

The Global Biological Resource Centers Network Architecture

Vanderlei Perez Canhos <vcanhos@cria.org.br>

Reference Center on Environmental Information (CRIA)
Av. Romeu Tórtima, 388, Barão Geraldo
13084-791 Campinas SP, Brazil

A key issue to be addressed in the implementation of the Global Biological Resource Centers Network (GBRCN) is the definition of a network architecture that allows the dynamic integration of data ensuring interoperability with relevant initiatives. Alignment with emerging technologies and adoption of internationally agreed standards and protocols is important to secure interoperability. Modularity allowing the independent development of different network components and flexibility to support the development of new applications are important features in the specification of the architecture. Security of the components of the distributed systems is recommended to ensure network resilience. The presentation will address the required functionalities of an inclusive network centered on the properties and characteristics of living cultures (microorganisms and cells) available in biological resource centers around the world and will discuss the existing data models, standards and protocols to integrate data at species level and genomic level. Through web interfaces, users should be able to search and retrieve data in different formats, and should be able select tools for data analysis and efficiently allow for example the visualization of species occurrence data on maps, and also have access to a number of indicators. The system should also provide reports on the member collection's profile, based on metadata and on the analysis of online data and reports.