



**INTEROPERABILITY  
INSTITUTE**

## **Interoperability Institute Bringing Interoperability to You**

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*Community Coordinator*

# AGENDA

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Introduction to IOI

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Interoperability Land™ & Meld Sandboxes

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Partnerships & Community Efforts

# Who is IOI

## Our Mission...

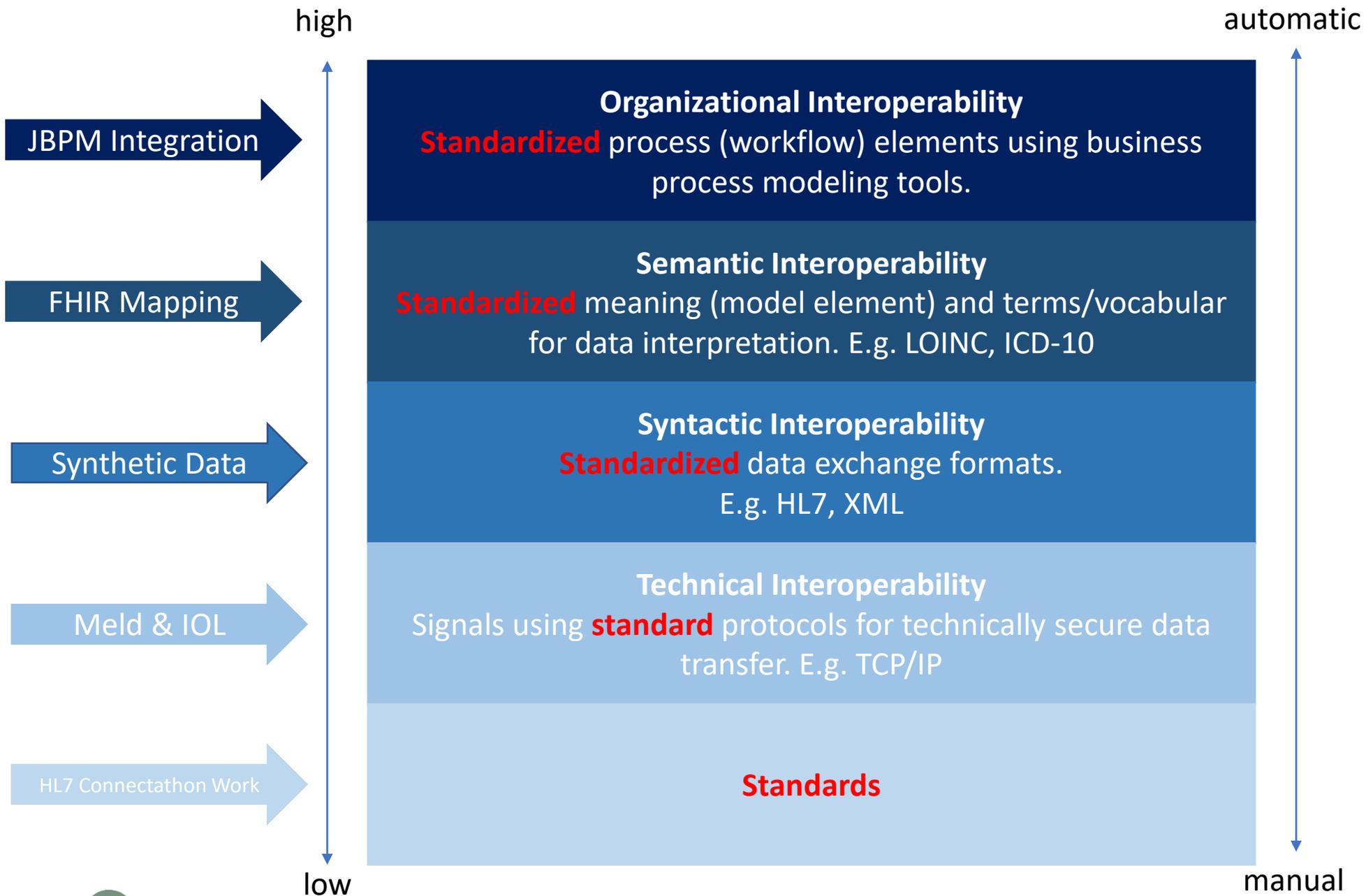
...to enable organizations and communities to harness the benefits of interoperability at scale. This mission is achieved through next generation workforce training, interoperability testbed standardization, and solution development focused on enabling interoperability and standards.

## Some of our Partners...

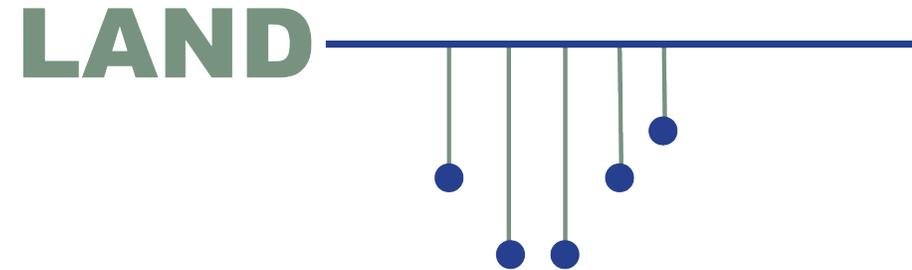


# What has IOI done to push Interoperability?

- Establish cutting-edge Interoperability Land™ Sandbox with Rings of Pilot Interoperability Testbeds (PITs)
- Establish the free and open-source Meld Sandbox available to the whole healthcare community
- Participate regularly in HL7 Connectathons with various Accelerator Groups—Davinci, CARIN, and Gravity
- Establish strong workforce program to help teach next generation of healthcare workers
- Establish Academic Partnerships program to help University HealthIT Programs learn more about Interoperability, FHIR, and technology



# INTEROPERABILITY™



Interoperability Land™ (IOL) is a collaborative, digital platform designed to power the future of interoperability. IOL offers a cloud-hosted immersive environment to advance industry solutions for private sector companies, technology incubators, start-up companies, and academic endeavors. Users can harness the power of synthetic FHIR data to create, test, and validate their healthcare applications.

# IOL's Features

Get your own instance of IOL on AWS Marketplace and have it fully available within an hour!

Offers **millions** of synthetic data points both clinical and claims

Private & Scalable sandbox for just you and your team

Test against SMART on FHIR & CQF Ruler

# A look into IOL...

Home > Patient > VRead Resource

Server: Local Tester Source Code About This Server

**Options**

Encoding: (default) XML JSON

Pretty: (default) On Off

Summary: (none) true text data count

**Server**

Server Home/Actions

**Resources**

- Observation 357954
- Procedure 162974
- Encounter 119436
- Appointment 114703
- Slot 114703
- DiagnosticReport 86267

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system": "http://hl7.org/fhir/sid/us-ssn",
"value": "000003023"
}
}
"system": "http://hl7.org/fhir/identifier-type",
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"display": "Social Beneficiary Identifier"
}
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  }
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    "line": [
      "982 Pine Street"
    ],
    "city": "Saginaw",
    "district": "Saginaw County",
    "state": "MT"
  }
]
```

# Meld Sandbox

- You can review & contribute at your speed to this open-source project. Giving this to the community to be used
- Containerized architecture that is completely managed to give greater performance than other available open-source sandboxes
- Interact with innovative new technologies!
  - LEAP CDS (Consent Decision Service) Project
  - Inferno Validator
  - CDS (Clinical Decision Service) Hooks
  - FHIR® DSTU2, STU3, R4, and R5
- Not only meant for developers, but all members of your team can also work in Meld on new projects.



# Meld's Features

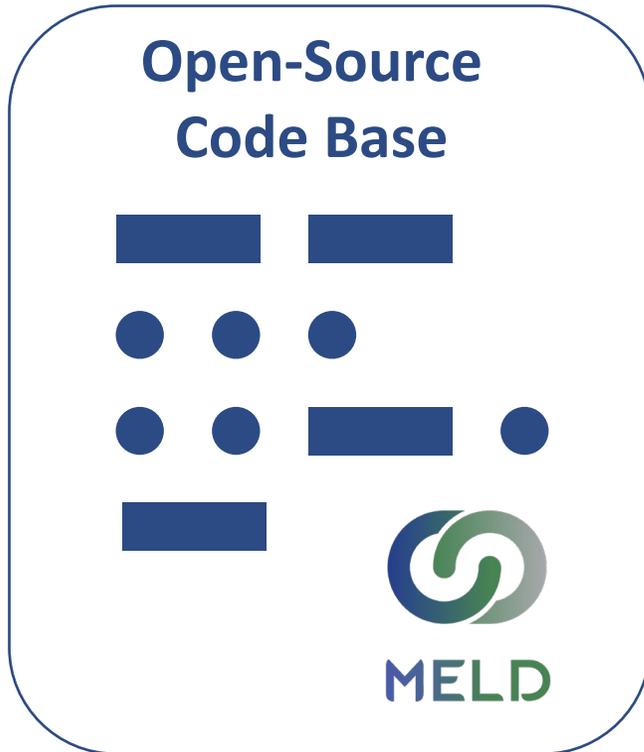
Open-Source Project that the entire healthcare community can utilize and help improve

Containerized Architecture that increases stability of sandbox

Innovative New Technologies—LEAP CDS, CDS Hooks, FHIR Data

Business & Developer Friendly Interface

# Open-Source Software (OSS) and An Open Proving Ground (Sandbox)



**Meld INSTANTIATED OPEN SANDBOX  
PROVING GROUND**

# A look into Meld...

The screenshot shows the Meld application interface. The top navigation bar features the MELD logo on the left and a search bar in the center. On the right side of the top bar are icons for help, notifications, and user profile. The left sidebar contains a list of menu items: EHR Simulator, Apps, CDS Hooks, Launch Scenarios, Patients, Personas (highlighted), Practitioners, Profiles, Data Manager, and Tools. The main content area is titled 'Personas' and includes a filter dropdown set to 'Type'. Below the title is a table with the following data:

Name	FHIR Resource	Login Info	
 Susan A Clark	Practitioner/smart-Practitioner-71482713	U: examplePersona@kendrahdemo P: example	
 Daniel X Adams	Patient/smart-1288992	U: daniel@kendrahdemo P: daniel	
 Michelle H Schmidt	Practitioner/smart-Practitioner-72004454	U: michelle@kendrahdemo P: 1234	
 Brian N Brooks	Patient/smart-981968	U: brian@kendrahdemo P: 1234	
 Leah Brown	Patient/15016	U: leah@kendrahdemo P: 1234	

# Meld Demonstration

<https://meld.interop.community>

# Enhance your Sandbox Experience

Realistic Synthetic Data at Scale

Handmade Synthetic Personas

Synthetic ADTs, CCDs, ORUs, X12,  
BFDR messages

Guided Training & Testing Events

# IOI's Synthetic Data

**Olga** was diagnosed with **Chronic Heart Failure** when she was **63 years old**. It came as a huge shock to her family, as they had always strived to be healthy individuals. In her time of need, Olga's family supported her wholeheartedly. They ensured she never attended doctor's **appointments** alone and was always on time when taking her new **medications**.

```
    "active": true,
    "period": {
      "start": "2019-02-07T12:00:00+00:00",
      "end": "2019-02-07T13:00:00+00:00"
    },
    "individual": {
      "reference": "Practitioner/46704",
      "fullUrl": "https://wxydjx-ioisb.interoplant.com/truescript-pharmacy/fhir/Medication/131056",
      "resource": {
        "resourceType": "Medication",
        "id": "131056",
        "meta": {
          "versionId": "1",
          "lastUpdated": "2021-07-13T22:30:23.000+00:00",
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        },
        "text": {
          "status": "generated",
          "div": "<div xmlns='http://www.w3.org/1999/xhtml'>This is a simple narrative with only plain text</div>"
        },
        "extension": [
          {
            "url": "http://mihin.org/extension/copyright",
            "valueString": "Copyright 2014-2020 Michigan Health Information Network Shared Services. Licensed under t"
          }
        ],
        "code": {
          "coding": [
            {
              "system": "http://www.nlm.nih.gov/research/umls/rxnorm",
              "code": "1656343",
              "display": "sacubitril 24 MG / valsartan 26 MG Oral Tablet [Entresto]"
            }
          ]
        },
        "status": "active"
      }
    },
    "request": {
      "method": "POST",
      "url": "Medication"
    }
  }
}
```

```
    "system": "http://hl7.org/fhir/sid/icd-10",
    "code": "I50.9",
    "display": "Chronic congestive heart failure (disorder)"
  }
}
```

# IOI's Synthetic Data Packs

- Buy on AWS Marketplace today!



## About Interoperability Institute LLC

The Interoperability Institute, a wholly-owned, non-profit entity of the Michigan Health Information Network Shared Services focuses on creating communities and environments that accelerate the adoption of interoperability in ways that result in greater health and more impactful delivery of human services. For more information, visit [www.interoperabilityinstitute.org](http://www.interoperabilityinstitute.org).

## Interoperability Institute LLC

[Visit the Interoperability Institute LLC website](#)

All products (19 results) showing 1 - 19

< 1 > ⚙️

Sort By: Relevance ▼



### Synthetic Healthcare Data: ADT, CCD, and DS Combo pack

By Interoperability Institute LLC

Price \$1,200 | 12 month subscription available.

Using a statistic population health model generator, this data set is made up of highly realistic, but synthetic patient data that can be used for testing purposes without risk of disclosing PHI (protected health information).



### Synthetic Healthcare Data: ADT, CCD, and DS Combo pack Sample

By Interoperability Institute LLC

Free | 12 month subscription available.

Using a statistic population health model generator, this data set is made up of highly realistic, but synthetic patient data that can be used for testing purposes without risk of disclosing PHI (protected health information).



### Synthetic Healthcare Data: COVID Admission, Discharge, Transfer Messages

By Interoperability Institute LLC

Price \$500 | 12 month subscription available.

Using a statistic population health model generator, this data set is made up of highly realistic, but synthetic patient data that can be used for testing purposes without risk of disclosing PHI (protected health information).



### Synthetic Healthcare Data: Continuity of Care Documents (CCD)

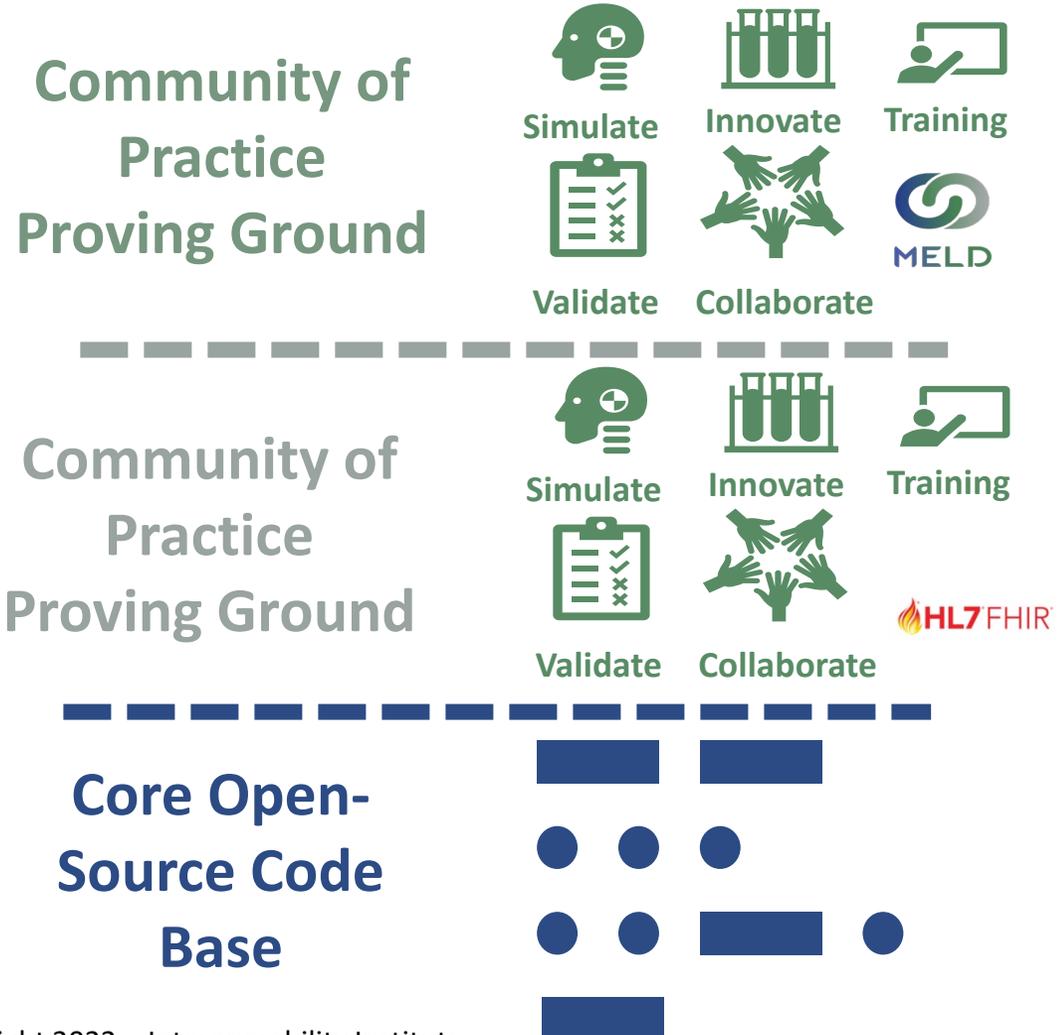
# Interoperability Community



InterOp.Community provides a governance structure and technology platform designed to advance healthcare and SDoH interoperability via the use of open platforms and open-source software.



# Communities of Practice (CoP) Add to the Meld Open-Source Code Base





# CoP's Use the Meld Open Proving Ground or Commission New Proving Grounds



# Power of Community: eConsent CoP Example

- POLICY
  - Continue to resource Project Unify
  - Support development of standards (HL7)
  - Interoperability Showcase with SDOH demo
- INFRASTRUCTURE
  - Deploy SaaS proving ground
  - Implement Identity Management
  - Assessment of Trust Frameworks
- WORKFORCE
  - Define Consent Business Process Models
  - Use of OER course packs with ONC Workforce



# Academic & Workforce Partnerships

Returning Learning to the  
System

**Outline lesson plan** using Interoperability Institute's robust course packs, immersive environment, and synthetic data

**Enable new content** in future lab sessions and course packs based on feedback and latest standards

**Sponsor an intern** (optional) to research new content, create course packs, or build business process models

**Host Interoperability lab session(s)** with your employees and our team of experts

**Provide feedback** to the organization

# Academic & Workforce Partnerships

## Value Proposition

- Access to instructional materials for healthcare interoperability, FHIR standards and querying HAPI servers
- With today's virtual classroom, provides online flexibility to access instructional materials
- Seamless integration to the employee learning management system to utilize course packs without additional financial burden
- A secure virtual learning environment with easy access for both students and faculty
- Continued updates to the content as interoperability and standards evolve

# Internship Program

## Overview



### Goal

To provide early career opportunities to address the talent gap in information technology and healthcare to ensure the supply of talent meets the current and emerging needs of the healthcare industry

### Vision

To create a formalized workforce and mentorship program designed to provide continued professional development that formally links with academic programs which results in real word hands on experience

### Objectives

- Build career awareness at critical stages along the talent pipeline
- Establish career pathways through college and university partnerships
- Provide programs to train individuals at any stage in their health IT career

# Internship Program

## Student Interns



100% remote work!

Interns create a weekly work schedule within our office hours

Required to work 15 to 29 hours per week for 2 semesters

Competitive hourly rate

Collaborate with health IT leaders

Learn cutting-edge health IT initiatives

Recruit all year around!

Start in January, May, and August

All majors welcomed!

Apply [online](#)

# Why do we do this?

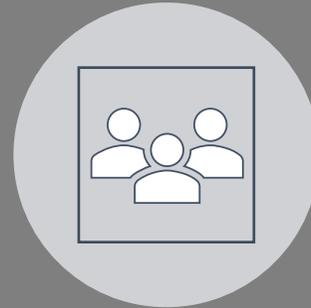
In pursuit of interoperability!



TOOLS &  
SOFTWARE



EDUCATION



COLLABORATION



POLICIES & RULES

# Learn More...

Check out the Meld Sandbox: <https://meld.interop.community>

Check out the Meld GitHub: <https://github.com/Interop-community>

Check out IOL's AWS Listing: <https://aws.amazon.com/marketplace/pp/prodview-f34r2uj3naohe?sr=0-24&ref=beagle&applicationId=AWSMPContessa>

Check out IOI's Open Education Resources:

[https://www.oercommons.org/search?f.search=interoperability+institute&f.general\\_subject=&f.subject=&f.alignment\\_standard=](https://www.oercommons.org/search?f.search=interoperability+institute&f.general_subject=&f.subject=&f.alignment_standard=)



**Thank you!**

**Kendrah Baker**