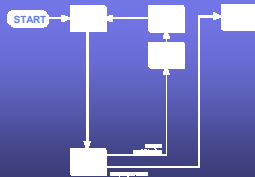




Smarteam at USGS -- A Document Management System for Integrating Science, Publishing, Metadata, and Workflows



U.S. Department of the Interior
U.S. Geological Survey

USGS – Four Scientific Disciplines

- Biology
- Geography
- Geology
- Water Resources



Restructuring of USGS Activities

- Publishing – Re-engineering as a response to competitive sourcing
- Science – Re-defining principles through Fundamental Science Practices



Publishing

- Publishing distributed over 80 locations
- Different models in each of the four science disciplines
- Many different publishing procedures
- Many disparate tracking systems



Science

- Distributed over 400 locations
- Biology was fairly new addition to USGS
- Different peer review and approval processes



Response to Organizational Needs

- A bureau-wide tracking system was needed for the newly established Publishing Network
- Fundamental Science Practices needed a way to assure uniform review and approval processes
- Both needed a system to describe and reinforce their workflows



Smarteam by IBM

- Captures metadata about products
- Workflow processes
- Document management system



A Few IBM Smarteam Customers

- Lockheed Martin
- Volvo
- Siemens
- Sony
- U.S. Army



Smarteam at USGS

- Customized for our specific needs
- Information Product Data System (IPDS)
- Assures uniform processes are followed
- Informs users of tasks required
- After task is performed, next user is notified



IPDS Workflows

- Planning
- Content Creation
- Peer Review
- Pre-approval Content Modifications
- Approval
- Post-approval Production
- Dissemination and Publication



Advantages to Authors

- Initial product request requires entering only a few fields of information
- Requires only minimal time in system
- After completing task, next person notified automatically--keeps product moving
- Can easily find where your product is in the process



Information Product Request

The screenshot shows a web form titled "Information Product Request". It contains several input fields and a submit button. The fields are: Working title (text), Senior USGS author (dropdown menu), Discipline primarily responsible for the product (dropdown menu), Cost Center (dropdown menu), Product type (dropdown menu), USGS Series (dropdown menu), Basic number (text), and Previous publication tracking number (text). There is a checkbox labeled "Is this product eligible for an accelerated workflow?" with a "Then check this box:" label. A "Submit Request" button is at the bottom left.



Metadata

Product Planning Information

Working title		PSC Participation	
Senior USGS Author		PSC	<input type="checkbox"/>
USGS Series		Editor	<input type="checkbox"/>
Product Type		VI Specialist	<input type="checkbox"/>
Dissemination media		<input type="checkbox"/> Accelerated process criteria met	
Planning dates		Basic - Number	
Submitted for peer review		Cost center, name, and code	
Peer approval		USGS Region	
Submitted to PSC for evaluation (peer approval)		Publication	
Disseminated to the public		Publication location	
Proposed number of components		Publication	
Table		Publication location	
Table pages		Publication	
Illustrations		Publication location	
Other		Publication	

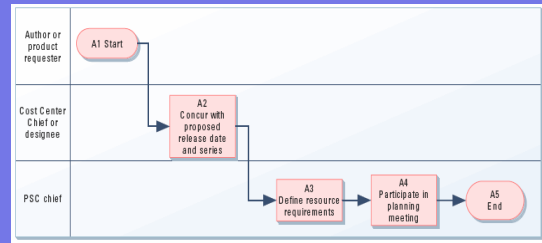
• The data model for the IPDS includes over 200 metadata fields

• Metadata is updated and maintained as the product moves through the workflow toward completion

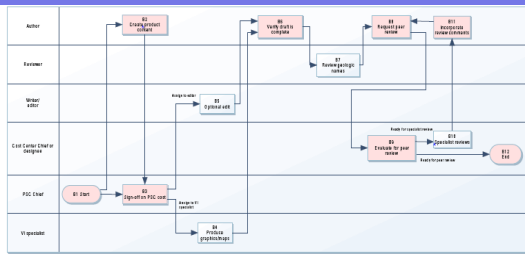
• Relevant metadata is collected from the system and provided to internal product dissemination customers, such as USGS libraries, the Publications Warehouse, and other USGS offices



Planning



Information Product Writing and Creation



Document Management

- Documents may be managed by the system to facilitate revision control and collaboration
- Peer review comments and responses may be stored in the system



Search and Reporting

- IPDS supports simple to complex queries
- Extensive reporting features are supported
- Formatted reports may be generated by any user on both metadata and process-related information



How IPDS Works

- The system manages product metadata, process workflow, and documents
- IPDS is a Web application that runs from a central server
- The user interface is a Web-based client



Milestones

- **Sept 2005** – Pilot project with IBM
- **April 2006** – Joint Application Development with IBM
- **June 2006** – IBM developed USGS Smarteam system (IPDS)
- **Aug 2006** – IBM trained IPDS team, USGS tested IPDS



Milestones (continued)

- **Oct 2006** – System installed at test sites
- **Oct 2006** – Training of science and publishing staff
- **Oct 2006** – Legacy data loaded into IPDS
- **Nov 2006** – Testing of live data



Benefits of the System

- Users spend less time searching for documents and information
- Management can identify and eliminate system bottlenecks
- Accountability is improved when managers can effectively view product status
- Supporting documents and product components can reside in IPDS



Benefits of the System

- Reinforces uniform workflows
- Integrates several activities related to science and publishing
- Allows access to product status & information about publishing process
- Duplicate efforts are eliminated
- Independent or disconnected publishing information systems are consolidated



Purpose of the System

- The IPDS will be used by the USGS Publishing Network to manage publishing-related work
- The system is a tool for managing data, documents, and workflows related to publishing
- The system will track USGS information products from planning to distribution



Background

- The USGS Publishing Network requires a uniform system to track and manage USGS publishing activities
- Many disparate tracking systems currently exist for publishing
- The USGS has a contract with IBM to provide the software for this new system



IPDS Users

- IPDS is a USGS-only system. There will be no public or outside agency access to the system.
- The system will be used by anyone involved in the publishing process, including Publishing Network staff, authors, approving officials, managers, financial personnel, and others.



Costs

- FY 05 \$30,000 proof of concept
- FY 06 \$489,139 JAD, system development, installation, purchase of 5 servers, training, and salary for IPDS manager
- FY 07 \$247,348 + server support maintenance, licenses, salary for IPDS manager
- FY 08 \$148,250 + server support maintenance, salary for IPDS manager, server refresh



IBM SmarTeam

- A Product Lifecycle Management system
- Similar systems are used by the design and engineering departments of large manufacturers, utility companies, etc.
- Metadata
- Workflow management
- Document management
- Notifications (system e-mail)
- File view and markup
- Systems integration
- Web application and thick client

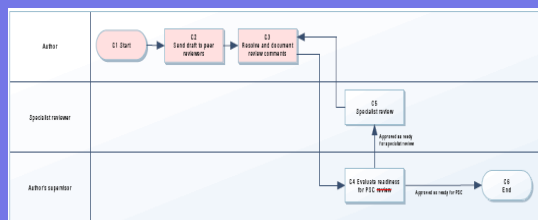


System development process

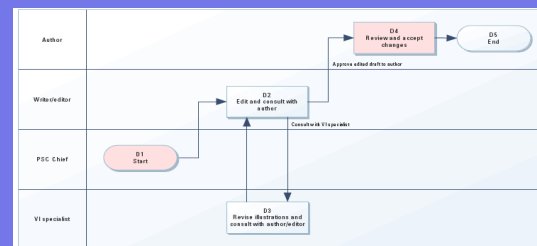
- The teams had developed specifications for the system over the last 2 to 3 months
- IBM's technical proposal will be delivered to the IPDS team on Monday, May 8.
- USGS response to IBM on Monday, May 15.



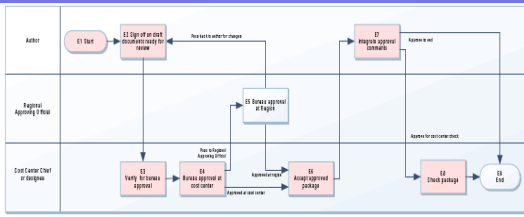
Peer Review



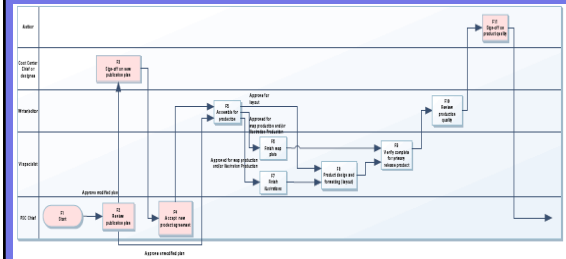
Pre-approval modifications



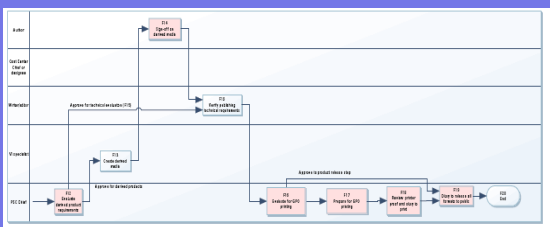
Approval



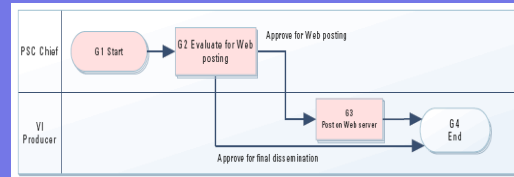
Post-Approval Production



Post-Approval Production -- continued



Dissemination and notification



Workflow management

- Workflow management tracks the progress of information products as they proceed from planning to completion



Tasks at each workflow step are completed by the IPDS user who is assigned to that step

