



CASE STUDY

“Bluenog’s architecture was perfect for us. Its ready integration with our back end systems enabled us to easily access our existing content from multiple domains without costly migrations.”

– Sri Vinayamoorthy
Associate Director, IT

CIESIN at Columbia University: Doubles Website Maintenance Productivity with Integrated Content Management

The Business Challenge

Columbia University’s Lamont campus in Palisades, New York is home to the Center for International Earth Science Information Network (CIESIN). Each month nearly 100,000 unique visitors — scientists, researchers, policy makers and the public at large — access scientific content, data, and information products from CIESIN’s approximately 50,000 Web pages throughout fifteen different Web sites. The organization is under continual pressure to publish new and updated information quickly without sacrificing the content accuracy that is key to its credibility. But updates have been impeded by CIESIN’s manual, time- and resource-intensive content management process. CIESIN needs to publish and maintain high quality content on a timely basis with minimal IT staff involvement. It also needs to simultaneously manage multiple projects and subprojects efficiently.

Solution

After careful consideration of a variety of portal frameworks and content management systems, CIESIN selected the integrated CMS functionality of Bluenog ICE™ as the solution of choice. Bluenog’s enterprise content management features have enabled CIESIN to easily repurpose a wide range of content in multiple front end interfaces, each with a different look and feel. As a result, CIESIN estimated it would double the output of existing IT staff involved in Web content management. This would thereby improve the timeliness and accuracy of its Web sites and keep labor costs in check.

Overview

The careful integration of natural and social science data is increasingly recognized as vital to scientific research and public policy decision making for a wide range of pressing environmental issues. CIESIN was established in 1989 as an independent non-governmental organization. Its mission was to provide information that helps scientists, decision-makers, and the public at large better understand the changing relationship between human beings and the environment. In 1998, CIESIN became a

center within Columbia University’s Earth Institute. It is backed by funding from NASA, the National Science Foundation (NSF), the U.S. Geological Survey (USGS), and other federal agencies as well as international organizations such as the World Bank and the United Nations Environment Program (UNEP). CIESIN continues to apply state-of-the-art information technology to the pressing interdisciplinary data and research needs of science, education, and public and private decision making.

Technical Challenge

CIESIN’s varied and high profile user community consists primarily of researchers, policy and decision makers, students, and the general public seeking the latest scientific and research data and information related to human interactions in the environment. In an effort to meet the project and content needs of such a diverse group, CIESIN has developed fifteen extensive Web sites. These sites are home to more than 50,000 pages seen by roughly 100,000 unique visitors per month. During the time CIESIN had a makeshift content management system in place, content editors

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CIESIN was able to seamlessly integrate with its complex existing infrastructure:

- Application Server:
Tomcat/WebLogic Server
- Enterprise Data Management:
Oracle 11g
- Search Engine:
Google Search Appliance
- Identity Management and Security:
Active Directory
- Web Application Development:
Eclipse/MyEclipse, Apache

were not able to make changes directly to every Web site they supported. It was necessary for IT staff to manually push new content and manually make updates to existing pages on the site. Moreover, the lack of an appropriate CMS to separate the content from the display required the same content to be updated on each individual Web page on which it was displayed. This increased the chance that editors might inadvertently change the HTML display elements during content updates. The productivity of CIESIN's IT staff and content manager was significantly challenged by the lack of an automated workflow to manage the release process. Content updates to CIESIN's Web sites and the proofreading and review processes were highly resource-intensive and time-consuming, which delayed the release process even further.

Getting Started

CIESIN began its search for a solution to address its content management needs. Given the requirement to support multiple domains and different interfaces for content, the organization initially focused its efforts on portal solutions rather than content management systems. Since it was already using WebLogic Server (formerly of BEA, now part of the Oracle product suite), it first considered WebLogic Portal, but found it overly complicated for its needs. In addition, CIESIN's software budget restrictions made funding the acquisition of a commercial portal impractical.

Next, CIESIN conducted a brief evaluation of Liferay. It quickly realized its architecture and approach were similar to what had already been seen with WebLogic Portal. The organization had also been following the progress of two other departments at the University that had chosen to implement a portal-only solution and later had reservations about their choice. Through its evaluation efforts, CIESIN realized that a portal was best suited to publish diverse content through a similar set of tools or interfaces. However, CIESIN's requirements were different from that of a portal: in order to most effectively reach a varied user community, it needed to

publish diverse content through a diverse set of interfaces across many different domains.

Armed with a refined set of requirements, the CIESIN evaluation team began to consider solutions that provided both portal and CMS capabilities. They evaluated Magnolia, but soon realized it was actually a pure CMS that couldn't easily share content across multiple front-ends, a key CIESIN requirement. Magnolia's architecture would have required CIESIN to rebuild its Web sites within the Magnolia system, rather than enable easy integration of the Magnolia CMS within CIESIN's existing and well-developed sites. The CIESIN team also explored other pure open source portal and CMS tools. While they identified some compelling technical features, these tools lacked the overall enterprise-grade functionality and support CIESIN's mission-critical environment demanded.

Solution Details

CIESIN's quest finally led it to consider Bluenog's integrated suite of content management, portal and business intelligence software. A commercial product built on open source projects, Bluenog ICE pre-integrates these solutions into a single supported enterprise platform.

CIESIN focused its evaluation on Bluenog ICE's CMS functionality. IT staff were quickly able to create content types specific to their environment. They mocked up a small demo site that was able to run queries and dynamically populate pages with content from Bluenog's integrated CMS.

CIESIN worked with Bluenog to provide justification for the funding levels required for support over a five year timeframe. CIESIN required all the benefits of a commercial solution, such as telephone and email support, updates/upgrades to the product, and a strong solutions team to mentor the organization through the initial implementation. At the same time, CIESIN needed a cost-effective solution that would fit within its modest budget. Through its evaluation of open source projects, the team realized the benefits of having access to source

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“Bluenog combined flexible pricing with a responsive support team to provide a solution that really met our needs..”

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code to speed implementation and reduce support cycles. Bluenog was able to provide all of these capabilities —an attractive price point that fit within CIESIN’s budget, full customer support, and access to the product source base once CIESIN purchased the product.

Based on its successful evaluation and the business benefits of Bluenog ICE, CIESIN selected the Bluenog solution. It embarked on an initial implementation that included selected Web pages which spanned two different domains, including the main CIESIN institutional Web site and the NASA-funded Socioeconomic Data and Applications Center (SEDAC) Web site. News and Events and a News Spotlight were incorporated as part of these Web pages, each with a different look and feel. This new system went live in a few short months.

Business Impact

CIESIN is now able to easily create access to its vast network of content from multiple domains. The organization has begun to transition the initial implementation into a production context that will include clustering and failover. Seasoned experts from Bluenog Solutions Group are helping to architect the configuration to ensure it meets CIESIN’s high availability and performance needs, as well as mentoring CIESIN IT personnel. CIESIN plans to integrate the remaining Web sites into the CMS, which will include a complete redesign of the SEDAC Web site.

As a result of the Bluenog implementation, CIESIN expects to increase the timeliness and accuracy of its Web sites and improve the output of existing IT staff involved in content management, while it keeps labor costs in check. Thanks to Bluenog’s flexible pricing, CIESIN found a solution that met its budgetary and configuration needs.

Bluenog’s ready-integration with CIESIN’s existing WebLogic Server and Java-based Web application development environment eliminated the need to migrate or load CIESIN’s existing content or Web sites into the Bluenog system. This will further accelerate CIESIN’s application development time and content management lifecycle. Ongoing maintenance costs will also be significantly reduced. In addition, CIESIN benefits from the flexibility of a pre-built portal and BI framework that can be easily added into the overall solution after the current project is completed, without any worry about custom integration. This new platform gives the organization the flexibility to adapt to the changing needs of its growing network and user community. ●



The CIESIN staff at Columbia University’s Lamont campus

Bluenog is an enterprise software and solutions company that specializes in integrated content management, portal, and business intelligence. Leading organizations rely on Bluenog products to build and deploy Rich Internet Applications (RIA), and manage dynamic website content at a fraction of the cost of traditional alternatives. Bluenog Solutions Group meets our customers’ unique challenges with pragmatic combinations of commercial and open source software. Headquartered in Piscataway, N.J., Bluenog is also an Oracle and Actuate reseller. For more information, visit www.bluenog.com.