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Lowering Entry Barriers for Multidisciplinary Cyber(e)-Infrastructures

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Multidisciplinarity is more and more important to study the Earth System and address Global Changes. To achieve that, multidisciplinary cyber(e)-infrastructures are an important instrument.
In the last years, several European, US and international initiatives have been started to carry out multidisciplinary infrastructures, including: the Spatial Information in the European Community (INSPIRE), the Global Monitoring for Environment and Security (GMES), the Data Observation Network for Earth (DataOne), and the Global Earth Observation System of Systems (GEOSS).
The majority of these initiatives are developing service-based digital infrastructures asking scientific Communities (i.e. disciplinary Users and data Producers) to implement a set of standards for information interoperability. For scientific Communities, this has represented an entry barrier which has proved to be high, in several cases. In fact, both data Producers and Users do not seem to be willing to invest precious resources to become expert on interoperability solutions -on the contrary, they are focused on developing disciplinary and thematic capacities.
Therefore, an important research topic is lowering entry barriers for joining multidisciplinary cyber(e)-Infrastructures. This presentation will introduce a new approach to achieve multidisciplinary interoperability underpinning multidisciplinary infrastructures and lowering the present entry barriers for both Users and data Producers. This is called the Brokering approach: it extends the service-based paradigm by introducing a new a Brokering layer or cloud which is in charge of managing all the interoperability complexity (e.g. data discovery, access, and use) thus easing Users' and Producers' burden.
This approach was successfully experimented in the framework of several European FP7 Projects and in GEOSS.