Charter of the Earth Science Data Systems Standards Process Group (SPG)

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Abstract

This memo documents the composition, selection, roles, and organization of the Earth Science Data Systems Standards Process Group (SPG).

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1.   Introduction

Future ESE data systems will consist of a heterogeneous mix of interdependent components derived from the contributions of numerous individuals and institutions. Participants from these widely varying organizations will be responsible for data management functions including data acquisition and synthesis; access to data and services; and data stewardship.

"An important premise underlying the operation [of the ESE network of data systems and services] is that its various parts should have considerable freedom in the ways in which they implement their functions and capabilities. Implementation will not be centrally developed, nor will the pieces developed be centrally managed. However, every part [of the ESE network] should be configured in such a way that data and information can be readily transferred to any other. This will be achieved primarily through the adoption of common standards and practices [1]."

The SPG is charged with running the ESE's data systems standards process. The process is inspired by the open review and emphasis on implementation modeled in the IETF's standards process. ESE requirements for timeliness and accountability have been incorporated into a tailored process that emphasizes adoption of standards that work. Proposals for standards will be developed by ESE stakeholders and codified in a "Request for Comments" (RFC). The SPG will facilitate the gathering of comments in a three-stage review. First, is review for relevance to the ESE, second is review of existing implementation, and third is review of operational experience. Only when a proposed standard is relevant to ESE data systems, has been shown to have at least two working implementations, and significant operational experience has been gained will the standard become a fully qualified ESE standard. The process recognizes proposed and draft phases for a standard, and also separate scope for "core" and "community" standards.

NASA participates in many standards bodies and standards development and implementation activities. The SPG is not intended to replace these activities but rather to augment them by providing a venue for linkage to communities of practice. NASA is subject to standards policies as set out in OMB circulars and NASA Policy Directives. Among these are OMB Circular A-119 "Federal Participation in the Development and Use of Voluntary Consensus Standards" [2] and NPD 8070.6B "Technical Standards" [3]. The SPG process for community consensus and recommendation with management oversight is designed to comply with these policies.

The process for getting an RFC published as an ESE standard is detailed in RFC 002, "The ESE Standards Process" [4]. Information about the preparation of RFCs and policies relating to the publication of RFCs are described in RFC 003 "Instruction to RFC Authors" [5].

2.   The Goals of the SPG

The charter of the Earth Science Data Systems Standards Process Group (SPG) is to advance the productive use of data systems standards within the ESE. Through management of the ESE's data systems standards process, the group will direct the adoption of data systems standards relevant to data stewardship, the interoperation of ESE data systems and to the interoperation of ESE data systems with ESE's partners, suppliers, and customers consistent with Enterprise goals.

   Through its work the SPG seeks to:

1.   Enable data and service providers to easily join the ESE network of data systems through use of standards.

2.   Facilitate interoperability between components of the ESE network of data systems through use of standards.

3.   Facilitate data stewardship and preservation through use of standards and adoption of best practices.

4.   Develop and manage effective standards recommendation, adoption, and approval processes to guide the evolution of ESE standards. Support the evolving strategies and goals of the Earth Science Enterprise through use of standards.

The SPG is not an advocate for particular standards. Its purpose is to facilitate the recommendation and adoption of standards that draw from the experience of science and data systems communities in Earth sciences. This facilitation primarily consists of running the process by which standards recommendations are formed and ensuring communication about proposed and existing ESE standards.

3.   The Players

The players involved in the process include the following:

3.1 Earth Science Enterprise Management

The role of ESE management in the process is to perform such financial, legal and logistical tasks as necessary and to act on recommendations from the SPG as appropriate. The ESE Program Executive for Data Systems is responsible for final approval for all SPG decisions.

3.2 The Standards Process Group (SPG)

The Standards Process Group (SPG) is the decision-recommending board of the process. SPG decisions have force only with ESE management concurrence. The membership of the SPG and their roles are detailed in Sections 4 and 5.

3.3 RFC Editor

The primary process documents are called Request For Comments (RFCs). The RFC editor is responsible for logistical coordination of RFCs including assuring that RFC submittals follow established standards for content coverage and format and that the RFC library is maintained and is accessible. The editor will work with submitters to advise on content and format, but the ultimate responsibility for providing a sufficient RFC in acceptable format rests with the author(s) of the RFC.

3.4 Technical Working Groups (TWGs)

Technical Working Groups (TWGs) are commissioned by the SPG to perform specific review and evaluation of candidate standards, related implementations, and operational experience. Membership on a TWG is partially drawn from the SPG membership and partly drawn from technical area experts and/or ESE community members. The duration of a TWG corresponds to the review schedule set by the SPG for a particular candidate standard. Each TWG will have a chair, appointed by the SPG, to oversee the work of the TWG.

3.5 Process Participants

Process participants are individuals, but they may often act as representatives of stakeholder programs, projects, tasks, or communities affected by standards under consideration. There is no restriction on who may be a Process participant, but direct stakeholders funded by the ESE necessarily dominate the process of adopting standards for the Enterprise.

3.6 Public

The public includes all process participants, all ESE stakeholders, and all those who are generally understood to be the "public". Any person may make comment on RFCs under consideration. Specific procedures to ensure fair and appropriate public comment will be developed by the SPG.

3.7 Stakeholders

Stakeholders are those who are materially affected by the work of the SPG. The SPG has a direct interest in stakeholders because the success of standards recommended by the SPG is ultimately determined by the use of those standards by programs, projects, tasks, or other activities directed by or performed by SPG Stakeholders.

4. SPG Membership

    The SPG shall be composed of full time staff and part time permanent members from ESE stakeholder activities within the ESE. These stakeholders include: ESE management, ESE mission projects, ESE data systems awardees (e.g., REASoN CAN), ESE science data providers, and other projects, programs, tasks, activities or organizations identified by the ESE. .

4.1 Selection of the SPG Members

 The SPG membership shall be composed of members from ESE stakeholder organizations and other members. All membership is subject to approval by the ESE Program Executive for Data Systems.

4.2 Liaison Members

Other agencies (e.g., USGS, NOAA, etc), industry, or other ESE working groups (e.g., the Software Reuse Working Group, the Metrics Planning and Reporting Working Group, the Technology Infusion Working Group) may appoint liaison members to the SPG.

Liaison members participate in SPG discussions as appropriate to their roles and as designated by the SPG.

Vacancies in the liaison positions do not affect the SPG power to make decisions.

5. The Role of the SPG

The responsibilities of the SPG include:

1. Manage and coordinate activities in the adoption and approval of ESE standards.

2. Provide leadership and coordination to identify the interfaces or capabilities that need to be standardized across the ESE data systems.

3. Examine ESE requirements from NASA HQ, the different mission systems, science and application communities, and external organizations; perform a ground up analyses of different capabilities of existing ESE data systems.

4. Coordinate public reviews and evaluations of various candidate standards and their implementations.

5. Form and task TWGs to evaluate candidate standards.

6. Monitor TWGs' activities.

7. Make decisions related to the disposition of standards track RFCs and technical notes in the approval process.

8. Evaluate candidate standards and advise ESE management regarding resources needed to adopt and implement standards or to provide technical support for approved standards.

9. Focus on adopting standards implementations that are relevant to the ESE network of data systems and that have mature implementations and operational experience.

10. When no mature candidate standard for a defined need can be identified, advise ESE Program Executive for Data Systems of need for development.

11. Coordinate document management for all standards track standards and technical notes that come before the SPG.

12. Publicize ESE standards within ESE communities, industry, and external organizations.

13. Participate in national and international data systems standards organizations.

14. Coordinate related activities to facilitate the use of standards across ESE data systems, data providers, and data users.

15. Periodically review and evaluate the process as it pertains to meeting the ESE mission and, where appropriate, modify the process.

16. Coordinate with other ESE working groups as identified, such as the Software Reuse, the Metrics Planning and Reporting, and the Technology Infusion Working Groups discussioned as liaison members.

6. SPG Organization

6.1 SPG Chair

The chair of the SPG is appointed by the ESE Program Executive for Data Systems. The chair shall have authority to manage the activities and meetings of the SPG. The SPG will also have a co-chair from the ESE community selected by the members of the SPG and approved by the ESE Program Executive for Data Systems. The co-chair will work with the SPG chair to manage the activities and meetings of the SPG.

6.2 Decision Making

The SPG attempts to reach all decisions unanimously. If unanimity cannot be achieved, the chair may determine rough consensus by informal polls or other means. SPG recommendations do not use formal or recorded voting.

The SPG makes decisions related to the recommendations for advancement of the RFCs along the standards track. The SPG may approve or disapprove TWGs' recommendations. The SPG will consider public comments, technical factors, and ESE programmatic concerns in making decisions.

The SPG may reach decisions by face-to-face meeting, teleconference, Internet communication, or any combination of the above.

SPG decisions for recommendation are then subject to approval by the ESE Program Executive for Data Systems. Approval or disapproval is expected within 90 days after the SPG publishes the recommendation.

6.3 Openness and Confidentiality

The SPG publishes minutes of all its meetings and all its findings regarding to RFCs on the SPG website.

References

[1]   NASA Earth System and Applications Advisory Committee, "NewDISS: A 6- to 10-year Approaches to Data Systems and Services for NASA's Earth Science Enterprise," February 2001, NASA document, unpublished, available from http://eos.nasa.gov/seeds/.

[2]   ESE-RFC-002, The ESE Standards Process, November 2003

[3]   ESE-RFC-003, Instructions to RFC Authors, November 2003

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DAAC	Distributed Active Archive Center
CAN	Cooperative Agreement Notice
ESE	Earth Science Enterprise
NASA	National Aeronautics and Space Administration.
NOAA	National Oceanic and Atmospheric Administration
REASoN	(Earth Science) Research, Education, and Applications Solutions Network
RFC	Request For Comment.
SEEDS	Strategy for the Evolution of ESE Data Systems SEEDS is the name given to the study that produced the initial concept for the ESE standards process. See http://eos.nasa.gov/seeds
SPG	(Earth Science Data Systems) Standards Process Group
TWG	Technical Working Group
USGS	United States Geological Services