Polling with Delivery Record (PDR) for Product Delivery

Status of this Memo

This memo describes a standard for the NASA Earth Science Data Systems (ESDS) community. Distribution of this memo is unlimited.

Change Explanation

None

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Abstract

This document establishes the Polling with Delivery Record (PDR) mechanism as an ESDS standard interface mechanism. The Polling with Delivery Record (PDR) mechanism is used for electronic transfer of data and related information. The RFC document provides a brief introduction, with the full PDR specification detailed in Section 4.5 of the *Interface Control Document between the EOSDIS Core System (ECS) and the Science Investigator-led Processing Systems (SIPS) Volume 0, Interface Mechanisms* [1].

1 Introduction

The Polling with Delivery Record (PDR) mechanism was originally defined in 1998 for electronic transfer of data products, metadata, browse imagery and other related information generated at Science Investigator-led Processing Systems (SIPS) to the EOSDIS Core System (ECS). Data transfers using this interface protocol are fully automated at the various SIPS and in the ECS Ingest system.

There are currently 15 SIPS [2] using the PDR mechanism to supply data to the 12 NASA DAACs [3]. In addition, several DAACs use this mechanism to acquire Sentinel data from the ESA International Data Hub via the NASA Sentinel Gateway [4].

Expanded use of the PDR mechanism will facilitate data transfers between a wider set of data providers and consumers within the ESDS community.

2 Overview of the PDR system

A Product Delivery Record (also PDR) file contains Parameter-Value Language (PVL) statements describing data and associated files available for transfer. It contains file names, file size, data types, data type versions, location, and linkage information. When data files are ready for delivery, they are placed with a PDR in a specified directory by the data provider. The data customer polls this directory, and when it detects a new PDR, it attempts to acquire the data and associated files described therein. The data customer responds with either a Product Delivery Record Discrepancy (PDRD) indicating a problem with the PDR itself, or a Product Acceptance

Notice (PAN) reporting either success or error found for each data file in the PDR. These responses are also encoded in PVL. This mechanism is shown in Figure 1.

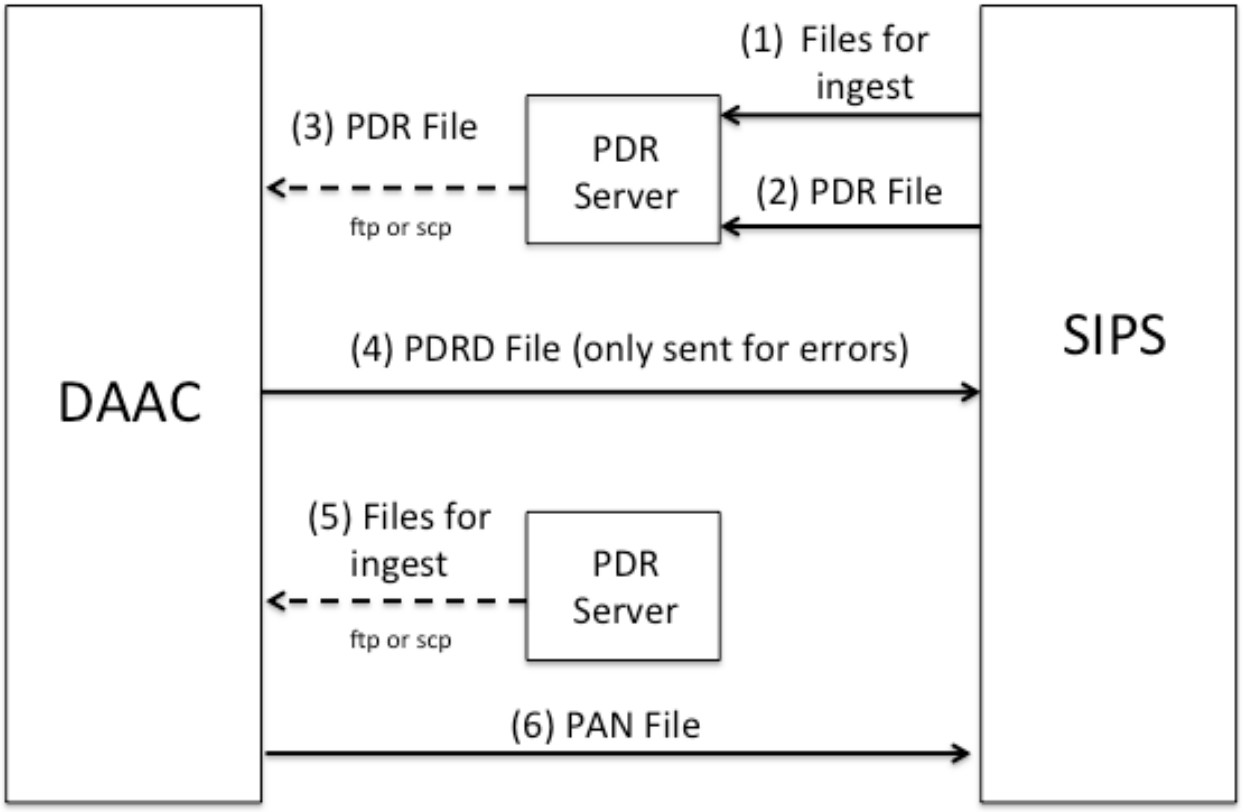

Figure 1. Polling with Delivery Record file transfer mechanism

The PDR interface, including PDR, PAN and PDRD messages, is specified in Section 4.5 of the *Interface Control Document between the EOSDIS Core System (ECS) and the Science Investigator-led Processing Systems (SIPS) Volume 0, Interface Mechanisms* [1]. A quick reference summary is provided in Appendix B of the same document. This document is managed in NASA's COMET (Configuration Management EOSDIS Tool). For convenience, the current version of the ICD at the time of this writing is provided as a separate document.

3 References

Normative References

[1] NASA ESDIS Project, *Interface Control Document between the EOSDIS Core System (ECS) and the Science Investigator-led Processing Systems (SIPS) Volume 0, Interface Mechanisms*, NASA ESDIS document 423-41-57, Revision J, CH01, August 2013 (expires August 2018).

Informative References

[2] Science Investigator-led Processing Systems (SIPS), https://earthdata.nasa.gov/about/science-investigator-led-processing-systems

[3] EOSDIS Distributed Active Archive Centers (DAACs), https://earthdata.nasa.gov/about/daacs

[4] Dawn Lowe, NASA Sentinel Gateway: Facilitating EOSDIS Mirroring of Sentinel Data, 29 September 2015. Accessed 2 March 2017. *http://ceos.org/document_management/Working_Groups/WGISS/Meetings/WGISS-40/20150929_Tuesday/09.29_13.30_NASA_Sentinel_Gateway_Status.ppt*

4 Authors' Addresses

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Appendix A

Glossary of acronyms

Acronym	Description
COMET:	Configuration Management EOSDIS Tool
DAAC:	Distributed Active Archive System
ECS:	EOSDIS Core System
EOSDIS:	Earth Observing System Data and Information System
ESDIS:	Earth Science Data and Information System
ESDS:	Earth Science Data Systems
PAN:	Product Acceptance Record
PDR:	Polling with Delivery Record; Product Delivery Record
PDRD:	Product Delivery Record Discrepancy
PVL:	Parameter-Value Language
SIPS:	Science Investigator-led Processing System