



4A's Phase 1: CMS Evaluation and Technology Audit

July 22, 2014

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Table of Contents:

Section	Page
Key	3
Engagement Background	4
Engagement Goal	4
Summary of Work	4
Summary of Deliverables	4
Shifts in scope	5
Executive Summary	7
Detailed Findings and Recommendations	8
Review of Current State	8
Association Management Software – netFORUM	12
AMS Evaluation and Recommendation	20
Microsoft SharePoint	22
Current 4A’s Website	23
Comments & Reviews on 4A’s site	27
4A’s Divisions	28
Future State	33
Related Projects and Efforts	38
CMS Evaluations and Recommendation	41
SharePoint Evaluation	42
Drupal Evaluation	45
WordPress Evaluation	46
Recommendation to focus on a Comparison of WordPress and Drupal	48
Integration Approach with netFORUM and Recommendation	51
Conclusions and Recommendation	60
Roadmap and Needs	63
Head-to-Head Comparison of WordPress and Drupal	64
Risks and Costs	67
CMS Final Recommendation: WordPress	69
Future Roadmap	69
APPENDIX 1: Catalog of all documents reviewed	73
APPENDIX 2: Catalog of all 4A’s Interviews	74
APPENDIX 3: Catalog of Research Resources	75
APPENDIX 4: Hosting Costs	77



Key

The following conventions are used throughout the report:

Major Section Heading

Sub-Section Heading

Item Heading

IMPORTANT NOTES and key action points.

emedia conclusions and/or recommendations.

In addition, for readability purposes, page breaks are introduced as appropriate.

Engagement Background

In late March of 2014 emedia llc was engaged by the American Association of Advertising Agencies (“4A’s”) to perform a Content Management System (“CMS”) and Technology Audit. In summary, the engagement was broken down as follows:

Engagement Goal

A recommendation of the going-forward CMS Strategy for the 4A’s.

Summary of Work

- Thorough evaluation of the Current State, including existing technology platforms, work processes, content, cost, and human factors.
- Understanding of goals and desired Future State.
- Identification of CMS candidates.
- Research of possible AMS replacement.
- Recommendation of CMS.
- Production of deliverables and artifacts related to all works streams.

Summary of Deliverables

- All interview and investigation activities at the 4A’s.
- All external interview and investigation activities.
- Presentation of Top 3-5 candidates to the 4A’S.
- Final CMS recommendation.
- Transition/collaboration with selected agency partner.

Shifts in scope

Two shifts in the scope of the CMS Evaluation and Technology Audit have occurred since the inception of this project. They are as follows:

1. A decision to focus on netFORUM as the continued back-end solution for the 4A's instead of pursuing an evaluation of Salesforce as a replacement.
2. A decision to limit CMS consideration to three systems, SharePoint, Drupal, and WordPress, instead of "three to five" candidates as stated in the initial SOW.

More specifically:

1. Focus on netFORUM

In initial discussions with the 4A's, questions regarding netFORUM included

- Is netFORUM appropriate for the 4A's going forward needs?
- Would a product like Salesforce be a better solution for the 4A's?
- Is netFORUM an undue limiting factor or outright barrier to future progress on the CMS project?
- Is it useful, as part of this project, to look for a replacement for netFORUM?

After we completed our discovery on netFORUM, it is our recommendation that the 4A's not consider a move away from netFORUM at this time.

We discuss the reasons in depth below, in the section of this report dedicated to netFORUM.

2. CMS Choice Among Three Possibilities

At the inception of this project, three CMS candidates quickly emerged, SharePoint, Drupal, and WordPress.

Midway through the project, the team discussed the possible exploration of other candidates. This idea was tabled for the following reasons:

- As future-state needs were set forth, it became clear that top priorities for the 4A's new CMS tool emphasize modern content-publishing requirements. Drupal and WordPress are the clear leaders in this space with a large gap between them and other candidates.
- The choice between Drupal and WordPress, therefore, surfaced as a key goal of the Evaluation, requiring a deep dive on the differences and pros-and-cons between these two platforms.
- A very careful evaluation into netFORUM integration issues emerged in parallel as a critical need, not originally anticipated in the depth that was in fact undertaken.

Given our experience and market understanding as well as the 4A's position in the marketplace, we are confident that the likelihood another CMS candidate might emerge as appropriate for the 4A's is virtually nil. (Large enterprise CMS fall off consideration on their multi-million dollar cost alone, and "fringe" candidates introduce unacceptable risk.)

We further believe that substantially more value was obtained by spending intensive time on the WordPress vs. Drupal consideration and on netFORUM integration issues.

As will become evident from the report that follows, this in-depth investigation yielded actionable plans and further refined the recommended architecture.

Executive Summary

In work that spanned over three months, and following comprehensive interviews, document reviews, vendor assessments, and industry-specific research (see: APPENDIX 1,2, 3 and 4) we have concluded that:

It is our recommendation that the 4A's will best be served by using **WordPress** as the CMS platform.

It is our further recommendation that SharePoint be left in-place (and upgraded and/or expanded as appropriate) to accommodate in-house document management collaboration and workflow control.

Finally, our recommendation is that WordPress and netFORUM be integrated to the largest extent possible through the use of API's, as determined through pilot projects and performance benchmarks.

This resulting architecture provides the best solution possible: A flexible, extensible, best-of-breed content management system, a robust enterprise content repository, and an industry-standard customer relationship system, all in a well-supported vendor ecosystem. These systems will need to be integrated through the use of API's that can be maintained and follow the evolutionary arc of each platform.

Detailed Findings and Recommendations

Our findings and recommendations are presented in sections, starting with review of the current state, a system-by-system analysis, specific findings per system, and specific recommendations.

Review of Current State

A thorough review of the 4A's current state was conducted.

Since the future CMS will not exist in isolation, this review touched on all systems including the main enterprise platforms: SharePoint and netFORUM as well as other technologies such as:

- Squarespace,
- Drupal,
- Basecamp,
- InMagic,
- askSam (research product),
- RealMagnet,
- ExpoLogic

And the 4A's custom applications:

- Agency Search

And:

- MAIP Internship Application

1. Technology Map

On the following page is a logical map of the current-state 4A's technology. It is "logical" rather than "architectural" meaning it is not meant to capture each specific data flow, but rather to provide a high-level look at the technologies currently in use and how they interrelate.

User Types: The diagram above uses green, blue, orange and red to designate the principle levels of access on the 4A's site.

- Green indicates unrestricted access. Examples of this include the homepage, Events pages, and Agency Search.
- Non-member-agency users who want to buy a book or attend an event must register with the 4A's, (as one might be required to set up a "guest" registration on an ecommerce site to check out). This minimal-registration access is designated blue.
- Primary site access is granted to member agency personnel. This is designated orange.
- Certain individuals within member agencies are allowed more privileged access enabling them update billings and edit the staff roster. Red is used for this level of access.

2. Salient Points of the 4A's Technology Map

The public-facing website at the 4A's runs on SharePoint 2007, which serves as a CMS tool. There are other ancillary public-facing websites, such as event and blog sites that run on a mix of technologies including WordPress, Drupal, and Squarespace.

The majority of site content is available only to employees of 4A's member agencies.

Most CRM and ERP-related functions at the 4A's are contained in the association management software "netFORUM," which has numerous modules. The netFORUM's CMS tool, called "eWeb," produces many public-facing web pages, such as forms to manage one's profile, all registration activities, and the bookstore. eWeb is connected to the SharePoint site through an "over the wall" integration.

The main API integration (via netFORUM's technology called xWeb) is in the authorization and authentication process of the public-facing SharePoint site. A custom integration technology allows the user to log in and view content appropriate to his or her identity to the 4A's (data contained in netFORUM).

Other integrations with netFORUM are limited to third-party products such as ExpoLogic, Webinar software, and RealMagnet (in progress), which integrate with netFORUM.

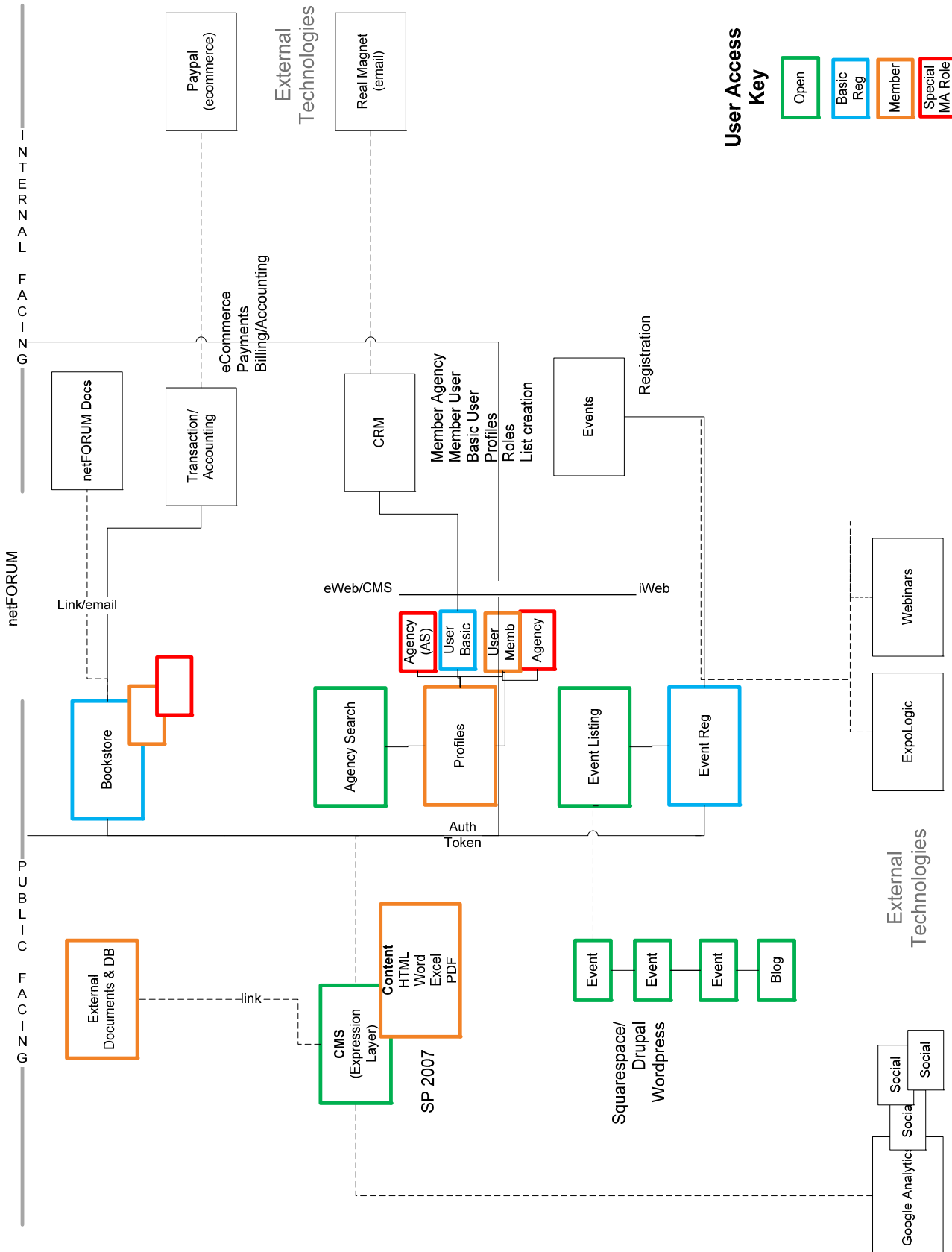


Figure 1. Technology Map

Association Management Software (“AMS”) – netFORUM

netFORUM is an association-management software built on Microsoft’s .NET technology. The 4A’s consumes netFORUM as software-as-a-service (SaaS), hosted at Avectra, the company that produces and sells netFORUM. Avectra was recently acquired by Abila. Like many CRM and ERP tools, including Salesforce, the implementation of the tool involves a degree of customization. The 4A’s instance of netFORUM is moderate-to-highly customized. An upgrade was recently (and painfully) completed.

1. netFORUM Components

netFORUM is has three main components: iWeb, eWeb, and xWeb:

- iWeb comprises the internally facing functions of netFORUM. These are the pieces of netFORUM limited to 4A’s personnel, and sometimes only used by IT staff. iWeb areas include accounting, CRM, reporting, and internal events-management components.
- eWeb is netFORUM’s CMS tool. It allows pages to be created and exposed in a public-facing way that directly communicate with netFORUM’s backend (iWeb). An example of eWeb in action is an Event registration page, Profile-update page or Bookstore transaction.
- xWeb is the netFORUM API technology that allows external systems or websites to “talk to” netFORUM and bypass eWeb.

2. netFORUM Database

netFORUM is built on Microsoft’s NET technologies and is running on Microsoft’s SQL Server. SQL Server, the relational database implementation from Microsoft and ORACLE’s major competitor, is considered a state-of-the-art system, robust, scalable, accessible, and high-performing.

The database itself is not exposed to the user, but netFORUM has API’s that allow for direct database queries and bi-directional updating.

The following diagram focuses specifically on netFORUM:

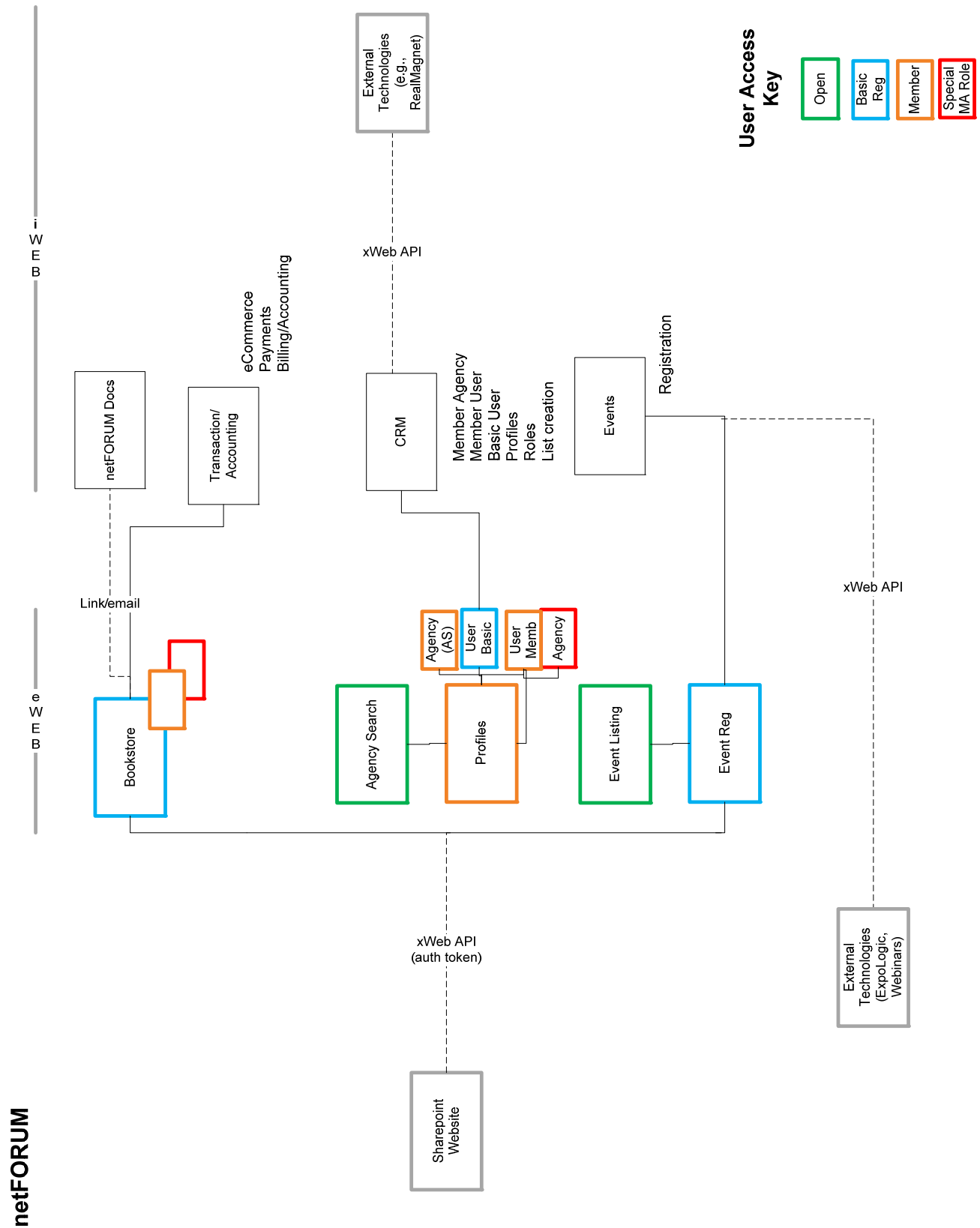


Figure 2. netFORUM

3. Modules

The modules contained in netFORUM are displayed in the following graphic. Other netFORUM modules exist, but are not in use by the 4A's.

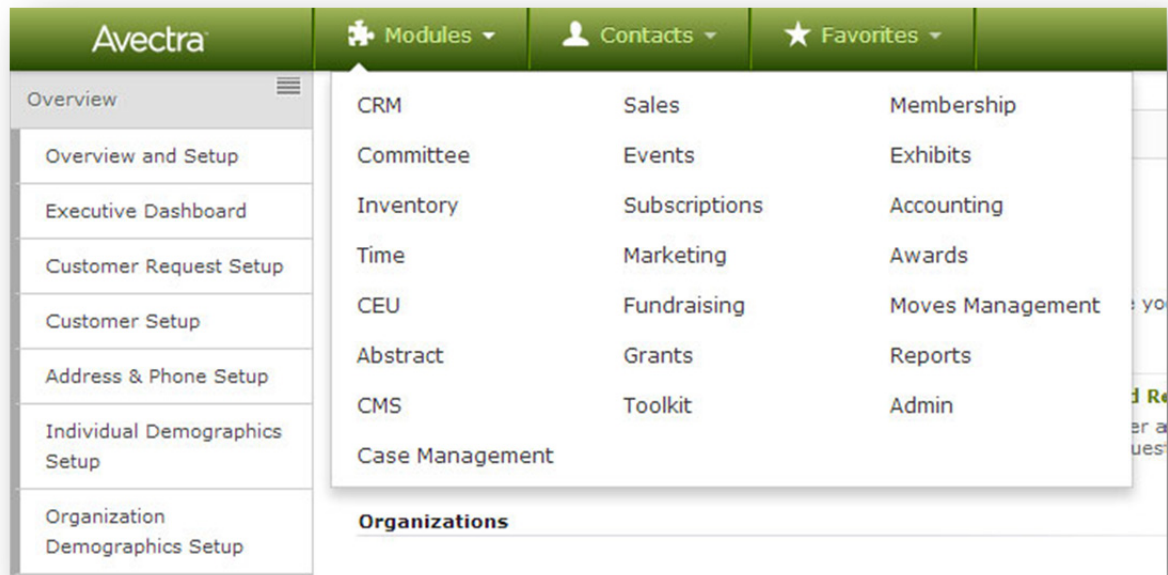


Figure 3. netFORUM Modules

Of particular interest to this analysis are:

i. Business (Back Office) Modules

- CRM (customer relationship management, e.g. all customer data and roles)
- Accounts Receivable
- Event tracking and management
- Transactions/charging
- Reporting and custom reporting
- Email list generation and sending

Note: A separate accounting solution, Solomon, is in use for those accounting functions that netFORUM does not handle, such as Accounts

Payable. There is no direct integration with Solomon. Data transfers and synchronization (when needed) occur via manual steps.

ii. Website-Related Modules

Through the eWeb CMS technology, netFORUM handles all pages on the website that require data from netFORUM, transactions with netFORUM, or updating of data in netFORUM. Such pages include

- Listing of events
- Bookstore purchases
- Registering for an event
- Profile updating

4. Customizations

netFORUM has been customized for use by the 4A's, as would be the case in most CRM- and ERP-type systems. For example, the collection of customer data at the 4A's is done in a very specific way (a member agency and its entities). The 4A's instance of netFORUM is set up to handle most of the 4A's-established business rules. However some (e.g. Differing customer preferences regarding ways of billing holding companies and their owned agencies) still require human intervention.

Customization of netFORUM has been undertaken by external vendors such as Old Town IT. Further internal programming and customization happens on an ongoing basis.

Agency Search and the MAIP Internship Application are major "free-standing" netFORUM customized applications. Agency Search was built in netFORUM by a vendor partner. The MAIP Internship Application was built by ExpoLogic, maker of event software.

The 4A's instance of netFORUM used to be hosted internally, but is now hosted at AVECtra and consumed as a SaaS. 4A's personnel report a marked improvement in speed since the hosting change was made.

5. Risks of netFORUM dependency

Avecetra, the company that makes netFORUM, was recently purchased by Abila. A change of ownership can disrupt the operations of any company and, in a software company, can have an impact on the end product.

Anecdotal reports suggest that many programmers left Avecetra and there was a “brain drain.” However, some left to form service companies whose clients now include the 4A’s.

6. Risks of netFORUM limited resources

Currently the 4A’s has one principle netFORUM resource, William Keenan, who has an enormous netFORUM to-do list, including items that touch public-facing website pages and other tasks such as reporting for internal users and fixes related to finances and accounting. Since netFORUM is not a mass-market application, it can be assumed that netFORUM specialized programmers are not plentiful.

The limitation of resources also leads to poor documentation, which is the case at the 4A’s.

7. Future Roadmap

The usefulness of netFORUM to the 4A’s is dependent on its ability to continually release features and functions that align with 4A’s needs. To the extent that the 4A’s needs overlap with the majority of the netFORUM customer base, there is likelihood that those needs will be addressed.

A risk exists that 4A’s objectives will not be high priorities for netFORUM. Such has been the case with the roadmap of eWeb.

One of the possible technology approaches, API integration, adds the flexibility to “unplug” netFORUM should that be desired in the future. For this reason, it is our recommendation to use API to the maximum extent practical.

8. netFORUM Reviews and Comments

In the course of this report’s preparation, numerous 4A’s personnel and external people were interviewed. Many of those interviews touched on netFORUM. The following is a collection of *comments* giving qualitative information regarding netFORUM.

i. 4A’s Internal Comments

- *netFORUM events posting is not user-friendly. In some browsers the pages look fine and others not.*
- *I have to do a lot of explaining. If the agency name isn’t exactly right, they can’t register.*
- *It is hard to keep the data current. An outreach program is needed to make sure the data is updated.*
- *Putting a large conference on the site and setting up confirmation emails is a mess. It takes too much time to put up events pages.*
- *You can always tell when you are going from our site to a netFORUM event-registration page. It is a priority to have the sites and registration with a consistent look and feel.*
- *The steps from getting to the site to registering to paying money can’t be such a hassle.*
- *If you are coming from one of the non-SharePoint events sites, there can be “a lot of back and forth” in the registration process. You go to the Event site, when you hit register, you go back to the 4A’s to create a “login only” account in NetForum. Then you pay for your seat in NetForum. All of this is separate from the event site.*
- *Many 4A’s staff are “clueless” in navigating NF.*
- *There is no traffic tracking mechanism within netFORUM.*

- *When a new agency joins 4A they're encouraged to update their profile. Once they're past that window, everything falls apart.*
- *netFORUM is not best of breed at anything, but it's good that all the data is in the same database.*
- *It's completely customizable. You can reprogram interface, processes and procedures. We can add to the forms, etc. and maintain upgrade path.*
- *It's designed by geeks for geeks; it's very programmer-ish.*
- *It's logical but not user friendly.*
- *A lot of forms are pre-built. A new events form takes 1 hour.*
- *You can't build site maps. There is no built-in search or taxonomy. The user interface is cryptic and kludgy. It's a difficult-to-use system but the benefit is that it's easy to create manipulations of data.*
- *In eWeb, the entire database is available as eWeb content. One call can push data out as a table.*
- *There are exceptional benefits but it's close to useless as a CMS. The interface is terrible, but it has powerful programming tools.*
- *The report load of requests is heavy. Many times the request is too complicated for the end user to answer by themselves.*
- *In buying a book, the user receives a link for download. This can be forwarded.*

ii. External Comments

- *We do similar projects as yours. eWeb is clumsy/clunky.*
- *The challenge with the AMS is that eWeb is not up to current standards. You can't make adaptive, responsive sites.*

Intersection with CMS project & Key Choice

netFORUM plays a key role in the CMS project, and it is addressed throughout this report. For example:

- netFORUM holds all data on members and their roles and is therefore the system of record through which website authorization and authentication must occur.

- Through eWeb, netFORUM currently hosts all transactional website pages as well as many pages that contain data directly out of netFORUM such as member lists.

KEY CHOICE:

There are two main conceptual approaches to the transformation of these website pages in the 4A's website redevelopment project:

- Redevelop all pages in eWeb according to the new business strategies, UI, information architecture, taxonomies, that will unfold as part of the 4A's website redevelopment project.

OR

- Develop new web pages in the chosen CMS and interact with netFORUM using the xWeb API.

These options are expanded further, as appropriate, in the sections that follow.

AMS Evaluation and Recommendation

The material above clearly reveals that there is not unadulterated satisfaction with netFORUM as a product.

With the risks and dissatisfaction noted, one might wonder about our stated recommendation to stay with netFORUM.

Nevertheless, as summarized in the introductory part of this report, it is our strong recommendation that the 4A's remain with netFORUM as its back business-management solution at this time for the following reasons:

1. netFORUM is an appropriate association management software, handling many specialized association functions. In the association space, netFORUM is a leader. No alternate solution immediately presents itself as a replacement that would be significantly better.
2. There is anecdotal data that netFORUM may even be gaining strength in its vertical. The American Geophysical Union, which went through an extensive and recent review of association management software solutions, reports that netFORUM was the clear choice.
3. Our extensive exposure to backend ERP- and CRM-type systems suggests that most, if not all, companies' experiences involve frustrations and compromises. This extends to products including Oracle, SAP, Microsoft Dynamics, and Salesforce. In fact, in our experience, the 4A's situation is probably marginally more positive than many others'.
4. A leading alternate candidate initially proposed for review, Salesforce, requires similar custom development. As an executive in the Salesforce for Nonprofit division has said, "Salesforce is 'free' the way a puppy is 'free.'" Huge amounts of 4A's business knowledge and processes are "locked up" in netFORUM through customized programming and would need to be re-invented in Salesforce or any other system.
5. Such a move would be very costly and time consuming.

6. A full front-to-back-end technologies overhaul (e.g. Replacing both SharePoint as a CMS and netFORUM as an ERP) introduces an enormous amount of risk into this project. Such a strategy is only to be considered when there is an overriding reason (e.g. Software platform is soon to be unsupported).
7. Many of the negative comments expressed above would be addressed with an API-integration approach to the website development. (e.g. to eliminate bifurcated event-registration experience)
8. Exploration of the netFORUM API suggests that it is robust, and research indicates the netFORUM product-development roadmap will provide developers with increasing integration possibilities. Therefore, netFORUM technology should not prove to be an undue limiting factor on the CMS implementation.
9. Technology moves fast. It is likely that in two years more options and solutions will be available to the 4A's, whether in netFORUM or in other product development possibilities.

For all of these reasons, the exploration of – for example – Salesforce as a replacement for netFORUM was not undertaken and we strongly recommend staying with netFORUM at this time.

The phrase *at this time* is key. It is not wise to change the 4A's backend business and accounting systems *now*. However, some of the negative comments regarding netFORUM taken with the risks suggest a continued state of watching and evaluating.

Microsoft SharePoint

SharePoint 2007 serves as the 4A's document management system and Content Management System (DM & CMS). It is an out-of-the box instance, with minimal customizations, for example there is no custom editorial interface. While some workflows and more advanced leveraging of SharePoint features were implemented, they are currently not in use. 4A's personnel report that business requirements were missed and in some cases over-estimated in these workflow features.

As the instance stands now, all content editors have the same view. Two master SharePoint pages exist, with 24 available layouts. Functionality issues include the difficulty of getting a global view of the content repository in SharePoint. Viewing 4A's content is done via a section-by-section click path.

At this point, a limited set of 4A's personnel touch SharePoint (reported as approximately 7 or 8 people), but as comfort with the tool has grown combined with good training its use has increased.

1. Internal Opinions

Views on SharePoint at the 4A's is that it is a limited tool. This, of course, is due in large part to its current implementation. 4A's personnel also are aware that SharePoint is a more "enterprise-y" type content management tool.

The views on SharePoint are further revealed by the number of external sites attempted using Squarespace, Drupal, and WordPress.

Current 4A's Website

As noted in Content Audit recently completed by Marci Weisler, *“The current website has much rich information but it is neither findable nor searchable and lots of hidden gems.”*

Features and Functions of the site:

1. Non-logged-in users

Users with no credentials can see top-level pages at the 4A's site including main Event description pages and lists of content. A set of free content is available to non-logged-in users.

Agency Search is available to non-logged-in users.

2. Logged-in non-member users

Users create a basic (non-member-agency) account at the 4A's for two purposes:

1. To engage in any transaction including Event registration and Bookstore purchases.
2. To avail themselves of the “my notebook” feature. The My Notebook feature, however, is not well utilized.

3. Members

At a high level, the website provides approximately 750 member agencies and their personnel access to information that will help them run their businesses. Information is available as webpages, images and infographics, PDFs, Excel documents and Word Documents. Topics covered include compensation, talent acquisition management and development.

Individuals belonging to member agencies are identified through their email addresses.

4. Site Features and Content

Content (a full explication of available content is contained in the Content Audit document).

- Event information
- Event registration
- Registration for Webinars, Training and Seminars (both virtual and in person)
- Email newsletter registration
- Access to third-party databases
- Access (links) to third-party research documents
- Videos
- Agency Search
- Bookstore
- Blog
- Social media integration
- Profile management (at different levels)
- My Notebook

5. Ancillary Sites

Additional or “ancillary” 4A’s sites exist. In many cases, they have been created as ancillary sites simply to gain access to the flexible and user-friendly features of other CMS tools such as Drupal, WordPress or Squarespace.

Recently, an effort has been made to bring such sites under the primary domain (e.g. event.aaa.org rather than www.4A’sEvent.org), primarily to aggregate traffic.

Ancillary Sites include:

- 4A'stransformation.com
- 4A'sstrategyfestival.com
- CreateTech
- Data Summit
- Face of Talent
- Straight A's Blog
- MAIPAlumni Matters
- 4A's Benefits
- Patent Forum
- TruthBrief
- Awards (O'Tooles, Jay Chiat)

6. MAIP

The MAIP Intern-Application site is a custom application developed and run by ExpoLogic because of specific and detailed business requirements around the intern-application and selection process.

7. Audiences

The Content Audit and future site strategy work will further identify site audiences. For the purposes of this report:

- General public (non-logged in)
- Logged in users—basic
- Members
 - Viewed through the lens of “constituencies” and Roles, see Content Audit, plus more detail on Roles below
 - Privileged members (can edit billings and staff roster)
- Potential members
- Press

8. Traffic

The 4A’s site gets approximately 75,000 unique users and 195,000 page views per month.

9. Content Location

The content at the 4A’s exists in various locations, documented below.

Where Content Lives

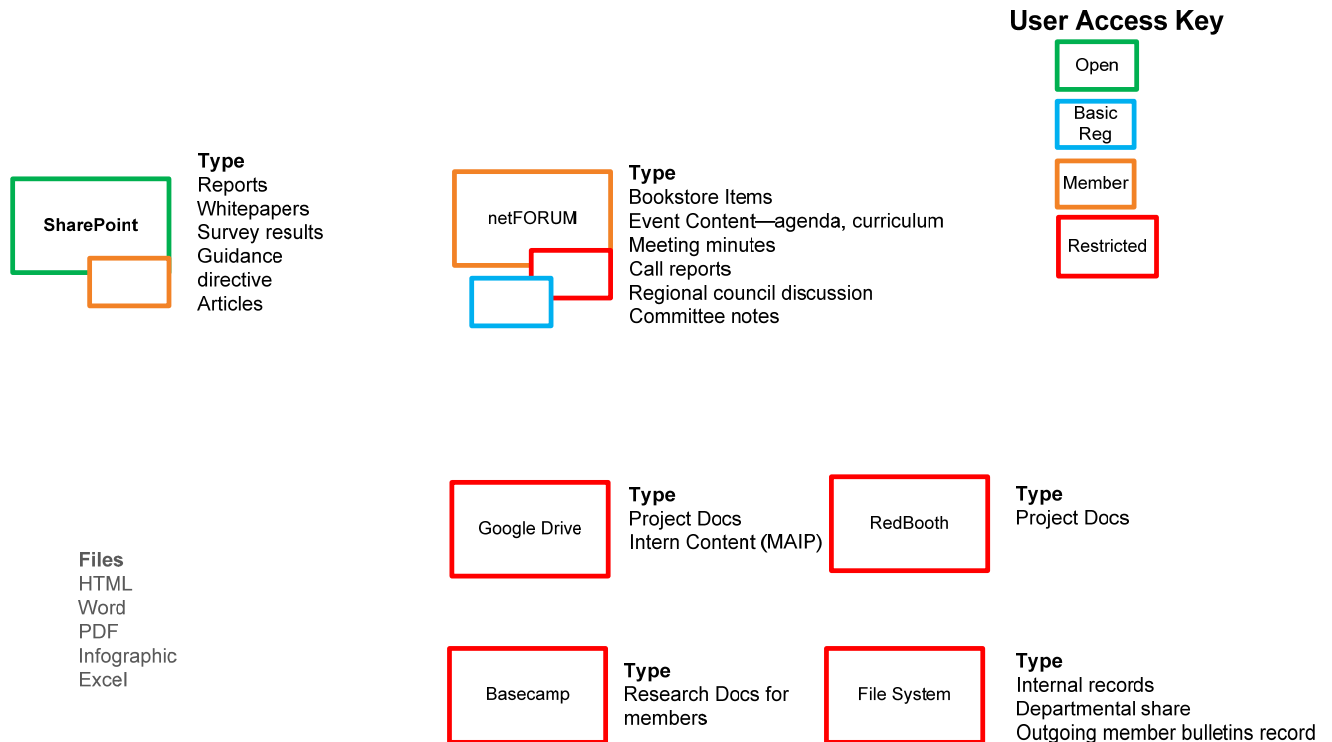


Figure 4. Content Repositories

Comments & Reviews on 4A's site

It is not in the purview of the Content Audit and CMS strategy stage to outline all areas of site improvement and future business requirements. However, this report collected the following observations about the current site from 4A's personnel for the purpose of aligning needs with CMS tool recommendation:

- *Content is not findable or searchable. People don't know where to go.*
- *We have to do GoToMeeting sessions to show members where content is. We know where it is and sometimes we can't find it.*
- *Content that is surfaced has file names that seem to indicate it is old.*
- *Lost and missing links to content, e.g. Video.*
- *There is no process to archive old content.*
- *The process of creating and sending email is inordinately time consuming and involves big bottlenecks.*
- *You can't unsubscribe from a single newsletter. There is only the "nuclear option" of full unsubscribe.*
- *The site should be a primary information resource. Now it is so bad, people won't come again.*
- *There is no sophisticated taxonomy or tagging system.*
- *The mobile experience is sub-optimal.*
- *There is replication and duplication.*
- *Visual breaks reflect the quality of Event content and may depress sales.*
- *All the events look different.*
- *Bookstore and other netFORUM information cannot be found in search.*
- *Our site is as good or better as many in the association vertical.*
- *Agency search has been a primary traffic driver.*

The lion's share of 4A's comments focused on bad navigation and the lack of findability and searchability of content.

4A's Divisions

Many of the comments collected in interviews have been documented above. However, division-specific comments are noted below.

1. Membership and Agency Relations

This 4A's division is responsible for cultivating the current membership and making sure member agencies are receiving continued value from the 4A's. With regard to the website redesign and CMS evaluation topic, the following *comments* were collected:

- *Member agencies need to know where this information is in order to be able to "crack the value" of 4A's membership fees*

- *Connectivity with members is about making sure they know what we offer.*

- *We produce business information to solve business problems.*

- *They pay for business resources.*

- *When we call on agencies, we hear the same themes. These need to be key on the website:*
 - *Business development*
 - *Compensation*
 - *Talent development*

2. Research

The 4A's Research division provides propriety research for member agencies from secondary sources. With regard to the website redesign and CMS evaluation topic, the following *comments* were collected:

- *It's important not to lose sight of the fact that we are substance. We serve agencies but we are not an agency.*
- *What we [Research] do is proprietary and may not be able to be repurposed.*
- *We provide members with Basecamp as a tool to log in and see their research.*

Key Observations with regard to the Research division:

1. *Research's expertise in library sciences makes them an ideal resource as subject matter experts (SMEs) in future taxonomy efforts. They know what questions members ask as well as how they phrase them.*
2. *The use of third party systems (e.g. Basecamp) to serve members should be included in considerations of the 4A's technology roadmap. It would be useful to evaluate the replacement of Basecamp in current or future website development scope so that members can access their custom research in one place using 4A's login.*

3. Management Services

The 4A's Management Services division creates original research for member agencies and also identifies secondary research for member agency use. With regard to the website redesign and CMS evaluation topic, the following *comments* were collected:

- *Agency search has been a primary traffic driver in the past. But it can't be quantified and it's not optimized.*
- *Keeping member info up-to-date is the challenge and it's a chicken and egg thing - "You can't provide data about who visits my site so why should I update my profile?"*

- *An expiration or review date on material would be a benefit.*

4. Diversity

The Diversity group now also contains the training group. The Diversity group cultivates talent among diverse communities with a specific focus on young talent.

The training group recently placed under diversity sponsors a number of training activities including in-person institutes and online learning opportunities.

- *The MAIP application in ExpoLogic is necessary to handle the requirements of the internship application and selection process.*
 - *The MAIP application will be unaffected by the website redesign and CMS choice.*
- *Every year a Google site is created to host content that only interns can see. It would be great if this could be handled on the website because the one-off yearly Google site creation is complicated and time-consuming. There are also errors and management issues with the Google platform.*
- *A MAIP alumni site connected to the netFORUM back end would be a valuable tool to list and track MAIP alums through their careers.*
- *Agencies who are sponsors of MAIP should see the benefits of their sponsorship evident on the site.*
- *Similarly, students who receive scholarships through the MAIP foundation should have tools to connect with other scholarship students.*
- *Many more modern tools to facilitate training should be available.*
- *Training is an event-setup-intensive division. It would be well served by improvements in event setup and a better user experience on events.*

IMPORTANT NOTE: The Diversity group is digitally savvy and has taken the lead in alternate technology sites to serve its audience, who are generally young, also very digitally savvy and looking for content to be engaging and delivered in state-of-the-art ways

5. Accounting

The accounting department is responsible for all financial operations within the 4A's organization. The two main systems in use are netFORUM and Microsoft's Solomon.

As discussed, netFORUM is used only for accounts receivable, while Solomon is used for all other accounting purposes. As a result, a manual import and subsequent reconciliation takes place between systems on a regular basis.

Most of the issues reported by the accounting department center around reporting and information flow. For example, the inability of the users to use reporting tools had at one point the department producing 60 reports. Thankfully, this number is now down to 11, but indicative of the disconnect between the capability of the tools and the staff's capacity to use them.

Separately, on a technical level, the accounting department has reported several netFORUM support service issues, with tickets taking too long to resolve being the primary cause of frustration.

6. Executive

With regard to the website redesign and CMS evaluation topic, the following comments were collected from 4A's executives:

- *The overall goal of our website is to be the first thing someone thinks about when they have a question. If our members have a question, the 4A's has the answer. We want to be THE resource.*
- *We need a more sophisticated taxonomy and better search.*

- *As a part of new employee onboarding, we want the agency HR person to say, “Here’s a 4A’s app. Whenever you have a question, go here.”*
- *We need to think mobile first.*
- *Publishing content is a big part of where we’re going.*

7. Marketing

As the Marketing division has primary responsibility for setting future-state vision, comments related to this are covered in detail in the section of this report entitled Future State, below.

Future State

It is the work of a further Phase of the CMS project to establish the specific business requirements for Future State. Nevertheless, high-level future-state needs were examined with the Marketing & Communications Division in this Phase for the purpose of aligning high-level needs with technology and CMS recommendations.

In addition, comments and vision were collected from other key 4A's stakeholders covering issues such as data collection, member profiles, staffing picture and technology needs.

Marketing and Publishing Vision

Under Alison Fahey's new leadership as 4A's CMO, a publishing-centric vision of the 4A's site is taking shape. This vision includes the following themes, requirements and goals:

1. General

- The goal is to bring the 4A's to a place where it's viewed as more relevant and more forward-thinking.
- Recent research revealed that we are perceived as stuck in the past.
- One way to become more relevant is through compelling content.
- Ideally content would be refreshed throughout the day. Every day there would be "enterprising" content. Our interviews/sourcing. We would also be THE industry aggregator. A one-stop resource for industry news.
- We need to better highlight our members and their work.
- We need to bolster perception of 4A's as current in trends, news and issues.
- Content needs to be digestible & interactive with fewer long-form PDFs.

- Site content would include things like
 - Ad of the day
 - What's going on in the biz today
 - Where do you need to be
 - Interactive industry calendar
 - Highlighted member of the week. One member said if this happened twice a year it would be worth the price of membership.
- Content partnerships and carving out real estate for our content elsewhere, (e.g. partnership with a publication such as Fast Company.)
- A desire to add ad space to the site. Real ad space, not internal promotion. Also sponsored content.
- Ability to quickly launch pages at an Event or relative to a trending theme.
- Live content tools such as live coverage at an event, live polls and quizzes and live dialogs.
- Simple approval workflow.
- Taxonomy
- Ability to target users based on who they are
 - Provide activity in a user's market and competitive set such as business won based on competitive set by size, scope, vertical, region
 - Local ad club events in my market.
- Content has to be easy to post

2. Blogs

Blogs either need to be updated throughout the day, or dropped. A solution needs to be found for our blog(s).

3. Social Media

Everything needs to be shareable. We also need to be able to show

- Most popular
- Most shared

4. Taxonomy & Tagging

There is an urgent need for better taxonomy and tagging. The CMS needs to support different views through the membership, such as lifecycle.

5. Archives

The Archives need to be addressed. Right now it's just "old content." We need a searchable archive.

6. Voice & Approach

- The content can be more engaging and less dry.
- Establishment of 4A's voice is needed.
- The content needs to be composed and presented in entertaining, inspiring, thought-provoking ways.
- Things like "Listicles" are needed. Lists would include
 - Ad of the week
 - Video of the week
 - Ad of the day
 - Video of the day

Other Future-State Vision in Addition to Marketing

In addition to Marketing and Publishing, several stakeholders articulated insight that needs to be incorporated into the go-forward strategy for selecting the right content management system. These include:

1. Data & Profiles

With an enhanced membership profile (people registering and maintaining their profiles as individuals) the 4A's could have anonymized data no one else would have. Things like movement among agencies, ages, positions. The following ideas and goals have been advanced for 4A's data collection:

- A more robust personal profile that travels independently with the individual.
- Better motivation/reminders to keep data current. As people change roles, it should be worthwhile for them to update their profile. Elements like a record of your research, webinars you have taken or certificates are potential suggestions to address this need.
- An easy and delightful tool that makes it a snap to update one's profile.
- Uses for data such as modeling people who are in the industry and creating content (statistics and reports) based on this data.
- Model people who are in the industry using the data we have on membership.

The 4A's member data is one of its most valuable assets, not only in terms of serving members but also in terms of producing research and even creating a product out of data. Current systems and business processes do not support rich, ongoing collection and updating of data. It is our strong recommendation to include data-collection-enhancement strategies in the website re-launch and to put in place technology tools and architectures that support these strategies.

2. Staffing

The staffing picture at the 4A's is evolving. However, it is a likely direction to maintain a modest and efficient IT staff with website-production resources distributed in other areas of the organization such as Marketing & Communications.

Additional staffing resources, internally or with external vendors, will likely be needed to achieve the 4A's digital vision. For example, there is currently a bottleneck in the netFORUM to-do list. Further, the newly redesigned website will no doubt inspire more feature requests than can be handled by current resources.

3. Technology Vision

The 4A's is seeking flexible and scalable technologies that enable rapid content and feature deployment and are maintainable in the 4A's staffing roadmap. The goal of the technology is to empower users with minimal support from outside programmers. Finally, the technology solution needs to have easy-to access support by experts.

In brief, the 4A's is in the content and information providing business, not the software programming and hosting business.

4. Document Management

It is likely that the 4A's will benefit from a more formal document management process and tools and workflows associated with this. This topic, however, expands into consideration of internal tools and conclusions have not been reached for this Report.

The CMS tool chosen will, of course, have a database of content but will not serve as an enterprise document management tool.

5. Agency Search and Bookstore

Both Agency Search and the Bookstore require further analysis and resulting recommendations and have not been tackled as part of this report.

Related Projects and Efforts

Several additional projects are happening at the 4A's as part of the website redesign. These efforts include:

- Roles project
- Email project
- Taxonomy Project

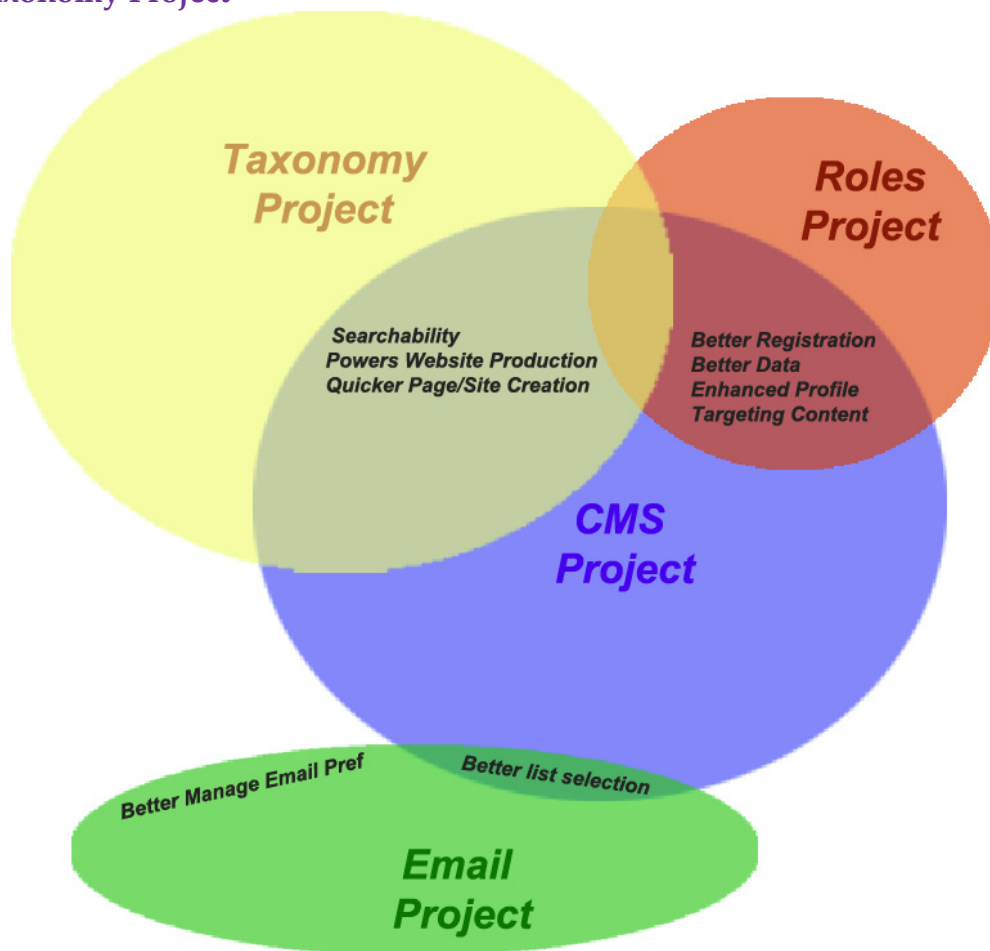


Figure 5: Project Intersections

1. Roles Project

The Roles project is an effort to rationalize the roles categories in netFORUM. Currently, there are over two dozen possible roles that a user can choose when classifying him/herself. This leads to user confusion and is also difficult for the 4A's from a data perspective.

The goal of the Roles project is to drastically reduce the choices to five or six main ones, using lesser terms other terms to designate interests.

The following dimensions are newly proposed as a way of categorizing members to simplify the Roles model

- Title within Agency
- Role within Agency (e.g., Manages Chicago office)
- Role within 4A's (e.g., Billing contact)
- Interest (e.g., a marketing dimension such as creative, digital)

Relation to CMS Project: The simplification and re-structuring of roles will impact the profile-creation and management pages on the website. Intelligent use of data (such as an individual's interests, lifecycle, and role) and the serving of content around that data will motivate the individual to update their data. The Roles project also intersects with the Taxonomy project.

2. Email Project

RealMagnet has been chosen as a new email-sending tool at the 4A's. RealMagnet provides the following advantages over netFORUM as a tool.

- The ability for business users (not IT staff) to manage lists.
- Robust industry-standard reporting such as the ability to track opens/bounces.
- The ability for business users to compose/design emails without the intervention of IT staff.

- Scheduling of emails.

The Real Magnet tool integrates with netFORUM via an API.

- An initial query is created to pull names from netFORUM matching certain criteria.
- A reference to that list exists in RealMagnet and is associated with the query.
- When an email is created, the user can send it to list or lists that exist in RealMagnet.
- The RealMagnet list is refreshed by a cron job that re-runs the query.

Relation to CMS Project: There is minimal intersection of the CMS project with the Email project. Email lists names will exist in preferences relative to the profile pages.

3. Taxonomy Project

As noted above, in the Content Audit, and in dozens of conversations, a fundamental drawback of the 4A's site is that it has lots of rich content that is not findable or searchable.

A robust and flexible taxonomy is required to address this issue and a taxonomy project has been kicked off.

Relation to CMS Project: The creation of taxonomy is fundamental to a CMS implementation. The Taxonomy project also intersects with the Roles project.

CMS Evaluations and Recommendation

Based on the analysis presented, we have identified seven main criteria for CMS selection. They are:

- 1. Rich content publishing features**
- 2. Editor Ease**
- 3. Workflow tools**
- 4. Taxonomy tools**
- 5. Alignment with 4A's staffing picture**
- 6. Ability to integrate with netFORUM**
- 7. Strong hosting and support partners**

Each of the CMS candidates below will be discussed in depth and then mapped against these criteria.

IMPORTANT NOTE: Cost has been a consideration from the beginning of the analysis, and has framed every aspect of the work. For example, and given our experience, any of the big enterprise systems costing several million dollars each were eliminated from consideration outright. Finally, as a criterion, Cost is explicitly shown in the examination of the final two CMS candidates.

SharePoint Evaluation

SharePoint 2013 is a robust platform that extends far beyond a CMS in its capabilities.

An out-of-the box demo version of SharePoint 2013 was evaluated. It includes site templates for

- Collaboration
- Enterprise
- Publishing

While in the 2007, companies needed an external connector license to make sites public, Microsoft has done away with that requirement and its associated cost.

SharePoint 2013 has extensive taxonomy management and a “terms” store as well as tools and workflows to manage taxonomy.

In the area of search, SharePoint benefits greatly from the fact that it leverages Index Server. There is full control of what is searchable by managing these properties. Interesting out-of-the-box search tools exist such as a “date slider” to limit search results by recency.








Version control is strong with three “recycle” bins before content is deleted.

Design tools provide for many out of the box templates. HTML experience is needed to modify master page layouts. Third-party page layouts can be purchased from different sites.

The webpage editor is like working in Word.

SharePoint 2013 also has a robust document management center for managing content types and provides for internal workflows.

SharePoint 2013 4A's Scorecard

Criteria	Score
Rich content publishing features	
Editor ease	
Workflow	
Taxonomy management tools	
Match with 4A's staffing plans	
Tools to integrate with netFORUM	
Strong Hosting & Support Partner	

Comments:

- SharePoint 2013 has rich content publishing features, workflow tools, and taxonomy management tools.
- In comparison with other available CMS systems, SharePoint's editor tools, while a vast improvement over previous versions, do not match the best of breed.
- SharePoint 2013 is an enterprise platform and generally requires some SharePoint-dedicated staff and DBA to successfully manage.
- The SharePoint-to-netFORUM integration was custom developed for SharePoint 2007 and would need to be re-developed. Therefore, SharePoint does not enjoy an integration advantage despite being on the same .NET stack.
- SharePoint may be hosted and access via the Microsoft Cloud offering.

IMPORTANT NOTE 1: The fact that SharePoint runs on a .NET stack has allowed the 4A's to enter into a colocation agreement with AVECtra. Colocation is an enormous advantage in terms of speed when integrating systems. Any move away from .NET technologies will likely eliminate the colocation possibility. That said, most companies are not able to achieve agreements for colocation with third parties like AVECtra and there is no guarantee that AVECtra will continue with this arrangement indefinitely.

IMPORTANT NOTE 2: A comparison of SharePoint with other CMS tools is not an apples-to-apples comparison. SharePoint is an enterprise content management system (ECMS) not a web content management system (WCMS). It contains many features such as enterprise document management and digital asset management.








Therefore, and in alignment with the scope of the engagement, we are comparing the WCMS features of SharePoint with other exclusively WCMS products (Drupal and WordPress).

Drupal Evaluation

Drupal is considered to be the current “800-pound gorilla” for media and publishing sites. The list of Drupal sites in the media and non-profit space is extremely long.

As an open-source tool, Drupal is feature-rich, especially in publishing, with thousands of community–contributed modules covering every conceivable widget that a content producer might need such as polls, calendars, lists, and responsive-design templates.

Drupal 4A’s Scorecard

Criteria	Score
Rich content publishing features	
Editor ease	
Workflow	
Taxonomy management tools	
Match with 4A’s staffing plans	
Tools to integrate with netFORUM	
Strong Hosting & Support Partner	

Comments:

- Drupal has rich content publishing features, workflow tools, and taxonomy management tools.
- Drupal is generally considered a joy for editors to use, however to achieve this “joy” some customization must be done of the editorial interface.
- A Drupal-implemented site makes it very easy for business users to independently spin up pages and microsites with little intervention from IT.

- Current modules exist to integrate with netFORUM but would need to be further customized.
- Drupal has two enterprise-support organizations to choose from, Acquia and newer entrant Pantheon.








WordPress Evaluation

WordPress may be considered the “up-and-comer” in the publishing and media space with several recent high-profile website upgrades choosing WordPress as a platform such as the New York Post, Fortune and The New Republic. The Kaiser Family Foundation and the American Geophysical Union, which can be considered to have similar needs to the 4A’s, recently implemented sites on WordPress.

The current axiom is, “WordPress can do what Drupal can do” (more on this comparison below.)

Similar to Drupal, WordPress is an open-source tool feature-rich tool aligned with the content-production space.






















WordPress 4A’s Scorecard

Criteria	Score
Rich content publishing features	
Editor ease	
Workflow	
Taxonomy management tools	
Match with 4A’s staffing plans	
Tools to integrate with netFORUM	
Strong Hosting & Support Partner	

Comments:

- WordPress has rich content publishing features, and workflow tools.
- WordPress’ taxonomy management tools may be less mature than the tools in Drupal and/or require more expert programming to achieve specific results.
- WordPress enjoys a slight qualitative advantage over Drupal in terms of ease-of-use for editors. The editorial interface requires no customization and many people are familiar with its controls already, as so many people have WordPress blogs of their own.
- A WordPress-implemented site makes it very easy for business users to independently spin up pages and microsites with little intervention from IT.
- Current modules exist to integrate with netFORUM. In fact, the American Geophysical Union’s recent effort to develop WordPress integrations likely means that many components may be readily available specific to association uses, an advantage over Drupal.
- WordPress has two enterprise-support organizations to choose from, Automatic and the newer entrant Pantheon.





Summary Scorecard




Criteria	WordPress Score 25	Drupal Score 24	SPoint 2013 Score 22
Rich content publishing features			
Editor ease			
Workflow			
Taxonomy management			
Match with 4A’s staffing plans			
Tools to integrate with netFORUM			
Strong Partners			

Recommendation to focus on a Comparison of WordPress and Drupal

Approximately 75% of the way through the investigation underlying this report, and as a direct result of discoveries to date, the collaborative tmg-emedia/4A's team chose to focus on a comparison of WordPress and Drupal, taking SharePoint off the table as CMS contender.

Given the 4A's long-term investment in SharePoint, the pros and cons of staying with SharePoint were independently examined in detail. The table below summarizes the findings:

Consideration of SharePoint 2013	Pros or Cons in Remaining with SharePoint	Relative Importance
Existing Investment/ Internal Expertise	Key internal resources may prefer SharePoint. 	LOW
Extensibility (SP2013 DAM, Doc management, Intranets, Workflows)	SharePoint 2013 (upgrade) can serve as a full enterprise 4A's solution. 	LOW
.NET Synergy	Possible advantage in similarity of programming language in integration with netFORUM 	MODERATE
Co-Location	Key speed benefit will be lost in a move away from SharePoint. 	HIGH

Consideration of SharePoint 2013	Pros or Cons in Remaining with SharePoint	Relative Importance
Internal dissatisfaction/ Cultural Factors	Internal dissatisfaction with SharePoint may lead to low frustration tolerance. User-base culturally aligned with Open Source. 	HIGH
Alignment with Staffing Needs and Editorial Ease	SharePoint 2013 will likely require greater technology staffing resources as compared to other CMS systems and more IT intervention in Editorial content creation. 	HIGH
Enterprise-y (rather than publishing) roadmap	Publisher-friendly feature releases more likely in open source future roadmap. 	HIGH

Comments

- SharePoint is already in use with key IT personnel invested in its use as a tool. Moving away from SharePoint could produce dissatisfaction. (Low importance)
- As noted above, SharePoint is much more than a CMS and has tools useful to the enterprise such as document management and digital asset management. (Low importance)
- Being on a .NET platform is likely to lead to programming synergies with netFORUM (Medium importance)
- Being on a .NET platform allows for the advantage of colocation (High importance)

- SharePoint is a large enterprise tool. Like a battleship, it is big and powerful, but is not a good match for the 4A's future technology vision, which seeks to enable users with a more nimble "fleet of technology ships" approach. Further, SharePoint is not well liked in the organization, which could lead to lack of user acceptance (High importance).
- SharePoint does not align well with the probable staffing picture at the 4A's, which seeks to minimize IT involvement in content production and tweaks to the CMS.
- SharePoint is by definition an enterprise platform. While it has definitely been used successfully for content publishing focused sites, its roadmap is more likely to be enterprise focused than either Drupal or WordPress, which are hyper-focused on content sites.

Therefore: Editorial ease-of-use and alignment with the 4A's staffing picture are "deal-breaker" level criteria. SharePoint fails on both these criteria. Thus, Drupal and WordPress emerged as the two principle candidates for CMS choice.

Integration Approach with netFORUM and Recommendation

netFORUM a principal consideration in any website redesign. In fact, it may be considered the number-one question in terms of approach, strategy and architecture. Therefore, before proceeding to a final CMS comparison and recommendation, netFORUM and its role in the 4A's technology picture must be examined closely and recommendations around the integration approach must be set forth.

It is necessary to examine the topic of integration prior to a direct comparison of Drupal and WordPress as the topic has direct bearing on the CMS choice.

As described in detail above, there is significant internal dissatisfaction with the website pages handled in eWeb. Representationally:

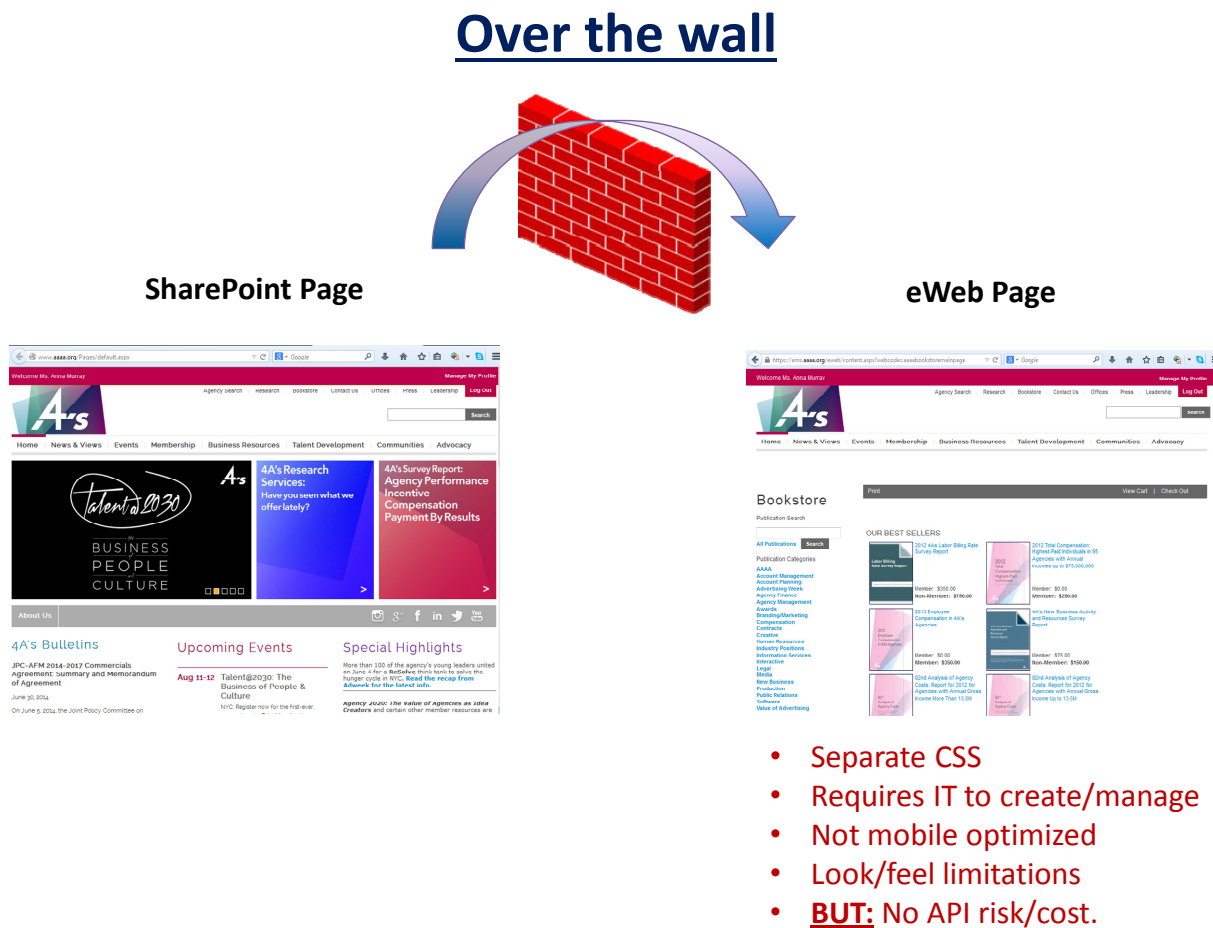


Figure 6. Integration Approach

In the current approach, the user “jumps over the wall,” going to a separate URL (ams.aaa.org) into pages managed in netFORUM’s CMS tool, eWeb. These pages are generally regarded to be “clunky” and difficult for business users to edit and manage.

The “over the wall” approach was rightly chosen to reduce risk, cost and complexity and has achieved these goals for the 4A’s. However, for future state it was critical to examine whether the over-the-wall approach should be taken in the website redesign. In fact, at the commencement of this research, it was unknown if the over-the-wall approach would indeed be a requirement of any future implementation.

netFORUM Current State Integration Approach

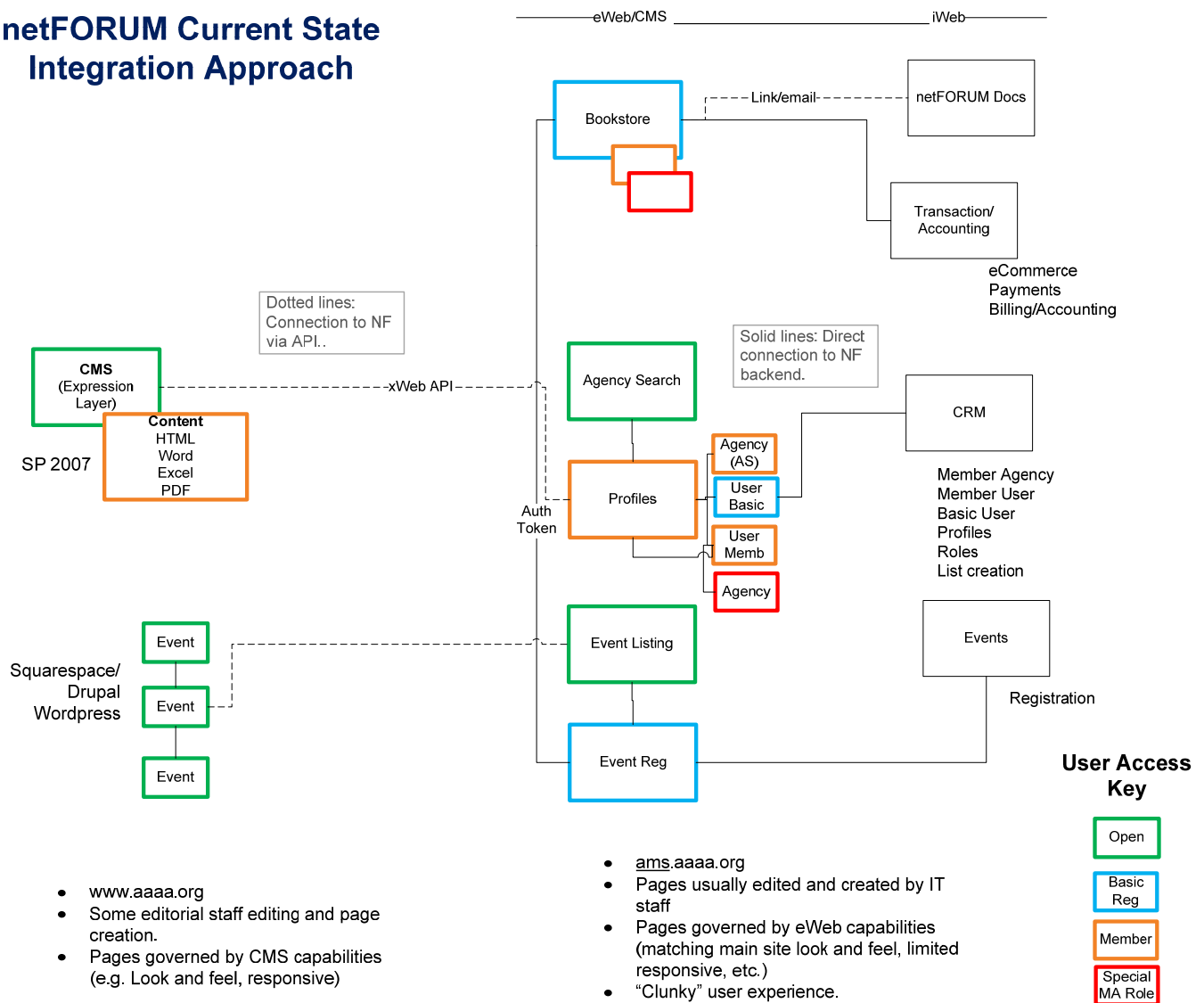


Figure 7. Current State Integration Approach

One aspect of the over-the-wall approach is certain: An over-the-wall approach commits the organization to the maintenance of two CMS systems. Some pages will live in the main CMS (replacement for SharePoint), but other pages will live in the eWeb CMS. Each set of pages will be able to access only those features available within the authoring CMS.

The following high-level disadvantages exist in the over-the-wall approach:

- Maintenance of CSS and similar assets in two separate CMS systems.
- Need for IT to create and manage all aspects of the pages (eWeb is not user-friendly to editorial or business users).
- eWeb does not have industry standard features such as mobile optimization.
- The eWeb approach limits the searchability of the website.
- A new website UI and look and feel are soon to be produced, presumably with state-of-the-art features. It is likely that the eWeb CMS would introduce restrictions to the new look and feel.

The main high-level advantage with an over-the-wall approach is that pages are done directly in netFORUM, virtually eliminating the risks, costs and complexities associated with API development. The connection is so direct, it cannot even be considered an integration. No alternate API approach will compare to this in terms of speed and stability.

However, the need to integrate different systems is a reality in modern website development. Requiring a website redevelopment effort that avoids integration with the organization's database is an unreasonable precondition. Therefore, the possibilities for API integration with the netFORUM backend were examined in detail.

Several sources with experience in netFORUM integrations were interviewed.

- American Geophysical Union, Kerry Mickelson
- Benel Solutions, Benjamin Muscolino
- ExpoLogic, Renee Thomas, Ryan Collins, Russ Chinoy
- Old Town IT: David Bender, Don Worthley

Note: The AGU was the sole entity directly comparable to the 4A's, as they are an association, using netFORUM, setting out on a website redesign. The other interview subjects were vendors and their comments generally reflect their organizations' products and development approaches.

1. American Geophysical Union

Kerry Mickelson served as the director of software for NPR for 3 years and “took NPR from the stone age to the digital age.” The AGU has 5-10 million unique visitors a year, several meetings and a large conference.

The AGU pursued an API integration approach from WordPress into netFORUM to achieve “a 360 degree view of our constituents.” Mickelson notes of eWeb, “eWeb is not up to current standards. You can't make adaptive, responsive sites.” He further indicated that the current AGU's API approach allows for more efficient use of technical people, content people, and business people.

Regarding the API, he notes that it is robust. However during crunch times (abstract submission at the AGU) with over thirty submissions a minute, the site can slow down.

Key advantages are the ability to achieve consistent look and feel and that the site has been able to get greater data from members and increase membership.

This has not come without significant investment. The AGU did a full replacement of all systems, including a full implementation of netFORUM, which is new to them, and of WordPress. They report the costs to have been \$1 million in year one, \$1 million in year two, and \$500K in year three.

In the process of developing their site in WordPress, the AGU has “plowed the field,” so to speak, for others, such as the 4A’s. Organizations in similar spaces as the AGU and with similar needs will be able to leverage the AGU’s integrations.

2. Benel Solutions

Benel solutions worked with the AGU in their site development and created the WordPress integrations with an additional partner, Pongos.

Ben Moscolino of Benel Solutions notes, “One issue with eWeb is that you end up putting in investment as you build out your eWeb interfaces. It makes it harder to move away from netFORUM. With the API approach, you can unplug and walk away.”

Benel is very positive towards the API integration strategy. “If you can integrate that’s the way to go.” Otherwise, “you end up with a fractured user experience.” An organization, he advises, has to ask itself, “How much more could we do if we weren’t locked into eWeb?”

Moscolino notes that the development done for the AGU would be available to the 4A’s through Pongos. Some customization would have to be done, but maintenance and support contracts exist to ensure the continued smooth function of those integrations.

3. ExpoLogic

ExpoLogic develops event software that integrates with netFORUM.

Russ Chinoy, the Vice President of IT at ExpoLogic notes, “xWeb on the enterprise version is very multi-featured. You can get at anything and update data as you see fit. It’s reasonably fast and also stable.”

In comparison with other AMS systems' API, the netFORUM xWeb API, he says, is the best. It is broad and allows generic queries across all the database objects. Latency times are reasonable.

4. Old Town IT

Old Town IT is a software development vendor specializing in .NET, netFORUM and eWeb development.

Among the people we interviewed, Old Town IT was the one group that was more "pro eWeb" development and remained cautious and skeptical about the API approach.



Don Worthley noted that the new RESTful services APIs available for netFORUM are not mature at this stage and should not be relied upon. The more mature SOAP services are the way to go.

Note: SOAP is an older approach to integration, generally considered harder to work with.

Worthley cautioned that the xWeb approach is "much slower" than using eWeb and that some of the APIs don't work as advertised. Old Town IT staff suggested that an API approach might take twice as long as an execution in eWeb.

Old Town IT also noted many improvements in the eWeb release for 2014.

The table below presents the comparison of the two integration approaches: API vs. eWeb.

Comparison of Integration Approaches		
API Approach	Flexible pages, match look and feel easily.	Cost higher
	Easier-to-produce pages, less programmer involvement.	Risk higher
	Easier to move away from netFORUM.	
eWeb Approach	Lower risk.	Need to keep CSS in alignment
		Harder to match look and feel; possibly very difficult with new look. (Cost)
	Lower cost (estimated).	Resources are limited for eWeb programming, not just at the 4A's. eWeb changes require a programmer.
		Searchability limitations.

Costs Associated with eWeb and API Approach

The costs associated with the two approaches (API and over-the-wall to eWeb) may be further understood using the following two graphics:

API Approach to Integration

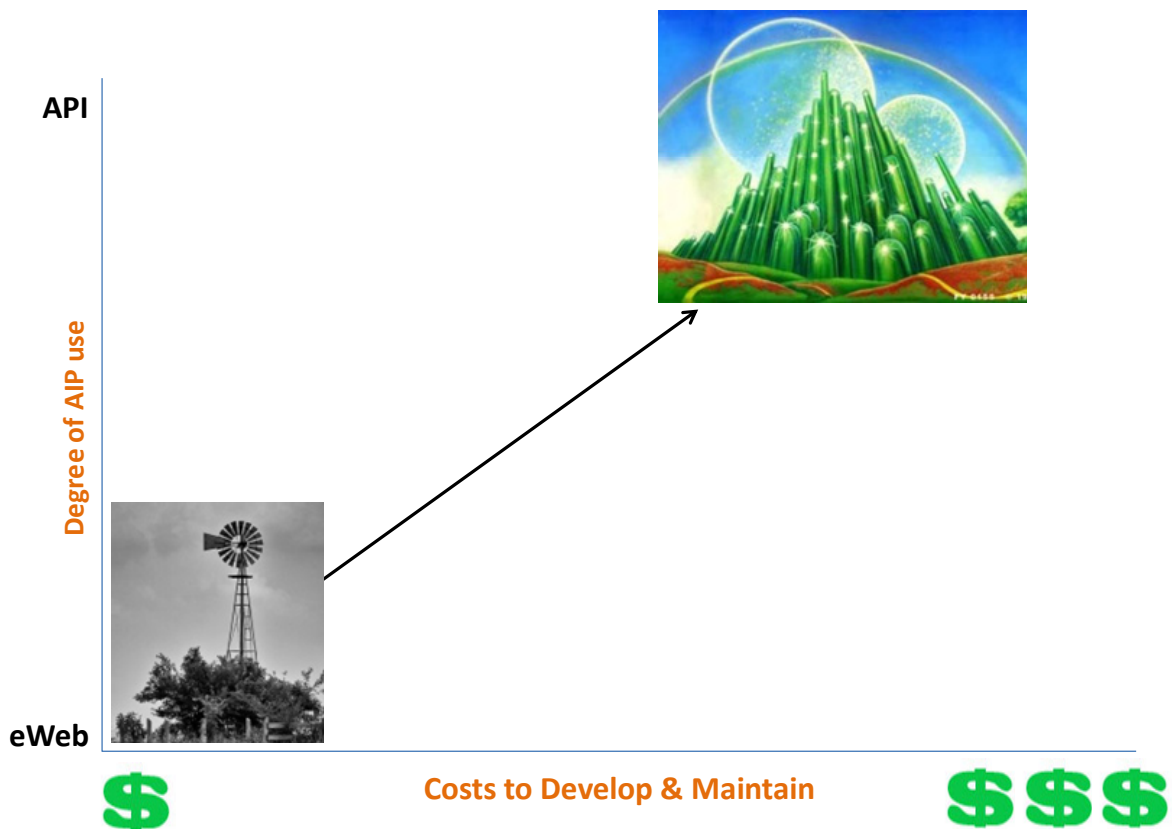


Figure 8. API Return On Investment

The API approach can be assumed to be more expensive (perhaps adding as much as 50% to CMS development) as compared with an eWeb approach. However, it is likely that pages left in eWeb may seem “black and white” compared to the “Technicolor” world of the newly developed site.

Achieving Desired UI & Features in eWeb

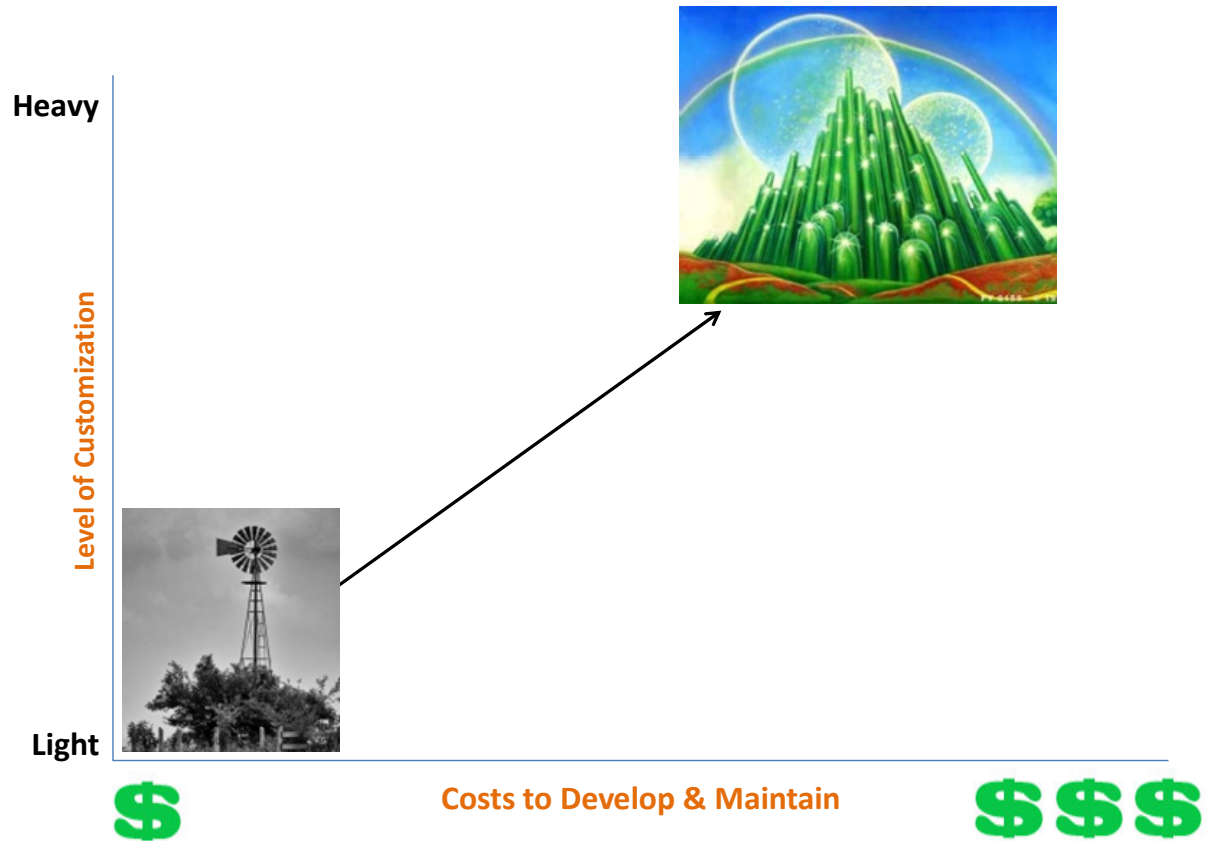


Figure 9. eWeb Customization Return On Investment

To achieve “Technicolor” in eWeb and depending on final feature set and UI recommendation, heavy customization will undoubtedly be needed. This will prove costly to both develop and maintain.

Conclusions and Recommendation

Integration Conclusions

The limitations of eWeb combined with the successful integration experience of the AGU as well as the availability of the AGU modules lead to this Report's recommendation to pursue an API integration report for the 4A's website redesign. It also has direct bearing on the final CMS recommendation as will be detailed below.

The most minimal set of pages, if any at all, should be left in eWeb.

The following two charts show different levels of integration approaches.

API Integration Approach (1)

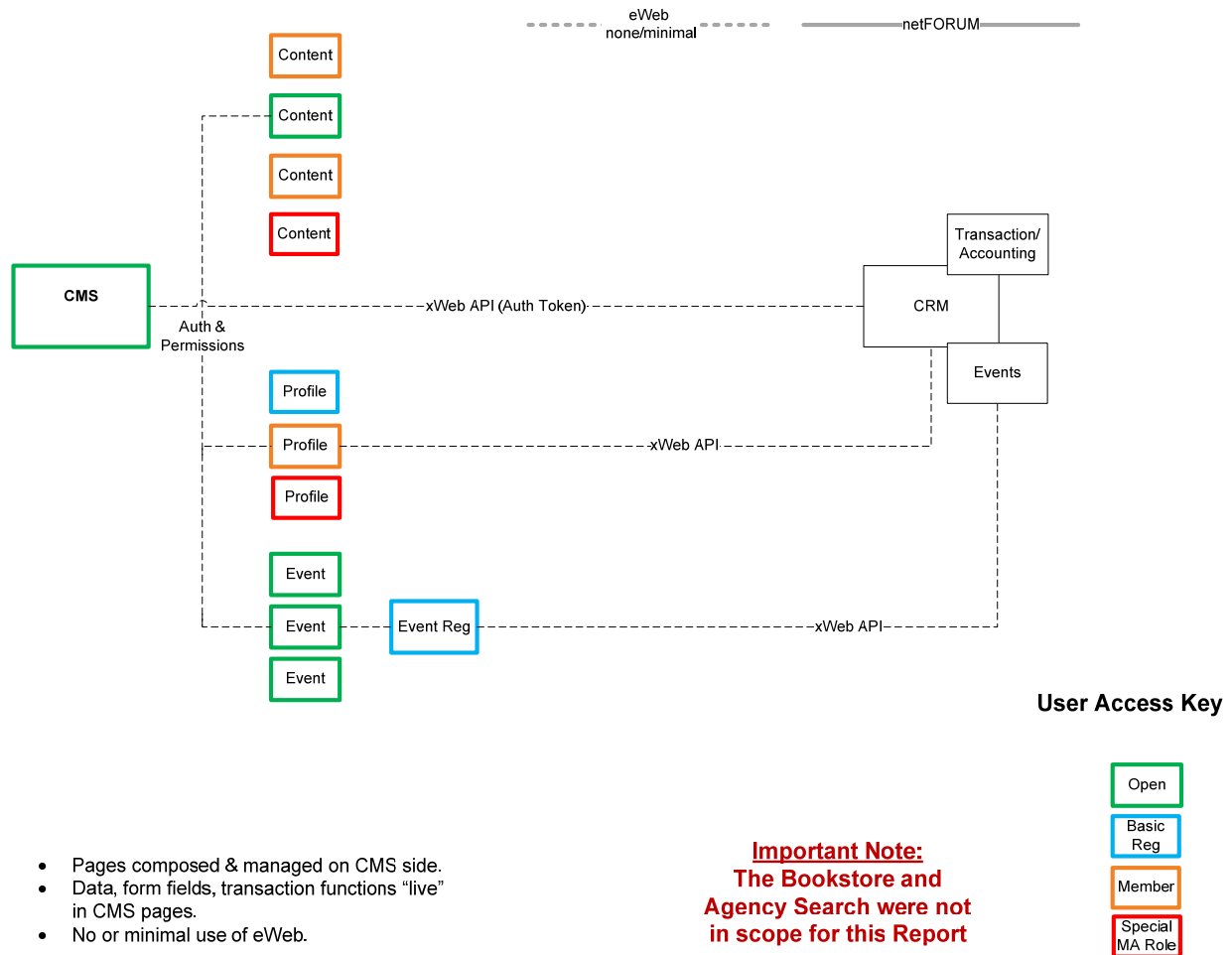


Figure 10. Future Integration Approach via API.

netFORUM Possible Future-State Integration Approach (2)

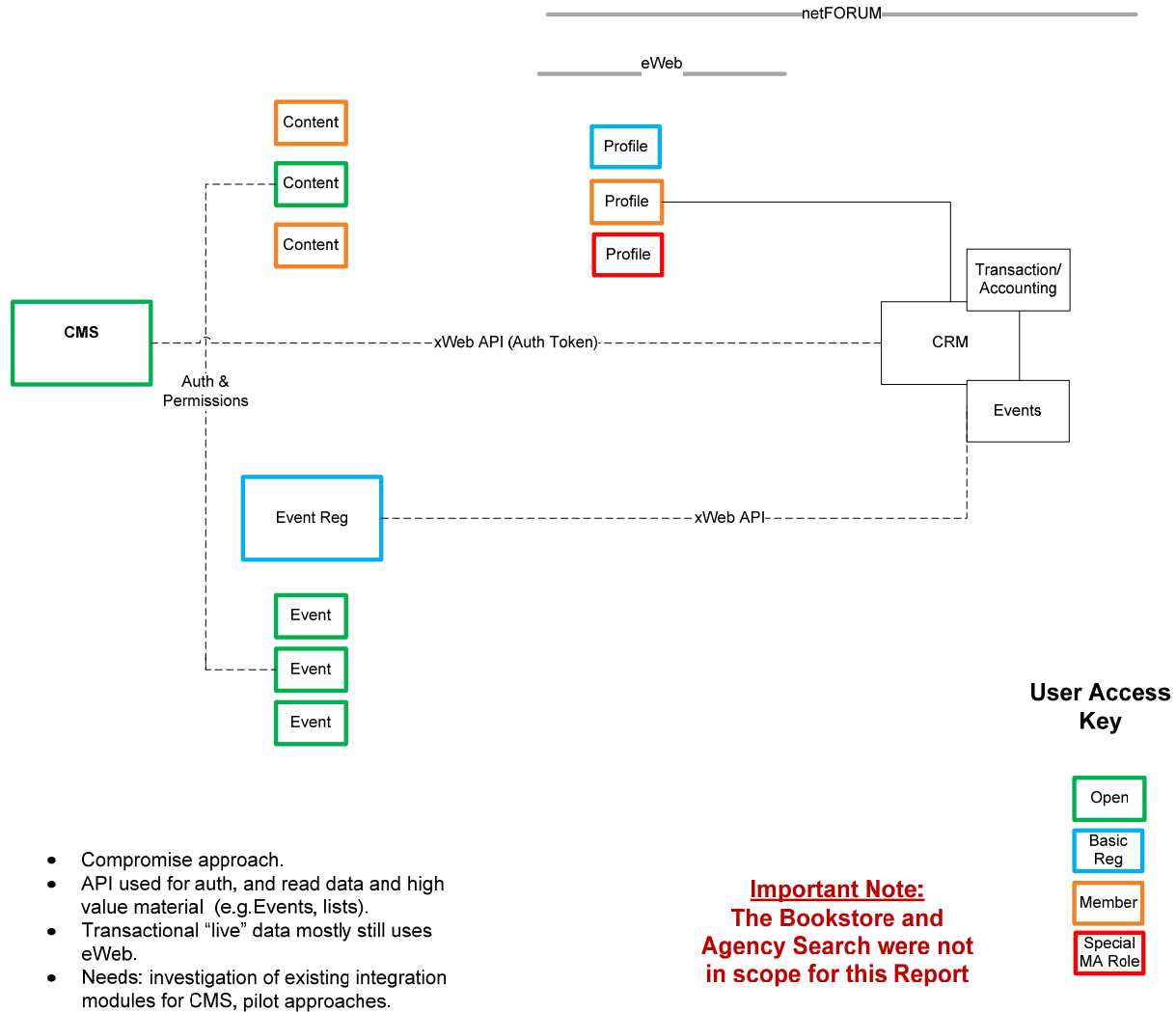


Figure 11. Future Integration Approach – Hybrid.

Roadmap and Needs

As part of the website redesign project, a further examination of and planning for an API integration will be required.

At a high level, the following will be (at a minimum) needed:

- **Audit all items in netFORUM.**
 - The number of forms, functions, transactions

- **Identify the spectrum of integration options, including**
 - Read-only data
 - Asynchronous data (e.g., mirroring netFORUM data in CMS)
 - Full rich real-time integration for all data including transactional.
 - Make choice of option where appropriate

- **Identify and choose CMS development partner and integration partner, possibly different vendors**















- **Produce Requirements Documents.**

- **Do early-stage pilot.**

Head-to-Head Comparison of WordPress and Drupal

As noted earlier, this Report included a three-way comparison of Drupal, WordPress and SharePoint.

Given that SharePoint was dropped from consideration, presented here is a head-to-head comparison of Drupal and WordPress.

Criteria	WordPress Score 25	Drupal Score 24
Rich content publishing features		
Editor ease		
Workflow		
Taxonomy management		
Match with 4A's staffing plans		
Tools to integrate with netFORUM		
Strong Partners		

It is worth noting the following:

- Both CMS systems are similar in terms of their feature-rich offerings for content producers.
- Both CMS systems rank high in terms of “editor ease,” with WordPress enjoying a slight advantage.
- Drupal may have a slight advantage in terms of customizable taxonomy management tools. (At this point, the 4A’s Taxonomy requirements are being defined and may prove to be complex, requiring custom Wordpress development.)
- Both tools match well with the 4A’s staffing picture.

- Both tools are integratable with netFORUM, with WordPress probably enjoying an advantage due to the AGU recent integration project.

IMPORTANT NOTE: In a head-to-head comparison, WordPress enjoys the following key advantage over Drupal:

- Drupal has periodic (e.g., every three to five year) releases. The cost to upgrade from one Drupal version to another can be nearly the cost to redevelop one's site, depending on the modules used and the degree of customization.
- WordPress' ongoing platform releases guarantee backward compatibility, eliminated this factor.

3rd Party Validation

Various sources were interviewed regarding a specific head-to-head comparison of Drupal and WordPress. They were

- Kerry Mickelson, American Geophysical Union (WordPress association site with netFORUM integration)
- Paul Maiorano, Automatic (Executive in Automatic, the WordPress caretaker organization)
- Austin Smith, Alley Interactive (Founder of independent development firm with extensive experience in both WordPress and Drupal)

Kerry Mickelson noted that he has had experience with a variety of CMS platforms including Joomla, Drupal, WordPress and Ruby on Rails. Mickelson states that WordPress is "gaining traction and Drupal is starting to lose traction."

Austin Smith of Alley Interactive offers the following observations:

- WordPress is often preferred when editorial usability and lifetime cost of ownership are considered.
- WordPress' caretaker organization, Automatic, is a "better steward" of the platform than Drupal's sponsor organization, Acquia.
- Given that enterprise use of WordPress is a newer phenomenon, there is a more limited vendor set capable of this work (under ten), where Drupal enterprise shops number in the hundreds.
- Drupal is more developer friendly, therefore initial site implementation may be less costly in Drupal than in WordPress.
- Drupal has a faster time to market.

Paul Maiorano of Automatic largely echoed Smith's observations:



- Every Drupal upgrade is effectively a migration and that there is a large risk in the Drupal 7 to 8 upgrade.
- The future development path of WordPress involves "no seismic shifts."

Risks and Costs

As both CMS systems enjoy the same “positives,” it is more useful to look at risks in coming to a final conclusion.

R: Indicates risk is present. **\$:** Indicates the level of cost associated with the risk.

Risks



Risk	 WORDPRESS	 Drupal	Risk Associated Cost	Notes
Loss of Colocation	R	R	(same)	Either system will mean a loss of co-location.
Availability of Vendor Partners	R		\$	Wordpress has fewer available vendor partners, which may result in higher costs
Development Effort Site	R		\$	Initial site development is likely to be higher in Wordpress.
Development Effort of Integration		R	\$\$	netFORUM integration is likely to be lower in Wordpress due to AGU.
Upgrade Path		R	\$\$\$\$	<u>Significant</u> costs associated with Drupal upgrade path.

The risks associated with Drupal are likely to be more costly than those associated with WordPress.

Costs—Development and Upgrade Path

KEY CAVEAT: An exact cost comparison would require the presence of a full requirements document sent to at least three vendors on each platform with a cost estimate request. THE COST ESTIMATES PRESENTED BELOW ARE BASED ON VERY ROUGH ASSUMPTIONS AND ARE MEANT AS GUIDELINES AND TO INDICATE COST RATIOS BETWEEN OPTIONS.

For the purposes of this report, we leveraged the expertise of Alley Interactive and had conversations with various hosting companies (Pantheon, Automatic and Acquia) to establish some cost parameters.

Costs	 WORDPRESS	 Drupal	Notes
Site Development	\$275,000	\$250,000	Differing vendor comments. Cost of integration may be vendor-dependent.
Upgrade Path (2016-17)	\$0	\$150,000-\$200,000	Drupal 7 to 8 conversion. Cost depends on customization and integration approach.
Hosting (estimated range)	\$30,000-50,000	\$30,000-50,000	Hosting costs are likely the same depending on partner and implementation strategy.

The ongoing maintenance of both systems (programming tweaks, bug fixing, new features) is expected to be the same.

Further, analytics will need to be integrated as part of the project no matter which CMS is chosen.

CMS Final Recommendation: WordPress

Based on the analysis above, we recommend WordPress as the CMS choice for the 4A's.

Future Roadmap

For further phases of this project, we offer the following top-level roadmap considerations:

1. Resources

The following resources will need to be identified:

- WordPress development partner (e.g. VML or other) with specific WordPress *enterprise* expertise.
- WordPress netFORUM integration partner, possibly different from development partner if there is an advantage here (e.g., Pongos/Benel).
- Data-migration requirements.
- Third-party testing partners.
- Internal-to-the-4A's resources to address various project needs such as
 - User acceptance testing.
 - Taxonomy team (under way).
 - Content-review team.
- Business Analysis.
- Program and Project Management.
- Change Management and Documentation.
- Infrastructure Consulting and Support.
- Training and Handoff.

2. Timeline

As of this writing, business requirements for the new 4A’s site are not yet set. However, based on the investigations conducted in this report and on our significant experience with similar projects, we foresee the following high-level timeline:

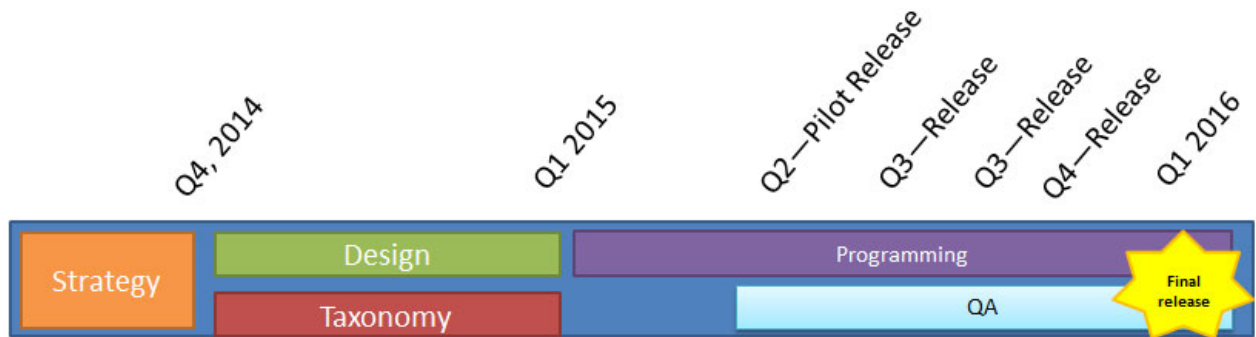


Figure 12. Timeline

3. Dependencies

Based on the investigations conducted in this report, we can identify the following high-level dependencies:

Dependencies

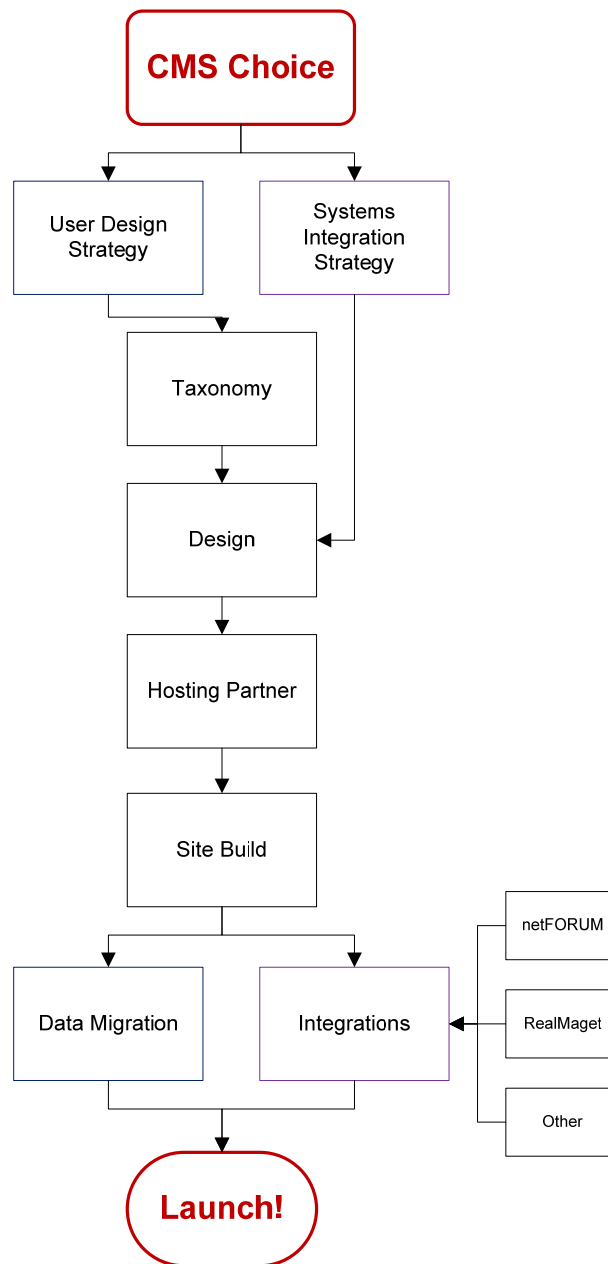


Figure 13. Dependencies.

The Content Management System choice is a key dependency and this report provides the recommendation for it: **WordPress**. This recommendation also impacts the integration dependencies, with specific approaches also recommended herein.

Other dependencies are as follows:

- Strategy work (VML) and further API integration investigation should proceed in parallel as they both impact design.
 - A related dependency is choice of vendor implementation partners to do this investigation relative to future site building.
- Taxonomy work also must precede design because of its impact.
- A hosting partner should be chosen as some (e.g. WordPress VIP) will impact build considerations.
- After these dependencies, site building may begin.
- Data migration and integration finalization and testing are launch dependencies.

APPENDIX 1: Catalog of all documents reviewed

4A's Website High Level System & Content Diagram (Author: Joe Marranta, 2014, JPG)

4A's Ancillary Website—Site Creation Process (Author: Joe Marranta, PNG)

A's Web Site Code Repository Asset Management (Author: Joe Marranta, 2010, PDF, 10pp)

4A's Data Analysis Overview (Author: 3 Hats Digital, 2009, Word Doc, 38 pp)

4A's Authentication Documentation (Author: Don Worthley, Old Town IT, 2009, PDF, 15pp)

Designing RESTful Resources in xWeb (Author: Avectra, 2013, PDF, 17pp)

Digital Skills Inventory (Author: Chick Foxgrover, 2014, Word Doc, 2p)

Introduction to REST Services (Author: Avectra, 2013, PDF, 16 pp)

Management Services Division Materials and Resources Available to 4A's Members (Author: Management Services, 2014, Word Doc, 27 pp)

Membership Grid (Author: Joe Marranta, 2014, Excel, 4pp)

netFORUM Modules Screenshot (Author: Joe Marranta, 2014, PNG)

State of the Web (Author: Joe Marranta, 2014, PDF, 20 pp)

Site Taxonomies (Author: Joe Marranta, 2014, Excel, 7 pp)

4A's Web Site Taxonomy (Author: Research, 2007, Word Doc, 4 pp)

APPENDIX 2: Catalog of all 4A's Interviews

Interviews were conducted with members of each of the 4A's divisions. These interviews covered:

- Introduction to individual, his/her role, overview of the division.
- Comments and observations about current technologies.
- Needs and desires for future.

Carl Desir Talent, Diversity, Training (7/9/10)

Abbe Binstock, Accounting (6/24/14)

Marsha Appel, Research (6/17/2014)

Allison Fahey, Julianne Shapiro, Marketing (5/8/2014 and 6/10/2014)

Troy S and Bob Linden, Events & Training (6/6/2014)

Tom Finneran, Management Services (5/27/14)

Jennifer S and Mollie N, Membership (5/22/2014)

Nancy Hill, Laura Bartlett, CEO & CFO (5/12/14)

Laura Bartlett, CFO (6/19/14)

Ongoing Weekly Meetings (5/1, 5/7, 5/15, 5/21, 5/30, 6/6, 6/12, 6/19, 6/27, 7/3, 7/10)

APPENDIX 3: Catalog of Research Resources

Hosting

- Scott Crawford, Pantheon (7/9/2014)
- Molly Shenberger, Acquia (7/10/2014)
- Paul Maiorana, Automatic (7/X/14)
- Stephen Hall, Sogeti, (7/X/2014)

xWeb API Integration

- Kerry Mickelson, American Geophysical Union, 6/18/2014 (WordPress/Integration)
- Benel Solutions, Benjamin Muscolino, 6/11/2014 (WordPress/Integration)
- ExpoLogic: Renee Thomas, Ryan Collins, Russ Chinoy, 6/17/2014
- Old Town IT: David Bender, Don Worthley(6/23/14)

SharePoint 2013

Stephen Hill, Sogeti, (5/30/2014)

WordPress/Drupal Comparison

Austin Smith, Alley Interactive , 5/29/14

Paul Maiorana, Automatic, (6/5/14)

4A's Roles Project

Internal team (Chick Foxgrover, William Keenan, Joe Marranca, Michael Boyle, Marci Weisler), 5/29/14

4A's Email Project

Internal team (Chick Foxgrover, William Keenan, Joe Marranca, Michael Boyle, Marci Weisler), 5/27/14

4A's Profiles

Internal team (Chick Foxgrover, William Keenan, Joe Marranca, Michael Boyle, Marci Weisler), 5/27/14

netFORUM

Internal team (William Keenan, Joe Marranca, Jim Rich, Georgia Sicard), 4/30/14, 5/7/14, 5/13/14

Content Audit

Marci Weisler, 5/6/14

General Systems

Joe Marranca, 5/7/14

Joe Marranca, 4/30/14

APPENDIX 4: Hosting Costs

In the process of our research, the following prices were obtained for hosting partners:

Vendor/Service	Automatic	Pantheon
Hosting	\$60,000 (WordPress VIP)	\$35,000-\$50,000 (includes support)
Support	\$15,000	