

SOP 16: Managing the Production Environment version 2

Summary

In order for most SEAN deliverables to be disseminated to the public, they must be installed in the NPS Production environment at NRSS. Certain of the deliverables must also be installed in production repositories, such as the NODC and the NPS Data Store. In order for this production content to be generated, various steps must be performed in SEAN's Staging/Integration environment. Once content is built and verified in the Staging/Integration environment, it gets copied to Production for permanent storage and dissemination.

Most of the detailed SOPs in this protocol end with a reference to propagating the final deliverable into Production. This is an implicit reference to this SOP. Not all deliverables are handled in the exact same manner, so methods for installing them into Production vary.

Schematic of the Environments

Figure SOP 16.1 illustrates the major components in the SEAN Staging/Integration and NRSS Production environments. References are also made to SEAN's Development environment. Details of its operation are not germane to moving deliverables from Staging/Integration to Production and will not be discussed here. But be aware that all web files are originated in Development, deployed on Staging/Integration, and copied to Production.

Components of the Environments

Major components of the Staging/Integration environment include the Staging Directory, the Data Management website, the Staging Database, the Integration Auxiliary Repository, and the Integration website.

The staging directory is a folder on SEAN's local file server used to collect submitted products and feed them into validation and certification processes. It is currently located at \\sean.glba.nps.gov\data\SEAN_Data\Staging\OC\. Each deliverable has its own subdirectory, in which individual submissions are stored for validation and possible acceptance.

The data management website is an internal-only website holding applications used to validate some deliverables, create certain deliverables, report information used as the basis for other deliverables, and actively track the status of all deliverables in process. It currently resides on INPGLBAFS03 and responds to DNS name sean-dm.glba.nps.gov. Only internal NPS users may access the data management website, and they must separately log in to it when their session first opens.

The staging database is an SQL Server 2008 Standard Edition database used to hold the OC_D product and the status tables. It currently resides on INPGLBAFS05 and its connection string name is SEAN_Staging_2008. The oceanography objects reside in schema OC.

The integration auxiliary repository is a set of folders and files within the integration website. It contains all certified deliverables except for OC_D, which can only live on a database server. It currently resides on INPGLBAFS03 and responds to DNS name sean.glba.nps.gov. Anyone within

the internal NPS network may access it for reading. Only SEAN staff have permission to update files in the integration auxiliary repository.

The Production environment consists of the Production database, the Replica Auxiliary Repository, and the Production website. The Production database houses all final OC_D data, which it obtains by periodic restoration from a copy of the staging database. The Replica Auxiliary Repository is a mirror of the Staging Auxiliary Repository, which is updated by copying from the Integration Auxiliary Repository. The Production web server houses the public dissemination point. It draws content from the other two components.

Two additional Production environments, which receive copies of certain items from the Auxiliary Repository, are NODC and the NPS Data Store. Delivering content to these repositories is SEAN's only role and responsibility in their management.

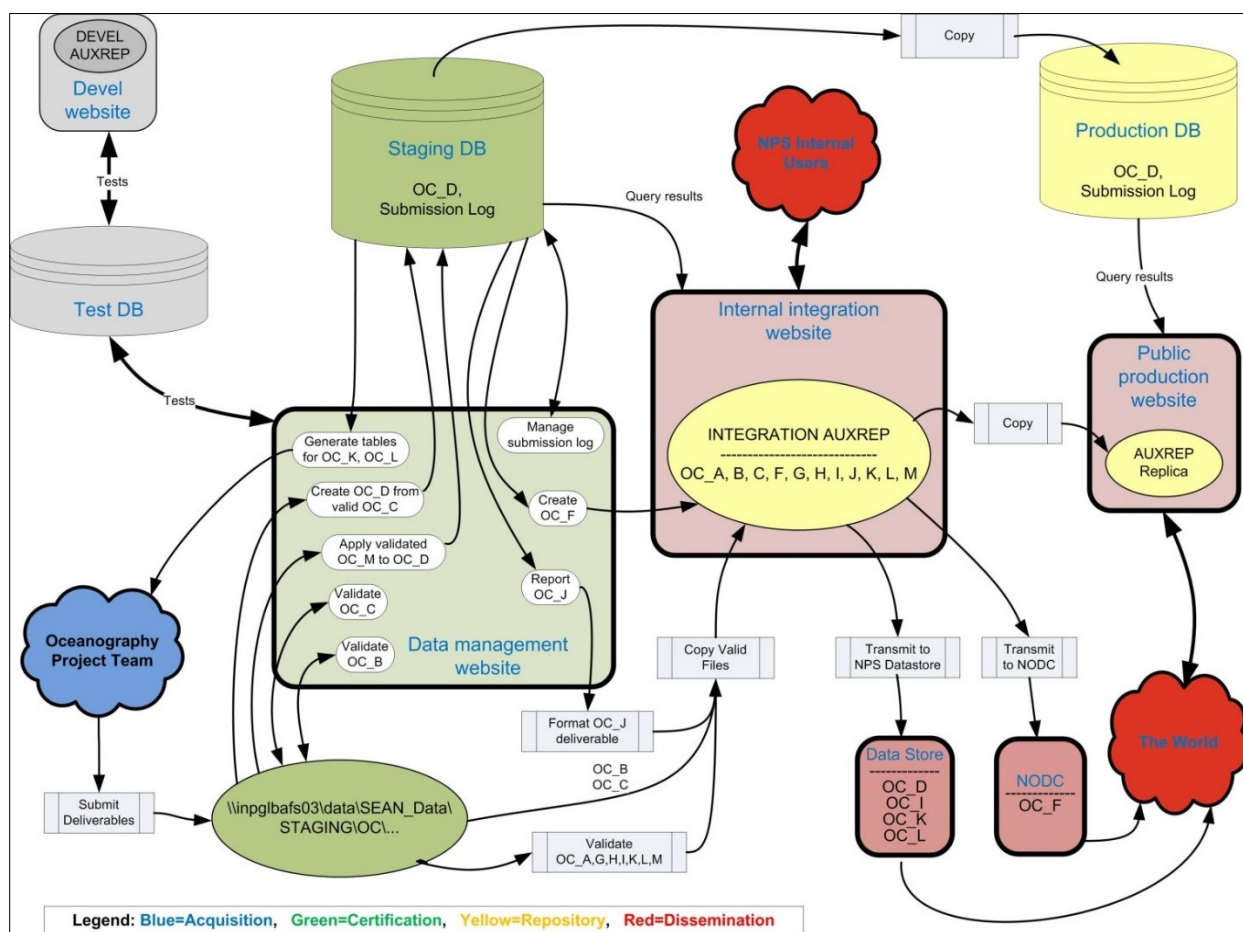


Figure SOP 16.1. Components of the Staging/Integration and Production environments are illustrated in schematic form. Coloring indicates the functional realm of each component, as defined in the SEAN data management plan. Gray rectangles depict the data management tasks required to move a product from one component to the next. Internal functions provided by the data management web server related to oceanography are also listed.

Management Tasks to Perform

Figure SOP 16.1 shows in rectangles the specific tasks needed to move a deliverable from the submission-to-staging through the production-dissemination states. These are primarily data copying steps achieved either by file transfer or by SQL database synchronization. No attempt will be made to detail specific commands and IT processes to accomplish these particular tasks. They are inherently complex and are dependent on the current complement of equipment components, software versions, security policies, and NRSS operating procedures. Most of the tasks are also performed on the order of only once per year. Data management staff are expected to determine the best method to use at each particular iteration.

The data management website also supports a number of necessary tasks required in accomplishing the staging to production process. These are depicted in Figure SOP 16.1 as rounded boxes within the data management website object. Their use is covered in the various SOPs that detail producing data deliverables.