Metadata Developer's Toolkit - Toolkit Development

2015 CDI Workshop

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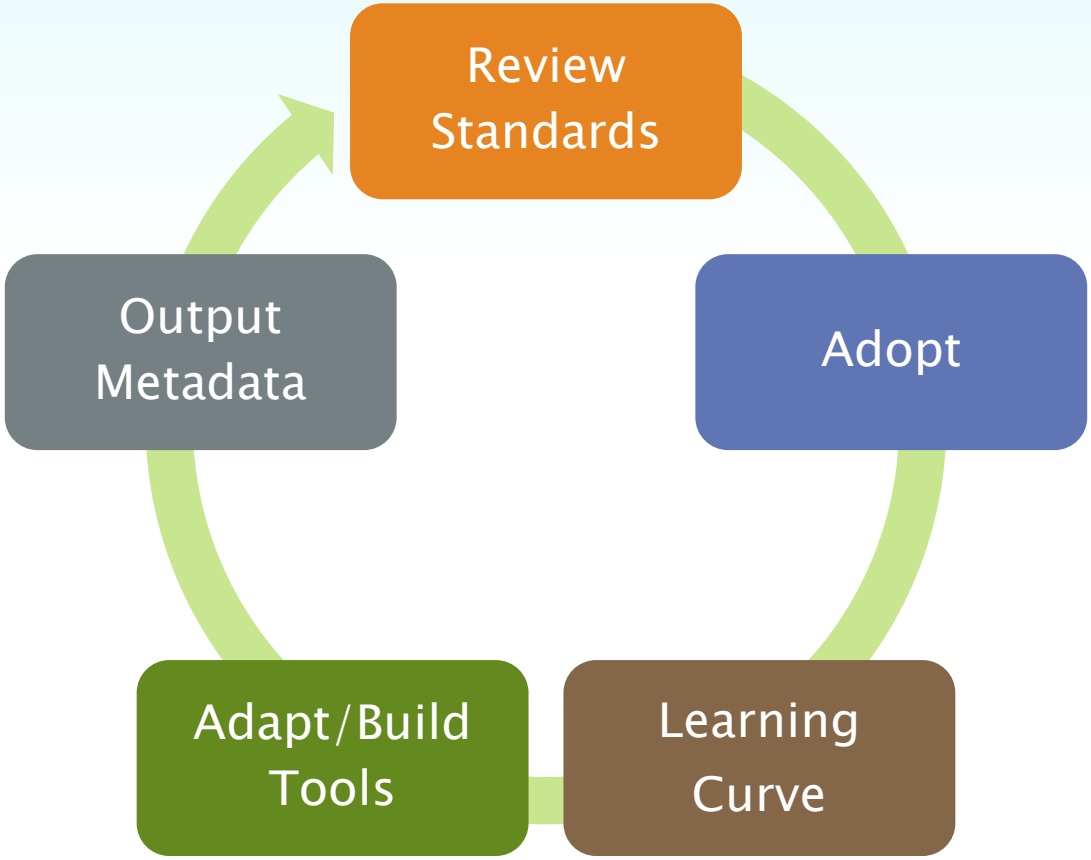
Project Objectives

- **Share metadata easily and efficiently among organizations**
- **Support both project and data metadata**
- **Eliminate necessity to learn ISO 19115 family of standards**
- **Make it easier for organizations to**:
  - Achieve ISO compliance
  - Integrate ISO support into local applications and services
  - Implement custom web services with ISO metadata capability
- **Host a public web service for generation of ISO metadata records**
- **Host a public web app for PIs to enter and edit metadata**

Traditional Process



Number of Supported Standards

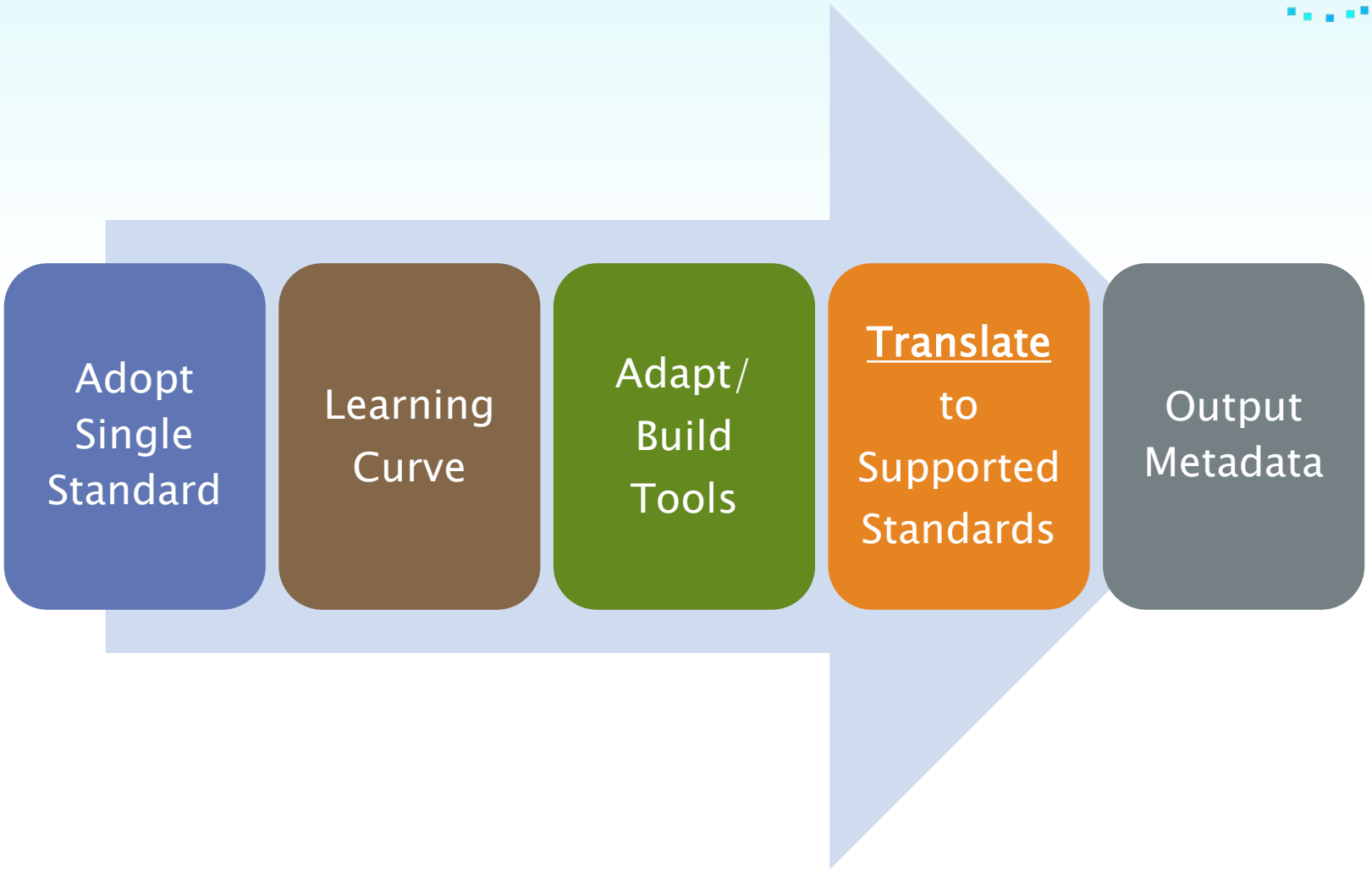
Choices

- Which Standard?
  - FGDC CSDGM, Dublin Core, EML, ISO/TC 211, …
- Which Version?
  - 19115, 19115-2, 19115-1, …
- Which Profile?
  - Based on ISO 19115: North American Profile, WMO Core, INSPIRE, Polar Metadata Profile, …

ISO (19115-2) Metadata

- Comprehensive, a great starting point
- Learning curve is steep!
- Too heavy & complex for common data-interchange
- Rigid, not easily extended (and still validate)
- Another profile???

ADIwg Concept



Solution

Create a new, independent standard that is flexible, adaptable, lightweight, and capable of being translated into other standards and formats, including ISO 19115.

JavaScript Object Notation

```
{
  "firstName": "John",
  "lastName": "Smith",
  "age": 25,
  “active”: true,
  "address": {
    "streetAddress": "21 2nd Street",
    "city": "New York",
    "state": "NY",
    "postalCode": "10021"
  },
  "phoneNumber": [
    {
      "type": "home",
      "number": "212 555-1234"
    },
    {
      "type": "fax",
      "number": "646 555-4567"
    }
  ]
}
```

Why JSON?

- Easy Input/Output for both humans and machines
- Focus is on the data, not markup
- Wide support by programming languages
- Excellent for data-interchange
- JSON Schema for validation

{ “JSON” : “KISS” }

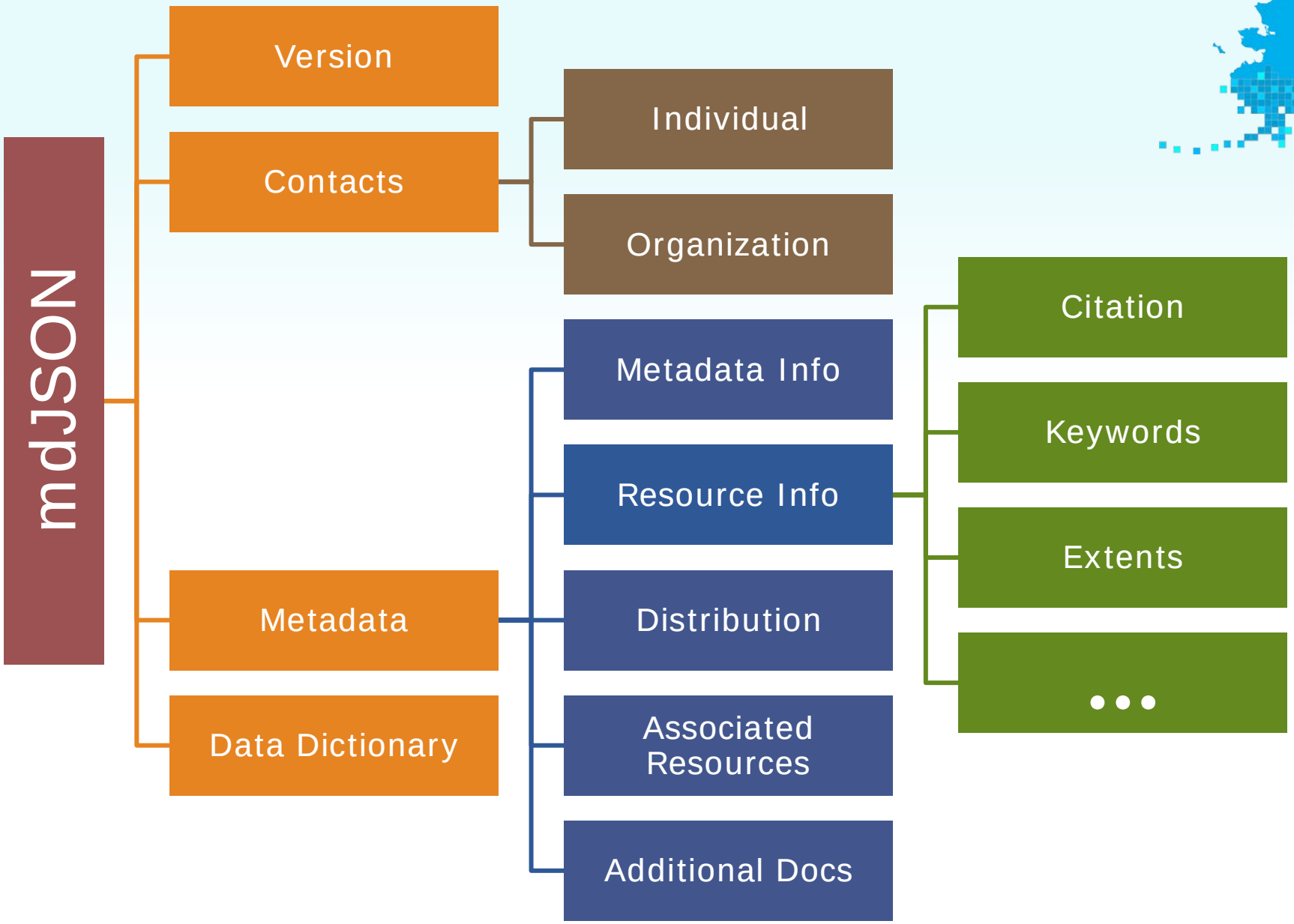
- Two basic (nestable) structures:
  - A collection of name/value pairs, i.e. object
  - An ordered list of values, i.e. array
- Values are: a “string”, or a number, or true or false or null (or an object or an array)
- Simple but powerful - can represent complex OO data structures

GeoJSON

- Drop-in support for spatial extents
- Widely supported in common frameworks and APIs: OpenLayers, Leaflet, MapServer, GDAL, Google, ESRI, etc…
- Easy to extract

mdJSON Design

- Influenced by ISO 19115-2/19110
- Mapped to FGDC CSDGM
- Define and validate via JSON Schemas
- Support both project and data metadata


mdJSON
Version
Contacts
Individual
Organization
Metadata
Metadata Info
Resource Info
Distribution
Associated Resources
Additional Docs
Citation
Keywords
Extents
• • •
Data Dictionary

Tools Needed

- Needed to develop schemas
- Major focus on documentation
  - Traditional reference docs
  - Interactive, Graphical
- At a minimum, support ISO 19115-2
- Make everything easily available
- Lay groundwork for developing a mdJSON editor

Questions?

github.com/adiwg/mdWorkshop

www.adiwg.org/mdTools

mdtranslator.adiwg.org

mdbook.adiwg.org