

ESIP Products and Services Testbed Activities: Discovery Cluster

ESIP 2011 Summer Meeting
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Sante Fe, NM

- Discovery Services
 - Federated OpenSearch
 - DataCasting
 - ServiceCasting
- Multiple data center service implementations
- Multiple client implementations
- Governance process established
 - Community-based approach to defining interoperable specifications

Interoperability Testing



- Want to test interoperability and conformance to specifications
 - Deployment at datacenter
 - Deployment in ESIP testbed
- Servers: test conformance to specifications
 - OpenSearch Services
 - DataCast Services
 - ServiceCast Services
- Clients: test compatibility with services
 - OpenSearch Clients
 - DataCast Clients
 - ServiceCast Clients

- Address difficulty in discovery of Discovery services, their capabilities, and access
- Where to place web-crawlable feeds?
 - NSIDC Libre example
- Provide common platform for advertisement in testbed
 - “registry”?
 - ServiceCast of Discovery services?

Machine-to-Machine Usage



- Enable machine-processable ingest of available Discovery services
- Demonstrate how Federation-wide member services can be advertised, described, and chained together using existing technologies.
- New capabilities
 - Association of data to services
 - Match up data collection or granule to compatible services provided by Federation members
 - Mashups
 - OpenSearch of Services
 - DataCast of collections with granule-level OpenSearch

Approach



1. Setup the testbed
 - supporting service and client implementations to be deployed onto the testbed
2. Setup a service cast of Federation member's services offered
3. Deploy a testbed for advertisement services
4. Deploy multiple instances for interoperability testing

1: Setup Testbed



- Virtual Private Server (VPS)
 - Setup virtual machine image
 - Preconfigured OS and software stack for Discovery use
 - Can deploy multiple instances for each service/client test
- No requirements for elastic cloud deployment
- VPS Hosting service
 - Public hosting
 - Private hosting at ESIP facilities

2 and 3: Setup ServiceCast



- Deploy web interface to manage Discovery service registrations
- ServiceCast feed provides registered services.
- Deploy as VPS
- Maintain uptime

4: Deploy Multiple Instances



- Reuse VPS image
- Allow each VPS image to be started for each interoperability testing
- Isolated environments
- Enables installation of all dependencies without contaminating OS for others

- Improved interoperability of ESIP Discovery services and clients
- Leads to broader adoption.
- Increased awareness and usage of Discovery services.
- Enable brokering of data collection and granules to compatible services that can use them.