Linked Data and Graph Database Working Group

Overview for CSS 2017
New Name, Broader Scope

• Formerly “Semantic Technology”

• **Linked Data**
  – Semantic Web
  – Resource Description Framework (RDF)

• **Graph Databases**
  – Labeled Property Graphs (Neo4j)
  – Graph Visualization and Analytics
  – Process modeling, etc.
2016 Year in Review

• **Reg2RDF**
  – Project completed
  – Searchable interface for regulations modeled in RDF
  – 2017: Activities will continue within the FDA

• **Clinical Development Design**
  – Phase I completed
  – Peer-review journal white paper
  – 2017: Phase II
2016 Year in Review

• **Analysis Results & Metadata**
  – Project completed
  – Prototype: analysis results to linked data (RDF)
  – R Package, Technical Specification
Plans for 2017 CSS
Hands-on Workshop  [New!]

• 30 Attendees  (full)
• Spring Room
  – 7:30 pm start.
  – 7:20 to test login

Create and Explore Linked Data

• Neo4j Labeled Property Graph (LPG)
• RDF with ontology
• Federated query
“Link-a-thon” [New!]

• LD&GD collaboration with ET&T Alternative Transport Format

Compare and contrast SAS v5 Transport with..

• Neo4j Labeled Property Graph
• RDF
• Others? JSON-LD, XML, stone tablets
"Link-a-thon" [New!]

Objectives:

- Small groups of CDISC SMEs and technologists hacking, linking, and having fun
- Compare and contrast different models and technologies
- Recommendations for next steps
  - EU CSS?
  - White paper?
  - Annual Conference: Discussion Club? Other?
SDTM Data as RDF [New!]

• Co-leads
  – Tim Williams, UCB Biosciences
  – Armando Oliva, Semantica LLC

• SDTM domain data as **Linked Data**
  – “Context-free” data built on existing CDISC standards
  – Create supporting ontology
  – Validation, integrated DEFINE
  – Create highly compliant SDTM data
# LD & GD Schedule Overview

<table>
<thead>
<tr>
<th>MONDAY</th>
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<tbody>
<tr>
<td>11:00</td>
<td>Joint Intro Session: LD&amp;GD with Emerging Tech <em>Ellsworth</em></td>
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<tr>
<td>13:00-16:30</td>
<td>Linkathon <em>Ellsworth</em></td>
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<table>
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<th>Tuesday</th>
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<tr>
<td>09:00-11:00</td>
<td>Joint Intro Session: LD&amp;GD with Emerging Tech <em>Ellsworth</em></td>
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<tr>
<td>11:00-12:00</td>
<td>New Project Intro: SDTM as RDF <em>Ellsworth</em></td>
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<tr>
<td>13:00-14:00</td>
<td>Joint Wrap Session: LD&amp;GD with Emerging Tech <em>Ellsworth (??)</em></td>
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LD&GD Wants You!

No linked data experience? NO PROBLEM.

• Learn Linked Data as you go.

• Bring your other experience...
  – CDISC
  – R
  – Data Visualization
  – Validation
  – Study design, data collection, analysis
Ideas for New LD&GD Projects?

- Process and code dependency modeling?
- Interactive visualization of linked data?
- Metadata, traceability
- Text mining and analysis with RDF ontologies?
- Bring your ideas!

See you there!