

# The NPDS Cyberinfrastructure

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## ABSTRACT

The Nexus-PORTAL-DOORS-Scribe (NPDS) cyberinfrastructure provides a ‘who what where’ directory-registry-directory system for identifying, describing, locating and linking things on the internet, web and grid. PORTAL registries identify resources with unique labels and lexical tags in a manner compatible with the lexical web. DOORS directories specify locations and semantic descriptions for these identified resources in a manner compatible with the semantic web. PORTAL registries and DOORS directories were designed to be analogous to IRIS registries and DNS directories. This original design has been enhanced with Nexus directories to provide integrated services combining the functions of both PORTAL registries and DOORS directories. The principles for the PORTAL-DOORS Project (PDP) were first proposed and described by Taswell in 2006 as the foundation for work on PDP and the NPDS cyberinfrastructure. This work on PDP and NPDS has been continuously available since 2007 from a publicly accessible web site at [www.PORTALDOORS.org](http://www.PORTALDOORS.org). The 2006 PDP principles were renamed the 2019 DREAM principles with the acronym DREAM for "Discoverable Data with Reproducible Results for Equivalent Entities with Accessible Attributes and Manageable Metadata". PDP-DREAM software, available as open source software at Github, provides a comprehensive suite of software for management of the data repositories in the NPDS cyberinfrastructure. A version of PDP-DREAM software has been implemented with Microsoft platform technologies (C#, SQL Server, IIS Server), has been tested on the previews for Net 6, and will be fully validated for compatibility with Net 6 concomitant with its general availability release later in 2021.

**Keywords—***data stewardship, metadata management, PORTAL-DOORS project, NPDS cyberinfrastructure, DREAM principles, PDP-DREAM software.*

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