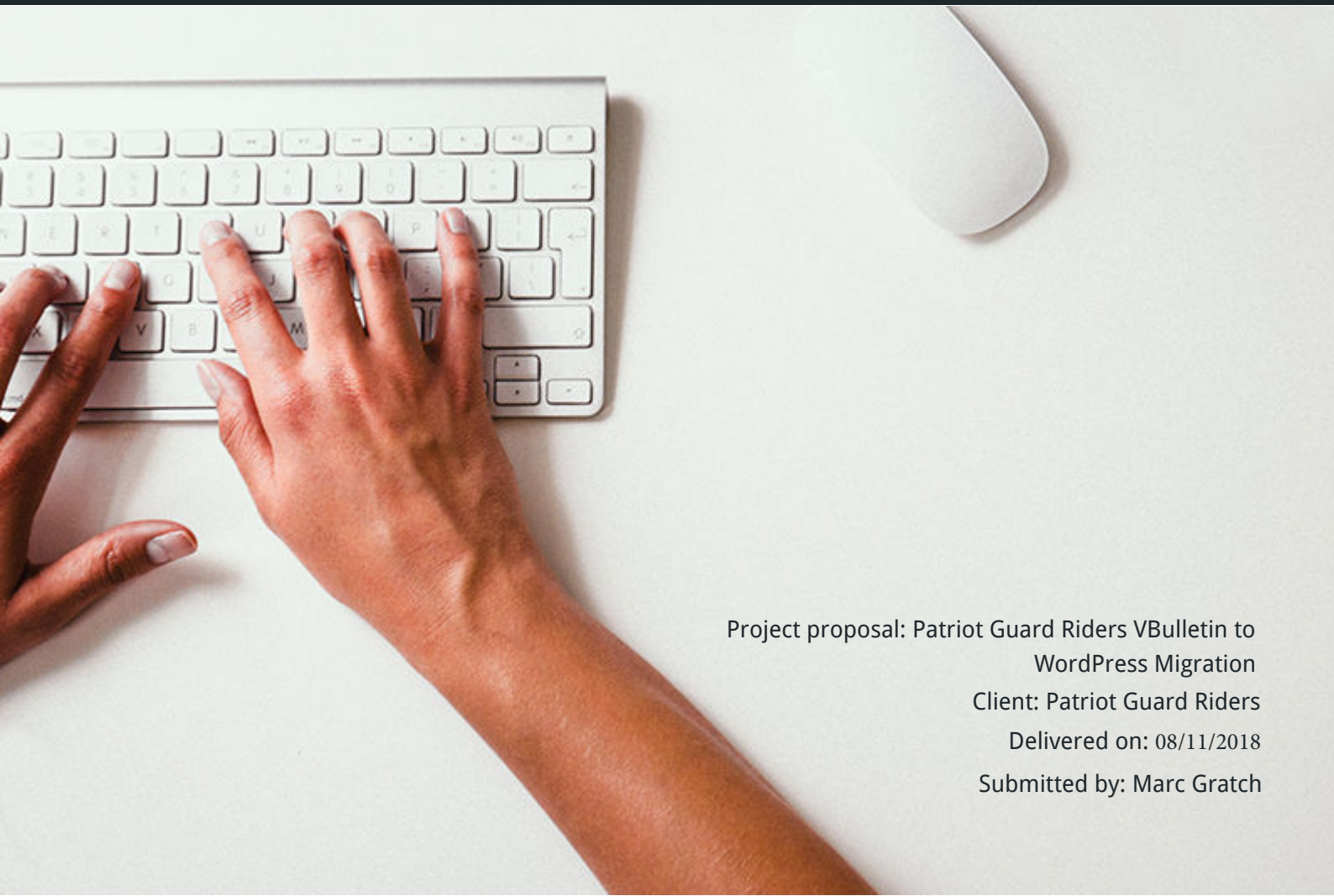
—

Doug Bley
President, MN Patriot Guard
High Plains Region Captain
Former Minnesota State Captain

Cell: 612-327-5072



Marc Gratch | WordPress Consulting



Project proposal: Patriot Guard Riders VBulletin to
WordPress Migration
Client: Patriot Guard Riders
Delivered on: 08/11/2018
Submitted by: Marc Gratch

Overview and Goals

Dear Herb,

When we first got in contact there were a number of issues that you had brought to my attention to review:

- Possible options for local and staging deployments.
- Fix the mission submission form.
- Determine a solution to archive/migrate vBulletin content to WordPress.

I have completed a thorough review of patriotguard.org and all of its assets, including: The theme, plugins, user roles, user extensions, rate of growth in terms of form, content and comment submission. As well I reviewed the vBulletin 4 installation, large swaths of its content, and the database schema. Upon completion I have come up with a range of solutions that should cover your requirements while not prohibiting future advancements of the patriotguard.org.

I look forward to discussing this with you further, thank you for your time and consideration.

Sincerely,

Marc Gratch
WordPress Consultant

Scope of Audit

Local & Staging Deployment Options

One of the biggest issues you are likely facing with setting up and managing local and staging is development is the sheer size of the database. There are number of options to manage this.

- You should have offsite regular database backups occurring. An amazon instance is fairly inexpensive, then a server-side script could trigger automated backups to amazon.
- Database exports can be configured to chunk the sql output into multiple small files. This combined with a script can make migrating the database much more manageable and less prone to timeouts during the import process.
- Local and Staging databases don't typically need a significant amount of user data for testing purposes. Truncating users to a small number or using a WordPress command line interface package such as "WP Hammer" can greatly reduce the size of the database making importing significantly easier.
- Pantheon, a managed WordPress host, would be a good fit for patriotguard.org. Pantheon provides a development, testing and live server. This means you can alter the dev server all you like and then with a few clicks restore it to any backup or overwrite it with testing or live data. Pantheon also includes advanced caching, deployment and monitoring tools, all of which I highly recommend. With all this great power does have what non-developers might consider a drawback, a very rigid deployment process. This means you cannot update plugins on the live site. You must update on development, deploy to testing, and then deploy live. This ensures that a regular update and deployment process is maintained, therefore you are unlikely to accidentally break your live application.

PHP Development & Codebase QA Check

Many of the plugins that make up your codebase seem like logical choices given the requirements you are fulfilling. The oldest plugin is just over a year old, therefore they are all up-to-date and show no sign of abandonment. I setup a local copy of the site with error logging turned on and set a "spider" to crawl every page of your application, this way I could determine if there were unseen errors affecting performance. The logged remained clear throughout the test. With that said I would propose the following:

- Install New Relic Performance Monitor and track application usage for at least two weeks. This will give us the opportunity to determine specifically which plugins have the most impact on load time.
- A one on one sessions where we review each plugin and the reason for its use will allow us to determine if there is unnecessary redundancy.

- With written direction I can determine which type-o in the custom Caldera plugin is the cause for the current bug. Optionally we can also investigate replacing Caldera with Gravity Forms.

vBulletin Archive/Migration Options

After a thorough review of the vBulletin installation, database write-time testing, and evaluating the content including an ad hoc analysis of approximately a dozen "event" threads from each forum, I have identified a few migration paths.

- Migrate vBulletin events to Events Calendar Pro
- Migrate vBulletin non-events to bbPress
- Migrate all vBulletin forums, threads and posts to bbPress
- Migrate vBulletin non-events to static HTML
- Migrate all vBulletin forums, threads and posts to static HTML

Due to the size of the database despite different coding requirements associated with each migration path, a bulk of the time allotted is devoted to processing and "baby-sitting" the migration process to promptly repair/restart it if/when it fails. The majority focus of the audit was spent determining migrations and a few useful data points found were:

- Upcoming: 403 threads, 3,766 posts
- Completed: 16,150 threads, 257,200 posts
- 2016 missions: 11,654 threads, 221,362 posts
- 2006-2015 missions: 62,049 threads, 1,328,543 posts
- Migration would end up as 90,256 total "events"; 1,810,871 total "event comments"
- Total Forum Count: 516
- Total Posts Count: 2,519,413
- Total Thread Count: 196,971

MIGRATING FROM VBULLETIN TO EVENTS CALENDAR PRO

Migrating from vBulletin Events to Events Calendar Pro would be the most "semantic" and "portable" option. i.e. Data that was treated as events in the past will now conform to Event Schema and match new events being created. Because of the uniformed event data, it would be significantly easier in the future to migrate your data into a new system if at some point WordPress no longer fits your needs. Migrated event data will retain their original dates and appear accordingly: Newest to oldest. They can also have an archive tag to reduce confusion, if that is a concern.

- Subforums will become categories.
- Threads will become posts i.e. events.
- If a prefix is an obvious reiteration of the subforum name it will be ignored. Otherwise it will be interpreted as a tag.
- Each subforum will need to be processed separately to ensure proper migration.
- If a title doesn't include a date check the comments, the same applies for other information that will fill out events calendar pro's metadata.
- Threads that cannot be determined by the automatic migration process should be logged for manual review.

MIGRATING VBULLETIN TO BBPRESS

Migrating all of the forums, threads, and posts to bbPress would be a substantial undertaking. Further complicating matters is that you have already imported the users from vBulletin to WordPress, this means that if we want to WordPress users linked to the bbPress posts we will need to check match up users against the existing database during migration. There is a vBulletin 4 to bbPress importer plugin though it is difficult how effective it would be migrating millions of rows in its current form. Though the existing import code would likely serve as a good starting pointing to complete the migration via command line, significantly reducing the likelihood of a timeout or an "out of memory" issue.

MIGRATING VBULLETIN TO STATIC HTML

Converting the vBulletin forum to static HTML files would be the most efficient option moving forward, with that said, it is also by default the most feature deficient and least portable. The use of bbPress or even Event Calendar Pro despite their feature rich capabilities would undoubtedly increase demand on your WordPress installation. Whereas static HTML would fulfill the requirements of archiving the vBulletin data, while allowing access and linking to it. By converting it to static HTML would also eliminate the need for updates and essentially any management at all without increasing the load on your server. The drawbacks are that it wouldn't include any features most importantly it wouldn't have search available. Furthermore if you wanted to convert the forum into yet a different system down the road it would be easiest to refer back to the vBulletin database backup, as extracting data from HTML is a complicated, time consuming task.

Additional Recommendations

Elasticsearch

Elasticsearch is a full-text search server that differs from traditional SQL database servers. It is very efficient at serving up weighted text data. WordPress was originally built with blogging in mind. Given the ubiquitous nature of WordPress, its mature APIs, and thriving ecosystem it isn't hard to believe that its application has far extended beyond blogging. Much of the most pertinent data used to power WordPress can be served up via an elasticsearch service further reducing strain on your application. ElasticPress is a plugin that will sync your WordPress data with an elasticsearch server allowing your application to leverage elasticsearch to serve up posts, events, and other content types.

Multisite

In order to minimize impact on patriotguard.org: Should we migrate all or a portion of the vBulletin data to bbPress, patriotguard.org should be converted to a multisite WordPress installation. By including bbPress on a separate site from the primary site we will reduce the likelihood that a visitor to the primary site will have to incur additional page load times simply due to the existence of bbPress. This will allow users to move freely from bbPress to the primary site without requiring a separate user table.

Timeframe

To complete the work outlined in the project scope, it'll approximately 12 weeks from beginning to end, depending on when feedback is received at each milestone.

Phase	Week
Additional Research & Onboarding Time	1-2
Migration Scripting	3-5
Review of Test Data Output	4-5
Concurrent Migrations & Debugging	6-7
Code Base QA Review	8-9
Migration QA Testing and Review	10-11
Deployment to live site	12

Your Investment

Below is the budget estimated based on the scope of the audit outlined earlier in this proposal. If you have any questions about pricing or need to increase or decrease the scope of work, please let me know.

MIGRATION PATHS

Description	Price
Kick-off, Research, Onboarding	\$1,500
Develop/write up a staging and deployment process, independent of hosting.	
Install New Relic and test for 2 weeks to determine code base "bottle necks." I will also review and fix the current bug associated with mission submission.	
<input type="checkbox"/> Coding: Migrate vBulletin Events to Events Calendar Pro	\$3,800
Migration script work (vb threads = events; vb posts = comments; detect date from thread/post dates if not in thread title; tagging; categorizing)	
<input type="checkbox"/> Coding: Migrate vBulletin to bbPress	\$4,500
Converting bbPress/vBulletin importer to wp-cli package and adding a user check.	
<input type="checkbox"/> Coding: Migrate vBulletin to static HTML	\$3,200
"Slurp" the entire vBulletin site, strip away unnecessary HTML elements and store each page in html, css, and minimal JS if any.	
<input type="checkbox"/> Migration & Support - All Forums, Threads, and Posts	\$10,000
time spent running/adjusting the migration script, because there are ALWAYS unforeseeable issues.	
<input type="checkbox"/> Migration & Support - Events Only	\$8,000
time spent running/adjusting the migration script, because there are ALWAYS unforeseeable issues.	
<input type="checkbox"/> Migration & Support - Non-Events	\$4,000
time spent running/adjusting the migration script, because there are ALWAYS unforeseeable issues.	
Total	\$1,500