



iabin

Inter-American Biodiversity Information Network
Red Interamericana de Información sobre Biodiversidad
Rede Interamericana de Informação sobre Biodiversidade
Réseau Interaméricain d'Informatio sur la Biodiversité

IABIN Information Technology Sustainability Approach

Background

The IABIN portal and web-site was established in 2005 as part of the implementation of the IABIN GEF grant. The IABIN portal is a made up a number of separate, distinct, distributed web-site pages. These pages were designed to look similar, operate at the Thematic Networks host institution, and provide rudimentary integration throughout IABIN. During its initial design, the primary focus of the main entry page into IABIN (IABIN.NET) focused on the governance of IABIN (i.e. Project Implementation Plan, Meetings, etc.).

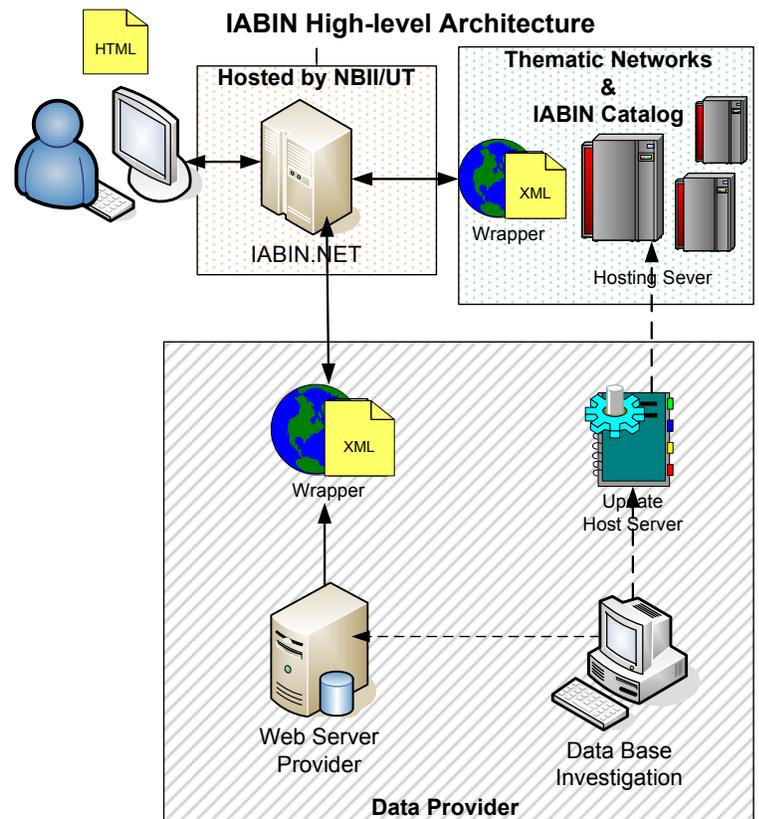
The primary IABIN portal or web-site is hosted by the University of Tennessee, through collaboration with the U.S Geological Survey National Biological Information Infrastructure.

Current Environment

The current information technology environment in operation within the IABIN network is one that provides elementary access to a number of distributed, somewhat interconnected web-sites, through a central web-site or portal called iabin.net. This site is hosted by the University of Tennessee (UT) with little or no dedicated resources beyond UT performing basic server administration, backups, security, and hosting support. This in-kind support has been provided by the USGS NBII program through its cooperative agreement with UT. The support is approximately 50,000 USD per year being allocated by USGS NBII to UT. This is represented in the IABIN High-level Architecture diagram shown.

iabin.net Requirements

In the summer of 2009, the iabin.net web-site or portal was redesigned to address a number of



goals identified by the IABIN Council, leadership, and community of users. These goals are briefed listed below as a means to introduce the ongoing requirements and resources required to continue operation and evolution of the iabin.net site.

Goals for the new Site:

Several goals will be established for the new IABIN portal in the summer of 2009. These include:

- Improved appearance, graphics, and design of the overall site. More graphics and less text are desired.
- Site must reflect primary purposes of IABIN, which might include People, Tools, Services, Partnerships, etc.
- Provide a “holistic” view of IABIN.
- Improve access to IABIN tools and services being developed by the TNs.
- Facilitate integration of IABIN content.
- Provide an infrastructure for the improved management of IABIN documents.
- Provide news, calendaring, and other outreach activities through an integrated approach.
- At minimum, weekly update with timely material should be performed
- Translations for all IABIN languages need to occur.



Figure 1: iabin.net portal

The redesign, using an open-source content management tool called Joomla (<http://www.joomla.org/>) provided iabin.net a quick and easy way to meet the site redesign goals established for the IABIN portal. Joomla is an award-winning content management system (CMS), which enables organizations to create web sites and various web-based applications.

Basic Joomla features include:

- User Management – ability to restrict access to various content managers, administrators, etc.
- Media Manager – allows for updating files, folders, images for management within the system.
- Language Manager – supports several world languages, including the core IABIN languages.
- Banner Management – allows for branding, look & feel changes, based on client profiles.
- Contact Management - helps users contact other users, logged in users only, for expertise database, questions, etc.

- Search – provides basic search statistics, and simple search on portal administrative usage and document retrieval
- Content Management – allows for creating content via WYSIWYG editor, to include combining text, and images. Content managers can also create articles; there are a number of pre-installed modules to show the most popular articles, latest new items, newsflashes, and related articles.

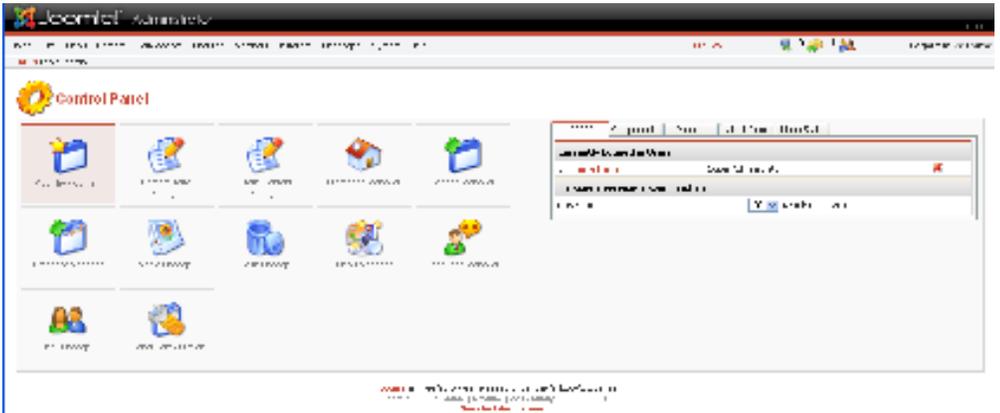


Figure 2: IABIN Joomla Administrator Interface

User roles are

defined within the Administrative interface. Content can be “routed” or a simple “workflow” can be defined requiring review and approval by another administrator or content manager before content is made public.

- Syndication and Newsfeed Management – the ability to included RSS feeds from various sources exists within the system.
- Menu Manager – the ability to create site navigation, menus exist within the Joomla Administration interface.
- Template Management - Templates allow a site and associated pages, sub-pages, to have the same common elements, look, and other characteristics. These are controlled at the system level typically by a System Administrator.
- Integrated Help System – Help on various features, functions, etc. for logged in users, content managers, or administrators of the Joomla system exists.
- Web Services – Joomla is a web services based system which potentially allows for additional customization and development, if resource exists.

As described above, Joomla enabled IABIN to meet its site redesign goals rather quickly. Joomla does have a number of capabilities which could be further evaluated to support iabin.net beyond the basic functions currently deployed within iabin.net. Specifically, incorporation of RSS within iabin.net and deploying the Joomla distributed content management approach to the IABIN Thematic Network sites.

IABIN Thematic Networks

IABIN Thematic Networks typically host any developed IABIN applications within their local computing environment with the various tools, functionalities, or requirements that exist within their organization. For instance, the IABIN Pollinators Thematic Network (PTN) uses the University of San Palo computer hosting facility for the public delivery, and operation the IABIN PTN portal. A similar approach is being used by the IABIN SSTN, I3n, Protected Areas, and the IABIN Catalog.

The IABIN Ecosystems Thematic Network currently uses the same infrastructure at the University of Tennessee as the primary IABIN site. I3n has shown interest in also hosting some of its i3n data providers at the University of Tennessee.

IABIN Infrastructure Current Issues

Several issues currently exist related to the current IABIN infrastructure. These are noted below.

- No dedicated information technology support staff exists – currently no dedicated infrastructure support staff exists responsible for the iabin.net. The University of Tennessee, through its partnership with the NBII, is willing to continue hosting the iabin.net and its associated sites; however, long-term resources may be required. The iabin.net site, developed in Joomla, is not necessarily compatible with other UT hosted applications and expertise does not exist within the University.
- No dedicated content management support exists – currently content management, site updates, document posting, etc. is being performed by a group of 3 or 4 individuals involved within IABIN. This is an appropriate short-term solution, but for the iabin.net site to continue to be relevant, timely, and useful to IABIN users, a long-term dedicated resource is required.
- IABIN Thematic Network content is not easily available - No existing processing workflows or procedures have been established within IABIN to allow IABIN Thematic Networks to easily share, notify, and broadcast content on iabin.net. A basic structure was established in the iabin.net redesign project; however, staff and procedures are needed to expose Thematic Network content at this higher level within IABIN on iabin.net.
- Site content is outdated or does not reflect current mission of IABIN – it has been suggested that the current iabin.net site has a number of irrelevant, out-dated documents, content items, etc. that should be archived and/or removed. This needs to be further evaluated and potentially remove such documents or information to more accurately reflect IABIN’s current and future mission and objectives.
- Lack of expertise with Joomla – currently limited expertise exists with the Joomla system supporting iabin.net. If IABIN is to continue using Joomla, it is strongly suggested that additional expertise within this system be developed.
 - In the short-term, NBII has reassigned a computer specialist within the USGS/NBII Center for Biological Informatics in Denver to serve as overall Joomla administrator and potentially developer. This will allow IABIN to fully evaluate the long term role of Joomla with respect to the iabin.net web site and portal.
- IABIN Thematic Network sites – several IABIN Thematic Network sites are either out-of-date, slow in responding, and/or not seamlessly integrated into the iabin.net portal. Currently, the iabin.net portal has an “entry” or “gateway” page to the IABIN Thematic Network site that does not add any value and requires users an additional click before IABIN resources are accessed.

Resources Required

IABIN is in a state of transition due to the current extension period and goal of establishing a follow-on IABIN project. However, considerable content from IABIN Thematic Networks, Catalog, and general IABIN information (i.e. Component 3 grants, Training, etc.) needs to be made easily available to the international scientific community. To accomplish this, it is recommended that IABIN consider funding two additional positions. These are described below.

1. Dedicated iabin.net Portal Information Technology Administrator (i.e. Web Master) – USGS NBII is willing to temporarily support this position from its Denver Colorado office. However, long-term support, potentially at the University of Tennessee should be evaluated as a more appropriate solution.
2. Dedicated iabin.net Content Administrator - As noted above, there is several content related issues that exist within IABIN. It is strongly recommended that a dedicated Content Administrator exist within IABIN, ideally located in the Washington D.C area, to allow for timely update, expansion, and improvements to iabin.net and the associated IABIN Thematic Network sites. In the short term OAS, USGS NBII program, and UT will fill this role.