

SOP 14: Managing the Production Environment

Version 1

Revision History Log:

Prev. Version #	Revision Date	Updated By	Changes Made	New Version #
-	Sept 2011	Bill Johnson	Initial version	1

1.0 Summary

In order for most SEAN deliverables to be disseminated to the public, they must be installed in the NPS production environment managed by the Natural Resource Stewardship and Science Directorate (NRSS) in Fort Collins, Colorado. Certain of the deliverables must also be installed in production repositories, such as the NPS IRMA Data Store and NPStoret database. In order for production content to be generated, various steps must be performed in SEAN’s staging environment. Once content is built and verified in the staging environment, it is copied to production for permanent storage and publicly-accessible 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.

2.0 Schematic of the Environments

Figure SOP 14.1 illustrates the major components in the SEAN staging and NRSS production environments. References are also made to SEAN’s development and test environments. Details of their operation are not germane to moving deliverables from staging to production, and will not be discussed here. Managing those two environments is explained in SEAN Data Management Plan SOP 303 – Organization of Development, Test/Integration, and Production, in Johnson and Moynahan 2008.

3.0 Components of the Environments

Major components of the staging environment include the Staging Directory, the Data Management Web Server, the Staging Database, and the Master Auxiliary Repository. The Staging Directory is a folder on SEAN’s local file server used to collect submitted productions and feed them into validation and certification processes. The Data Management Web Server 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. The Staging Database is a SQL database used to hold the final FQ_F product as well as the deliverable status tables. The Master Auxiliary Repository is a set of folders and files housed on the local SEAN file server. It contains all certified deliverables except for FQ_F, which can only exist on a database server.

The production environment consists of the Production Database, the Replica Auxiliary Repository, and the Production Web Server. The Production Database houses all final FQ_F

data. The Replica Auxiliary Repository is a mirror of the Staging Auxiliary Repository. (This is done because NPS security technicians do not permit the production environment to directly access the Staging 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 Master Auxiliary Repository, are NPStoret and the NPS IRMA Data Store. Delivering content to these repositories is SEAN's only role and responsibility in their management.

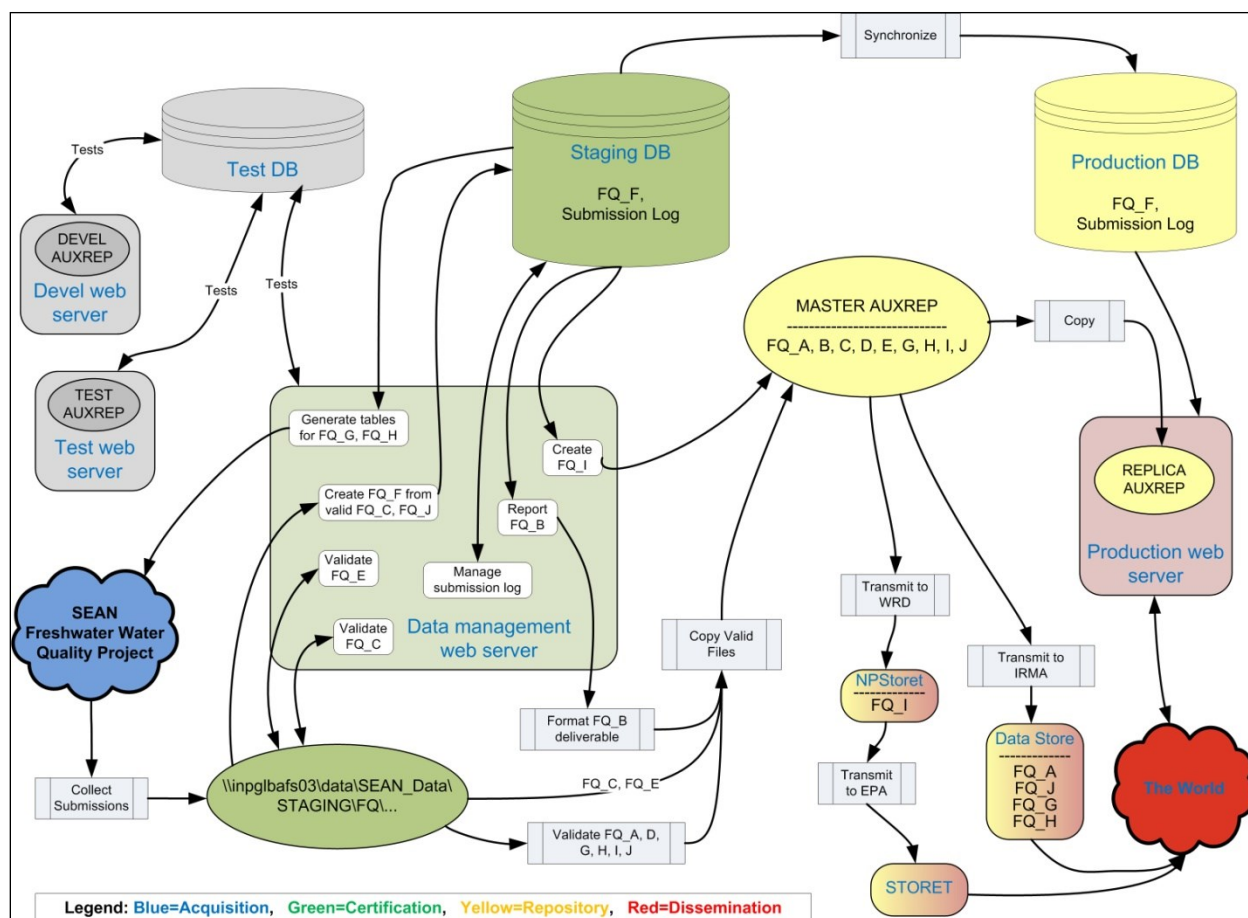


Figure SOP 14.1. Components of the staging and production environments. Coloring indicates the functional realm of each component, as defined in the SEAN data management plan. Rectangles depict the data management tasks required to move a product from one component to the next. Internal functions provided by the data management web server related to freshwater quality are also listed.

4.0 Data Management Processes

Figure SOP 14.1 shows as rectangles 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 dependent on the current complement of equipment components, software versions, security policies, and NRSS operating procedures. Most of the tasks are performed only once per year. The data management staff is expected to determine the best method to use at each

particular invocation. These specific tasks fit in the general management framework, operation of which is detailed in the data management plan's SOP 303 (Johnson and Moynahan 2008). Understanding framework operation is a prerequisite to performing the FQ protocol-specific processes.

The data management web site supports a number of necessary tasks required in accomplishing the staging to production process. These are depicted in Figure SOP 14.1 as rounded rectangles within the data management web server object. Their use is explained in the various SOPs covering detailed creation of data deliverables.

5.0 Literature Cited

Johnson, W. F., and B. J. Moynahan. 2008. Data management plan: Southeast Alaska network. Natural Resource Report NPS/SEAN/NRR—2008/058. National Park Service, Fort Collins, Colorado.

