

# National integrated cyberinfrastructure system as an open commons in South Africa

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Significant investments in e-Infrastructure (or cyberinfrastructure in local terminology) have been made in South Africa, including centrally-funded investments in data infrastructure, networking and computing facilities. A review commissioned by the Department of Science and Technology (DST) in 2013 and conducted in 2014, which resulted in several recommendations for streamlining these investments. The desire to address e-Infrastructure as a system rather than a static set of independent activities can be taken in the context of the large science projects which the DST currently funds, such as the SKA. However, an e-Infrastructure System should take into account the wider pool of actors and resources, beyond what the funding agency directly controls, and consider investments in services which promote collective action.

In this presentation, we describe the National Integrated Cyberinfrastructure System (NICIS). We probe the concepts of Openness and the Commons as they pertain to the evolution of e-Infrastructure and related activities in South Africa and the region. We will focus on social aspects such reward and recognition mechanisms, as well as portability and contribution of skills and resources to the commons. While a true Open Commons for e-Science is not within the scope of NICIS, the initiative could certainly lay the boundaries for such activity and bring order to the system, helping to stimulate participation, clarify constituency and provide the cross-cutting services necessary to collaborate. Considering Open Commons as an Exchange, we discuss briefly some of the implications for the people who inhabit, develop and share the Commons - educators, researchers, developers and operators. Finally we consider a few of the potential implications for South African e-Science environment, and the implications for the sub-Saharan region, should an Open Commons for e-Infrastructure come to be.

**Presenter:** BECKER, Bruce (South African National Grid)

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