Fed GeoCloud-II
'GeoNode'

Merging Cloud and NOAA
IT Resources for Geospatial Services
Project Background

• 2011 HPCC Research Project: 'Enterprise GIS Web Services Hosting Environment for NOAA'

• Purpose:
  o Deploy Open Source geospatial software to WOC to allow NOAA data providers to easily publish data
  o Utilize existing NOAA resources and expertise
  o Prototype a system and prove a capability as well as the existence of an agency need
What is Fed GeoCloud?

- Interagency working group with goal to create cloud computing reference platforms and prototypes (PaaS/SaaS)
- Provides funding to operate AWS 'sandbox' infrastructure for platform development
- Select and deploy Federal agency geospatial applications on reference platforms
- Document best practices, lessons learned
- Provide a development to operations path
GeoCloud Base Platforms:

Windows Platform

- Microsoft IIS
- ESRI ArcGIS Server 10
- Windows Server 2008 R2

Open Source Platform

- Apache/Apache Tomcat
- OpenGeo Suite (PostgreSQL/PostGIS GeoServer) + GeoNetwork
- Linux CentOS v 5.5
2012 GeoCloud Project: GeoNode

- GeoNode: Open Source SDI solution (geonode.org)
  - Investigate a hybrid approach of NOAA-hosting and cloud hosting to extend capabilities of HPCC pilot project
  - Open Source software: GeoNetwork/GeoNode

- NOAA (WOC) hosting:
  - serve geospatial data via OGC services

- GeoCloud hosting:
  - associated service metadata
  - provide front end and CS-W compliant service for user access to metadata and compliance with NOAA metadata catalog
Why a hybrid approach?

- Amazon/AWS can be a cost-effective option for certain use cases
- AWS cost increases based on usage:
  - bandwidth
  - I/O
  - data storage
- For OGC service hosting, optimal solution may be a hybrid where resource intensive data/service hosting is handled internally, while metadata/assoc services are cloud-hosted
Getting NOAA spatial metadata and services into the GeoCloud

NOAA GeoPortals

Geoportal metadata harvest

GeoNetwork/GeoNode

Service Metadata harvest
Metadata upload planned in future
For Shared Hosting

HPCC Shared Hosting Services

Analyze metadata quality in the Cloud using XML Processing

Metrics computed in NOAA Data Management Dashboard on NOAA UMS

Pass NOAA Metadata requirements

NOAA Clean Metadata Catalog

Data Services Made Available in NOAA GeoPlatform instance

Fail NOAA metadata requirements

Feedback to Metadata Provider