NEW YORK STATE | Office of Information Technology Services

Innovation That Matters... For All New Yorkers

New York State WebNY:

A single centralized web platform solution robust enough to support all NYS agencies and entities.

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EXECUTIVE SUMMARY

The Office of Information Technology Services (ITS) created the WebNY team to consolidate New York State websites from sixteen separate platforms into a single, centralized enterprise web platform utilizing a robust content management system (CMS) to support all State agencies and entities.

To accomplish this goal, WebNY built and deployed a New York State Enterprise Drupal 8 Distribution. This Distribution makes New York the first state to deploy an open source statewide solution for agency website development on a cloud hosting solution. State employees developed, implemented, and maintain this statewide solution. This enterprise platform, which uses the newest Drupal technology, was built with a mobile-first philosophy and user first mentality, and complies with the latest accessibility guidelines.

WebNY deployed the new NYS Drupal 8 Enterprise Distribution platform using a "build once and deploy many" approach, which defined a newly-adopted, more efficient development philosophy. This concept ensures that new websites are constructed with components and functionality that are pre-built, flexible and configurable. The team builds components once with security, accessibility and "enterprise use" at the forefront and reviews them in the design phase to determine their flexibility for use with several different types of information. The team also considers styling and design to allow flexibility in the presentation of the information with different background colors, titles, and ordering, and ensures that each component meets NYS Style Guidelines.

"Deploy Many" means that the team can apply these components in multiple websites. This reusable concept ensures prompt, inexpensive website redesigns using the latest technologies. WebNY has developed a library of thirty components designed to support the presentation of different information types, displayed in familiar, user-friendly ways. This ever-growing catalog of components provides the flexibility needed to meet agency needs without additional development time that would typically be required.

Today, the time needed to build a site on the NYS Distribution has decreased dramatically. The versatile and prebuilt components allow agencies to build a new website in as few as fifteen days, as opposed to months or a year.

Most agencies complete their total website redesign projects, including site configuration, inventory, audit and migrating of their current content into the new site, in less than four months. The NYS Distribution allows the WebNY team to create a new web environment within minutes and configure the site to be ready for content in just two days. The reduction in development time and the ease of set up allows New York State to deliver each website for a third to a quarter of the cost of development of a customized site, reducing the cost of an average new website project to less than $30,000 with ongoing maintenance, security updates, and support costs as little as ten percent of those of a stand-alone customized website.

CONCEPT

Build Once and Deploy Many.

The build once and deploy many concept means new web sites are built with components and functionality that are pre-built, flexible, and configurable. When a new functionality or component is requested, it goes through an extensive functionality and design review. Each of these flexible and configurable components are then reused in each new web site built using the New York State (NYS) Enterprise Distribution. Web site redesigns can now be completed quickly, inexpensively, and employ the latest technologies.

This agile and continuous development philosophy, combined with the use of new technologies in content management systems, content delivery networks, digital assets management, and personalized content delivery is now being implemented across the entire platform, allowing all the agencies and NYS citizens to benefit.

Each year WebNY completes a strategic plan to improve services and reduce cost. Despite the WebNY annual budget being reduced, services have increased in part due to the deployment of Cloudflare, a Content Delivery Network (CDN). This technology enables benefits to scale with every server we add to our growing footprint of data centers placed around the world This increases performance by dramatically improving websites' performance through our global CDN and web optimization features. It also improves security by providing Web Application Firewalls, Distributed Denial of Service (DDoS) attack protection, and secure sockets layer (SSL) that defends website owners and their visitors from all types of online threats. Finally, it increases reliability. Even if the 99.95 percent reliable servers provided by the Acquia Cloud and Amazon Web Services go down, the Cloudflare continues to serve up pages to the public to ensure critical information and services remain available.

Digital Asset Management (DAM) is a common photo library for all agencies to utilize in the integration of photos into their websites The DAM directly connects designers with digital marketers throughout the NYS Agencies and connects to the NYS Distribution, which allows assets to be created and approved faster and campaigns to be launched sooner. It also ensures that branding remains consistent at every point in the customer journey by having a common photo library available to all.

WebNY built the reusable codebase, infrastructure, and framework from the ground up integrating automated deployment processes, automated testing, security reviews and testing. Security and vulnerability scans are hallmarks of the Distribution. All code and configuration must pass several levels of scrutiny before making its way to production. Critical action plans ensure that Critical Drupal Security updates for sixty websites occur within three hours.

New York State was the first large organization to certify over twenty-three developers in Drupal 8 skills, thanks to WebNY's ambitious training program.

WebNY is a one-stop shop providing content, process and tool sets, project management, a complete agency training plan, and post website launch follow-up.

WebNY provides analytics and analysis technologies to provide agencies with an understandable inventory of their agency websites including: readability grade ratings, page visits, and overall quality score. This data allows agencies to determine content value to present the best experience for NYS citizens.

SIGNIFICANCE

The NYS Drupal Platform strives to present the best web experience for NYS citizens and a standard experience across state websites resulting from the use of the new platform.

By consolidating NYS websites on the NYS Distribution, WebNY has achieved cost savings by shutting down old and outdated servers. To date, the team has shut down twenty-one servers resulting in a savings of $39,000 with plans to shut down eleven more servers this year.

The NYS Drupal 8 Enterprise Distribution is a statewide solution for website development, design, and cloud hosting providing technologically advanced, secure, consistent and reliable websites to State Agencies and NYS citizens.

The NYS Distribution was used by the Office of Alcoholism and Substance Abuse Services (OASAS) to build and launch the "Combat Addiction" website in just fifteen days, providing much needed assistance to those in need.

This platform is designed for use with high-volume and mission-critical services websites, supporting over 685 million-page views a year. The platform also supports one of the most important sites for child protection, the NYS "Amber Alert" website. The site also supports the work of criminal justice professionals by allowing them to share ideas, promote partnerships, and implement programs that improve public safety with the "Criminal Knowledge Bank" website. The NYS Joint Commission on Public Ethics (JCOPE) website, developed on the platform, assists efforts to regulate lobbying and ethics in New York State. Recently, websites were developed to disseminate information on the all-new Paid Family Leave program.

Easy to Use Catalog of Components for Agency Clients

Use of the NYS Distribution provides agencies with a catalog of over thirty diverse website components ensuring that they remain within New York State's guidelines for color, style, usability and accessibility.

One of the most impressive characteristics of the Distribution is its ability to make plug-and-play technology available to agency content owners. Most of these content owners

are not technical people, but are crafters of their agency's messages. WebNY is doing user testing to determine the easiest way for content owners to input information, and using the latest technology to provide content updates. In short, WebNY provides a custom user experience for content owners.

Although there is a standardized look and feel for all NYS websites, the Distribution also offers an enormous variety of options from which to choose, such as color scheme options, a variety of page design options (landing, contact, document, basic, press release, etc.), form creation options, user permission levels, built-in media options, and an automated menu system to name a few. Content displayed digitally using the Distribution supports mobile-first design and scalability.

New York State as Frontrunner in Drupal 8 Technology

New York State is already establishing itself as a frontrunner in the use of this progressive technology in the following ways:

New York State has built the first Enterprise Drupal 8 Distribution and is alone in its implementation of continuous integration through the Agile development process. Continuous integration allows the WebNY team the ability to detect – within the development process – when a piece of code fails, which allows for an early fix.

Additionally, it allows the continued advancement of functionality and the integration of technologies like Enterprise Content Management (ECM), Security Assertion Markup Language (SAML), and Web Services, making each release better than the last.

IMPACT

- New York State has built the first Enterprise Drupal 8 Distribution and is alone in its implementation of continuous integration through the Agile development process.

- New York State's early adoption of Drupal 8 has played a key role in defining enterprise-level configuration management standards in the Drupal community.

- New York State is the first large organization to certify fourteen developers on the Drupal 8 platform as official Site Builders. Staff includes a Certified Drupal 8 Developer.

- New York State participates in Drupal Global Training Days and Drupal Global Conferences (oftentimes serving in training and leadership roles) which increases the available Drupal resources within New York State and the Drupal community.

NYS Distribution is pushing boundaries using open source technologies that few states or organizations can replicate. This is important as it established a production-ready enterprise-level platform providing better and more reliable service, at a reduced cost.

With twenty-four different functionalities and flexible custom theming capabilities, this is

a model, not just for government, but also for all large organizations with distributed content and branding governance requirements and security, stability, and scalability needs.

Some instances where we've seen the greatest advances as the result of the implementation of the Distribution are:

- New websites can be spun-up in days, not weeks or months;

- Agencies are fully-focused on content and engagement, not technology;

- High performance and code quality, usually reserved only for big budget sites, are available to even the smallest customers at extremely low costs; and

- Highly reliable, secure, and elastic hosting is provided equally to all agencies.

Cost Savings. New York State anticipates great savings in resources and dollars as more and more sites transition onto the Distribution. Security patches and module upgrades can be rapidly deployed across the entire platform reducing costs, increasing security, and minimizing the number of staff necessary to implement these operations. Success will be measured by monetary savings, site analytics, as well as the number of sites migrated onto the platform, and speed of deployment.

Technology and innovation leadership. WebNY is recognized nationally as a platform technology leader. NYS has been contacted by Texas, Tennessee, Arizona, Pennsylvania, Massachusetts, Rhode Island, Ohio, and South Africa. Continued refinement and enhancement of the NYS Distribution through the addition of cutting-edge technology, will further propel NYS's position as a technology solutions leader in state government and beyond.

Program leadership. WebNY develops and delivers websites that are usable, functionally accessible, responsively designed, and compliant with NYS standards and best practices. The NYS Distribution will ultimately house websites from over sixty-five state agencies, authorities, and state programs. Using Drupal 8 and integrating social networking tools, open-source software, open data standards, and cloud-based hosting services will reduce costs substantially going forward.

ITS launched WebNY to deliver a web solution that was engaging, informative, cohesive, accessible, and inexpensive to the taxpayers. WebNY built the NYS Distribution in such a way as to deliver on this ambitious goal, and the 19 million citizens of New York State are better served as a result.