DspaceSrbIntegration

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DSpace-SRB Integration

UCSD (University of California at San Diego) has developed a set of mods to DSpace to (1) allow the use of SRB for bitstream storage, and (2) allow the *re gistration* of bitstreams into DSpace. The two new capabilities are described below.

SRB FAQs

Q: What is SRB?

A: Storage Resource Broker is a product of the San Diego Supercomputer Center (SDSC). In short, SRB is a robust, sophisticated storage manager that offers essentially unlimited storage and straightforward means to replicate (in simple terms, backup) the content on other local or remote storage resources.

Quoting from SRB's home page: "The SDSC Storage Resource Broker (SRB) is client-server middleware that provides a uniform interface for connecting to heterogeneous data resources over a network and accessing replicated data sets. SRB, in conjunction with the Metadata Catalog (MCAT), provides a way to access data sets and resources based on their attributes and/or logical names rather than their names or physical locations."

SRB is distributed freely to educational institutions.

Q: Why is SRB offered as an option with DSpace?

A: Three reasons:

(1) UCSD, MIT, and SDSC received a grant from NARA (National Archives and Records Administration) to integrate DSpace and SRB.

(2) UCSD has large collections of digital objects (several hundred thousand objects and roughly six terabytes) for which UCSD would like to use DSpace for management and access and eventually preservation. This would put a severe strain on DSpace's current restriction that all bitstream storage be in the DSpace server's filesystem.

(3) SRB offers a DSpace a storage option that will enhance its scalability and improve its backup and preservation ability.

Q: How might SRB be used with DSpace?

A: SRB can be either replacement or supplemental bitstream storage ("asset store" in DSpace lingo). In fact, SRB does not need to be used at all--DSpace will work as just as it did before the SRB option was introduced.

Q: Where can I find out more about how SRB is integrated and used with DSpace?

A: The integration is fully documented in the DSpace documentation and commented in DSpace source code. Both the documentation and the code have been submitted to the DSpace committers team. You can see the full DSpace documentation (proposed) here, which documents both the SRB and Registration mods.

Q: Where can I find out even more?

A: The mods were developed at UCSD with the support and cooperation of MIT and SDSC. Most of the design and developement was done by David Little, drlittle@ucsd.edu drlittle@ucsd.edu, Programmer/Developer, UCSD Libraries, 858 822-6513.

Q: How do I get SRB up?

A: Please consult the SRB site.

Registration FAQs

Q: What is Registration?

A: Registration is an alternate means of incorporating items, their metadata, and their bitstreams into DSpace by taking advantage of the bitstreams already being in accessible computer storage. An example might be that there is a repository for existing digital assets. Rather than using the normal interactive ingest process or the batch import to furnish DSpace the metadata and to upload bitstreams, Registration provides DSpace the metadata and the location of the bitstreams. DSpace uses a variation of the import tool to accomplish Registration.

Q: Why is Registration offered as an option with DSpace?

A: Three reasons:

(1) UCSD's commitment to DSpace and UCSD's particular circumstances: UCSD has large collections of digital objects (several hundred thousand objects and roughly six terabytes) for which UCSD would like to use DSpace for management and access and eventually preservation. These collections are currently maintained in SRB storage resources. Ingesting these into DSpace using the DSpace batch import capability, that is copying the files into DSpace, would put a severe strain on a DSpace server's processing capability, network resources, and also require yet more physical storage resources at least in the transition.

(2) SRB and Registration appear to complement each other quite well.

(3) Registration was developed under the NARA grant (UCSD, MIT, and SDSC) to integrate DSpace and SRB.

Q: How might Registration be used with DSpace?

A: Registration is an optional capability--DSpace will work as just as it did before the Registration capability was introduced.

Q: How does Registration relate to SRB?

A: Registration and SRB are totally independent. You can use Registration with local storage or SRB storage. You can use SRB with or without Registration. You don't have to use either Registration or SRB.

Q: Where can I find out more about how Registration is integrated and used with DSpace?

A: The integration is fully documented in the DSpace documentation and commented in DSpace source code. Both the documentation and the code have been submitted to the DSpace committers team. You can see the full DSpace documentation (proposed) here, which documents both the SRB and Registration mods.

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UCSD's DSpace-SRB Code

More Information about the Project

UCSD's work on DSpace-SRB Integration.