

Introduction to Cross-enterprise Document Sharing

From an IT Infrastructure standpoint, the concept of sharing document encapsulates the necessary functionality to ship "snapshots in time" of medical conditions, summaries and data from one system to another. A document can carry unstructured data (such as images, PDFs, etc.) or structured clinical data which is imported/exported and updated over time.

In IHE, document transport is facilitated through a series of XD* profiles which enterprise level sharing being attained through the XDS and XCA (Cross-community access) profiles.

OpenSHR supports the IHE XDS profiles necessary to act as a Document Repository and On-Demand Document Source actors.

In simple terms, this means that a system acting as a Document Source produces a document and sends that document to the OpenSHR XDS interface as a Provide and Register (ITI-41) transaction. OpenSHR stores that document, and if supported, imports the contents of that document to a discrete data store. It then notifies an XDS registry that a document is available (and if supported, a series of on-demand documents) producing audits along the way.

At a later time, a system acting as a Document Consumer actor will retrieve a document from the OpenSHR XDS interface as a Retrieve Document Set (ITI-43) transaction. OpenSHR will determine if the document being requested is stable (i.e. was provided to it by a third party) or on-demand (i.e. it needs to assemble the document) and takes the necessary action to retrieve that document. It then returns this document data to the Document Consumer auditing appropriately along the way.

The terms "stable document" and "on-demand document" speak to the type of document which OpenSHR is storing. In all cases, a document given to OpenSHR (i.e. submitted by a document source to OpenSHR), is a "stable" document. This means that OpenSHR will never "peer" or alter the document itself, it will be preserved as submitted. For more information about stable documents see Interfacing with OpenSHR on page 6.

On the other hand, and on-demand document is a document which doesn't physically exist until a document consumer requests it. These documents carry logical document identifiers and are materialized based on the supplied document template the logical document entry associated with. These on-demand documents are Clinical Document Architecture (CDA) documents which are created based on the contents of stable CDA documents provided to OpenSHR.