ESIP Federation: A Case Study on Enabling Collaboration Infrastructure to Support Earth Science Informatics Communities [1]

Submitted by superadmin on Wed, 2012-08-08 10:18 **Collaboration Area:** Executive Committee [2]

Abstract:
A critical part of effective Earth science data and information system interoperability involves collaboration across geographically and temporally distributed communities. The Federation of Earth Science Information Partners (ESIP) is a broad-based, distributed community of science, data and information technology practitioners from across science domains, economic sectors and the data lifecycle. ESIP's open, participatory structure provides a melting pot for coordinating around common areas of interest, experimenting on innovative ideas and capturing and finding best practices and lessons learned from across the network. Since much of ESIP's work is distributed, the Foundation for Earth Science was established as a non-profit home for its supportive collaboration infrastructure. The infrastructure leverages the Internet and recent advances in collaboration web services.

ESIP provides neutral space for self-governed groups to emerge around common Earth science data and information issues, ebbing and flowing as the need for them arises. As a group emerges, the Foundation quickly equips the virtual workgroup with a set of 'commodity services'. These services include: web meeting technology (Webex), a wiki and an email listserv. WebEx allows the group to work synchronously, dynamically viewing and discussing shared information in real time. The wiki is the group's primary workspace and over time creates organizational memory. The listserv provides an inclusive way to email the group and archive all messages for future reference. These three services lower the startup barrier for collaboration and enable automatic content preservation to allow for future work.

While many of ESIP's consensus-building activities are discussion-based, the Foundation supports an ESIP testbed environment for exploring and evaluating prototype standards, services, protocols, and best practices. After community review of testbed proposals, the Foundation provides small seed funding and a toolbox of collaborative development resources including Amazon Web Services to quickly spin-up the testbed instance and a GitHub account for maintaining testbed project code enabling reuse. Finally, the Foundation supported development of the ESIP Commons (http://commons.esipfed.org) [3], a Drupal-based knowledge repository for non-traditional publications to preserve community products and outcomes like white papers, posters and proceedings. The ESIP Commons adds additional structured metadata, provides attribution to contributors and allows those unfamiliar with ESIP a straightforward way to find information. The success of ESIP Federation activities is difficult to measure. The ESIP Commons is a step toward quantifying sponsor return on investment and is one dataset used in network map analysis of the ESIP community network, another success metric.

Over the last 15 years, ESIP has continually grown and attracted experts in the Earth science data and informatics field to become a primary locus of research and development on the application and evolution of Earth science data standards and conventions. As funding agencies push toward a more collaborative approach, the lessons learned from ESIP and the collaboration services themselves are a crucial component of supporting science research.

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Keywords: interoperability [18]
Collaboration [19]
AGU [20]

Source URL: https://commons.esipfed.org/node/640

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[1] https://commons.esipfed.org/node/640
[2] https://commons.esipfed.org/collaboration-area/executive-committee
[3] https://commons.esipfed.org/blank
[4] https://commons.esipfed.org/node/332
[5] https://commons.esipfed.org/taxonomy/term/238
[6] https://commons.esipfed.org/node/328
[7] https://commons.esipfed.org/node/297
[8] https://commons.esipfed.org/taxonomy/term/1469
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