The Interoperability Process Pilot Projects (IP3)

Stefano Nativi
nativi@imaa.cnr.it

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IP3 Team

• GBIF Secretariat
  – Éamonn O Tuama
• IEEE (sub-task leader)
  – Siri Jodha Khalsa, Stefano Nativi, Reece.H.Lumsden, Paolo Mazzetti
• NASA JPL
  – Gary Geller
• University of Colorado
  – Robert Guralnick, Chris Ray
• University of Ottawa
  – Jeremy Kerr
• University of Tokyo
  – Motomi Ito
• WMO
  – David Thomas
Origins and Goals of the IP3

• Started in 2006 by GEOSS ADC
• The “Interoperability Process Pilot Project” (IP3) was conceived as a way to begin implementing the GEOSS infrastructure and testing the GEOSS interoperability process
• Main topics
  – Implementation of interoperability process for integrating data and information systems
  – Utilization of earth observation data for cross-disciplinary basic and applied research
  – Develop multi-disciplinary prototypes and demonstration of functionality
• IP3 successfully demonstrated use scenarios dealing with the CC effects on Biodiversity at the GEO Summit in November 2007
CC and Species distribution demonstration

Workflow management (AJAX-based ENM)

SOAP

ENM SERVER

OpenModeller technology

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**CC and Species distribution: demonstrated interoperability process**

1. Write a formal and expanded use scenario
2. Access and retrieve *Species distribution* data via GBIF portal web services
3. Access and retrieve *Climate Change* data (i.e. NCAR ones) via OGC WCS
4. Interoperability with GBIF and Climate Change resources using the **IP3 Distributed Catalog/Mediator** component
5. Use an **ENM framework** (i.e. based on Open Modeller) through its **SOAP functionalities** to generate future distribution projections
6. Use an **AJAX based graphical client.**
Main Contributions #1

- The IP3 Team will host, register and operate the **IP3 Clearinghouse/Mediator component**
  - A Community Distributed Catalogue Component
  - Clients to numerous disciplinary services based upon interoperability arrangements

- The IP3 Team will provide the following contributions to the Climate Change and Biodiversity use scenario
  - An **Ecological Niche Modeling server**
  - An **Ajax based client to interface the ENM server**
  - **Local, Regional and Global CC datasets** (e.g. IPCC and TOPS data)
  - CSW-based **discovery and access services to GBIF Species Distribution data**
Main Contributions #2

• IP3 will make **recommendations** where open standards are not currently meeting the needs of the disciplines including
  – draft recommendations to the standards developing organizations based upon the GEOSS “Interoperability Arrangements"