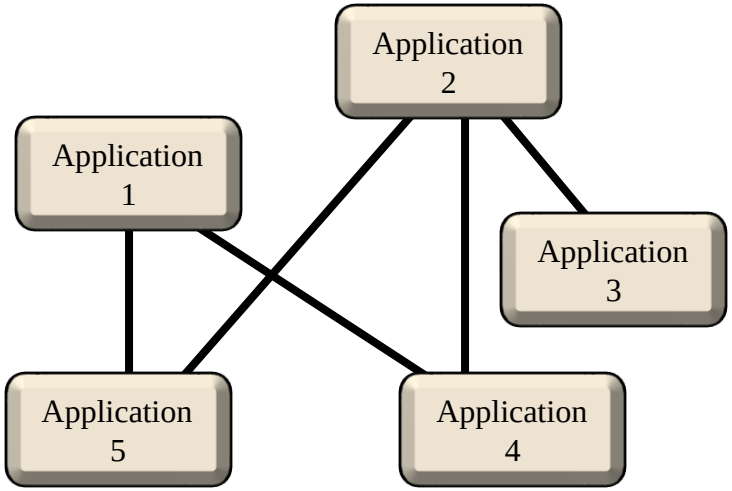
Framework for Geospatial Data Design

Traditional Data Access



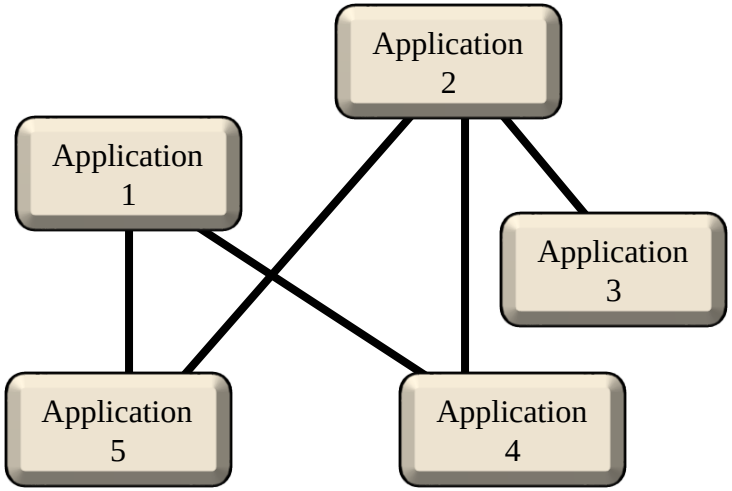
Point-to-Point Mapping

$c = (n(n-1))/2$

Data

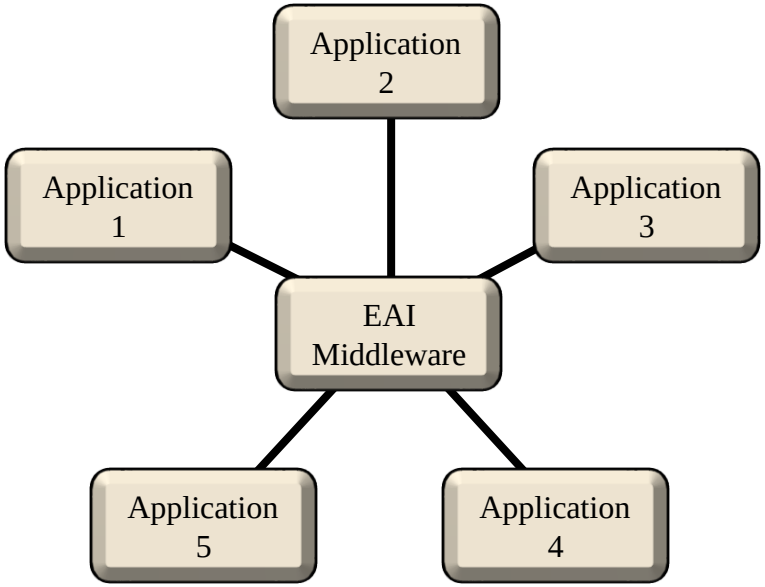
- Enterprise information: diverse content that is consistently shared across multiple business processes and capabilities
- Means of access to data must be defined and created
- "Traditional" approach to data integration
  - Point-point modeling
- Alternative approach
  - Enterprise Application Integration (EAI) using a standard, canonical model to enable multiple systems to exchange data

Data Access Via Middleware



Point-to-Point Mapping

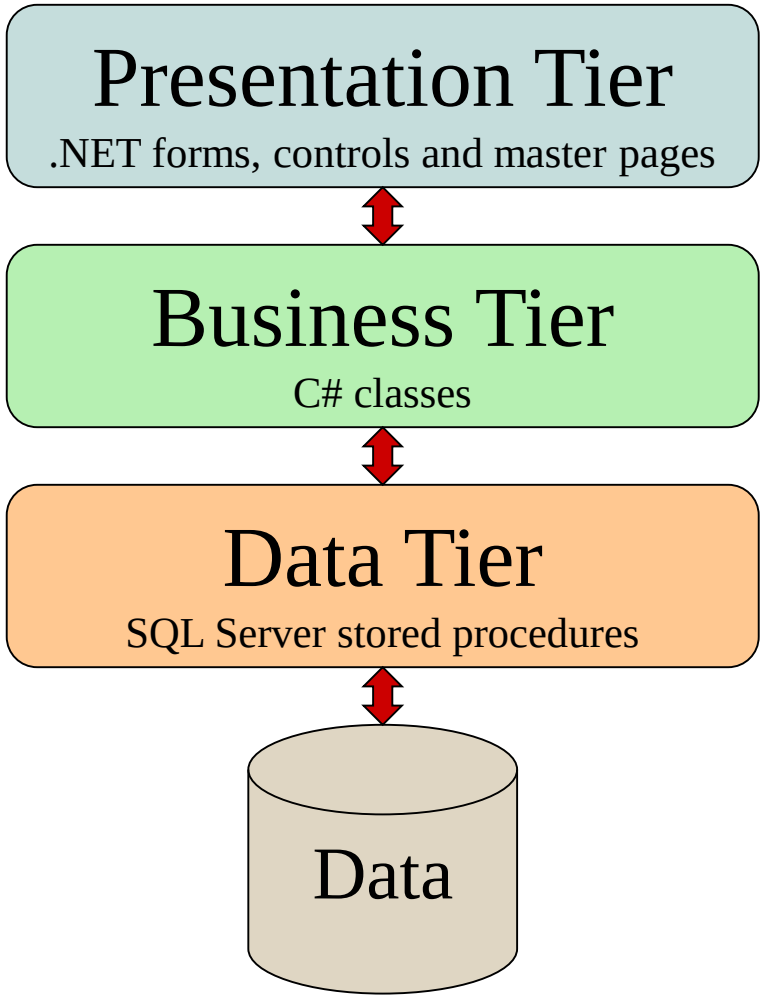
c = (n(n-1))/2

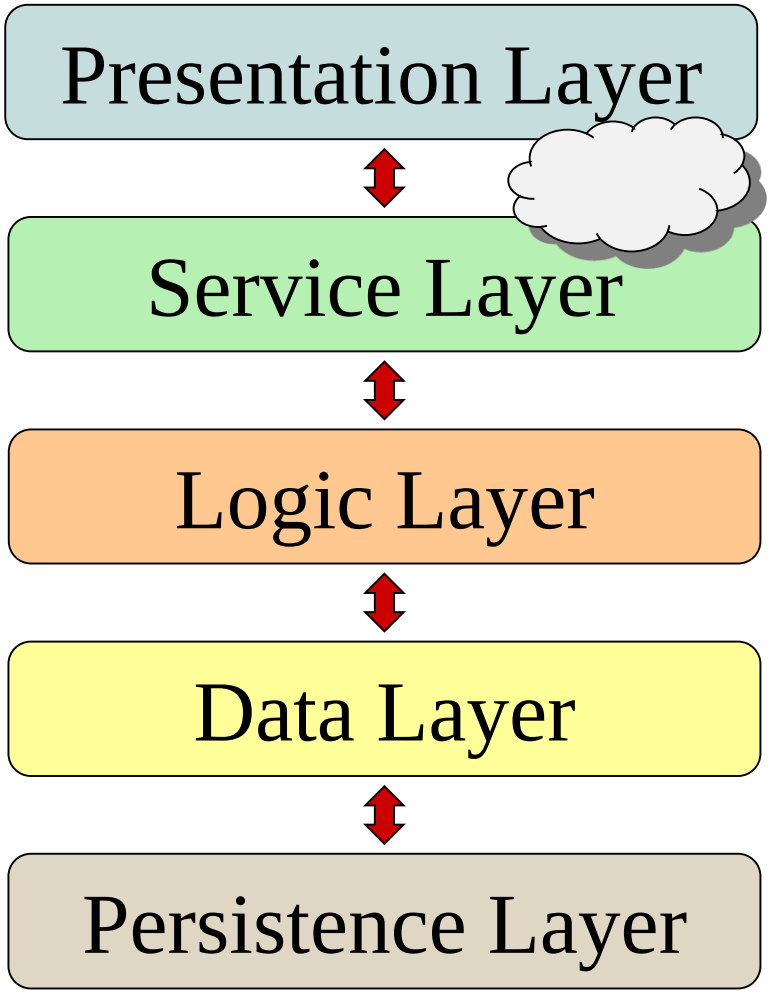


Canonical Model Mapping

c = 2n

N-Tier Architecture Examples





Canonical Modeling

- “Interoperability by design” (Gartner)
- “A model which is in the simplest form possible based on a standard, common view within a given context” (Wikipedia)
- Knowledge base for data exchange with a shared vocabulary

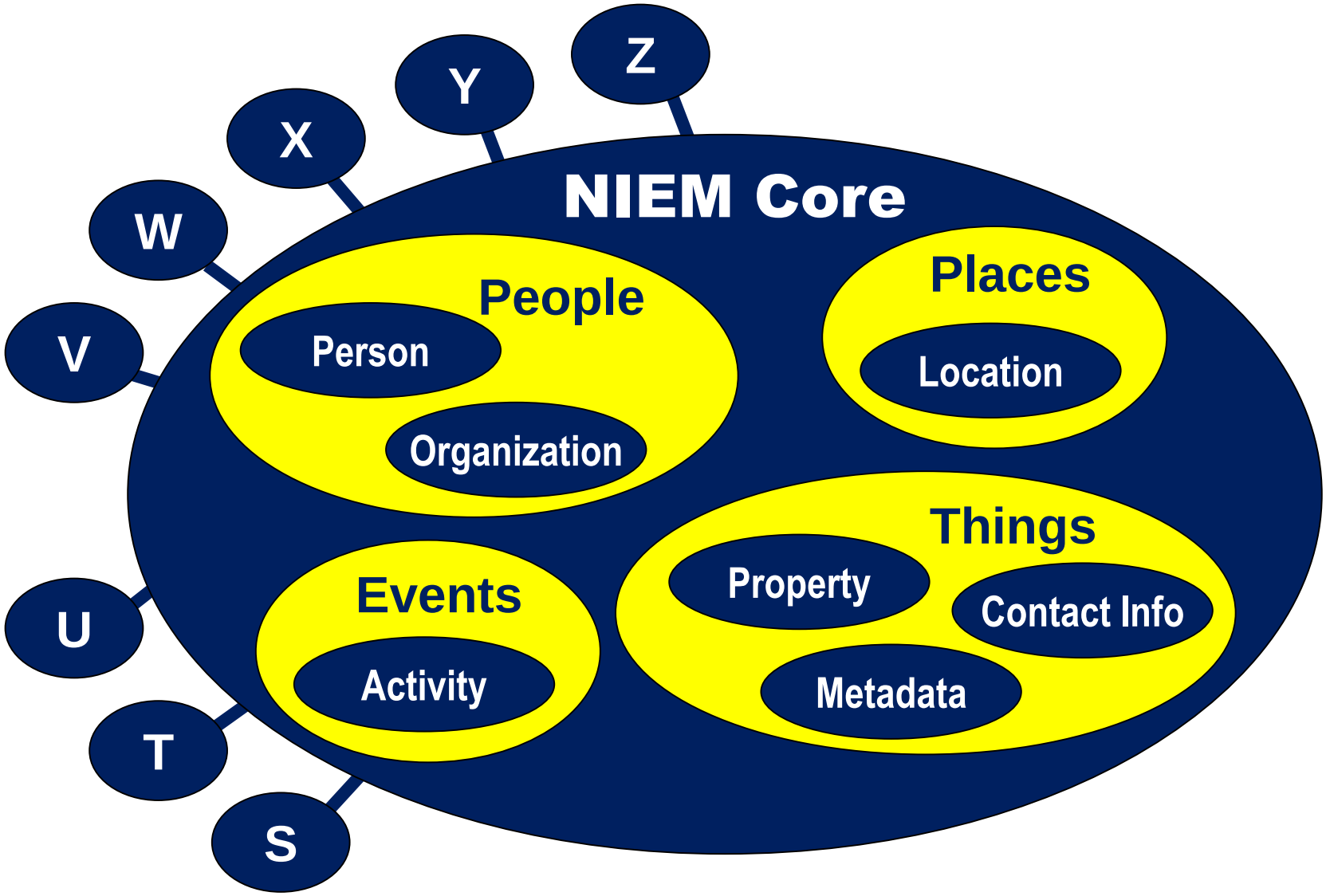
Easiest Path to a Canonical Model

- Use an existing sector-focused model
  - Health: HL7 International
  - Automotive Retail: STAR
  - Insurance: ACORD
  - Defense: DoDAF
  - Retail: ARTS
  - Government: **NIEM**

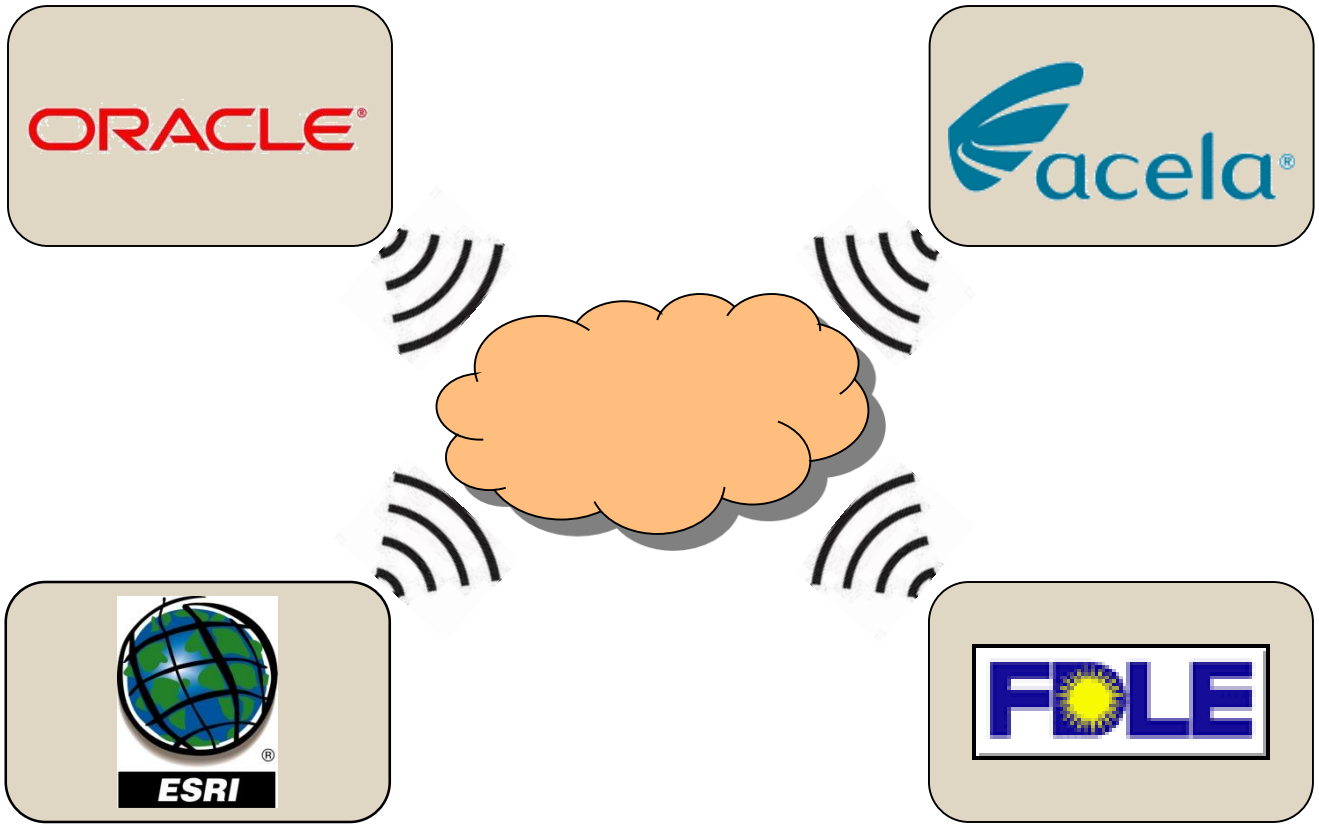
    National Information Exchange Model



NIEM Overview

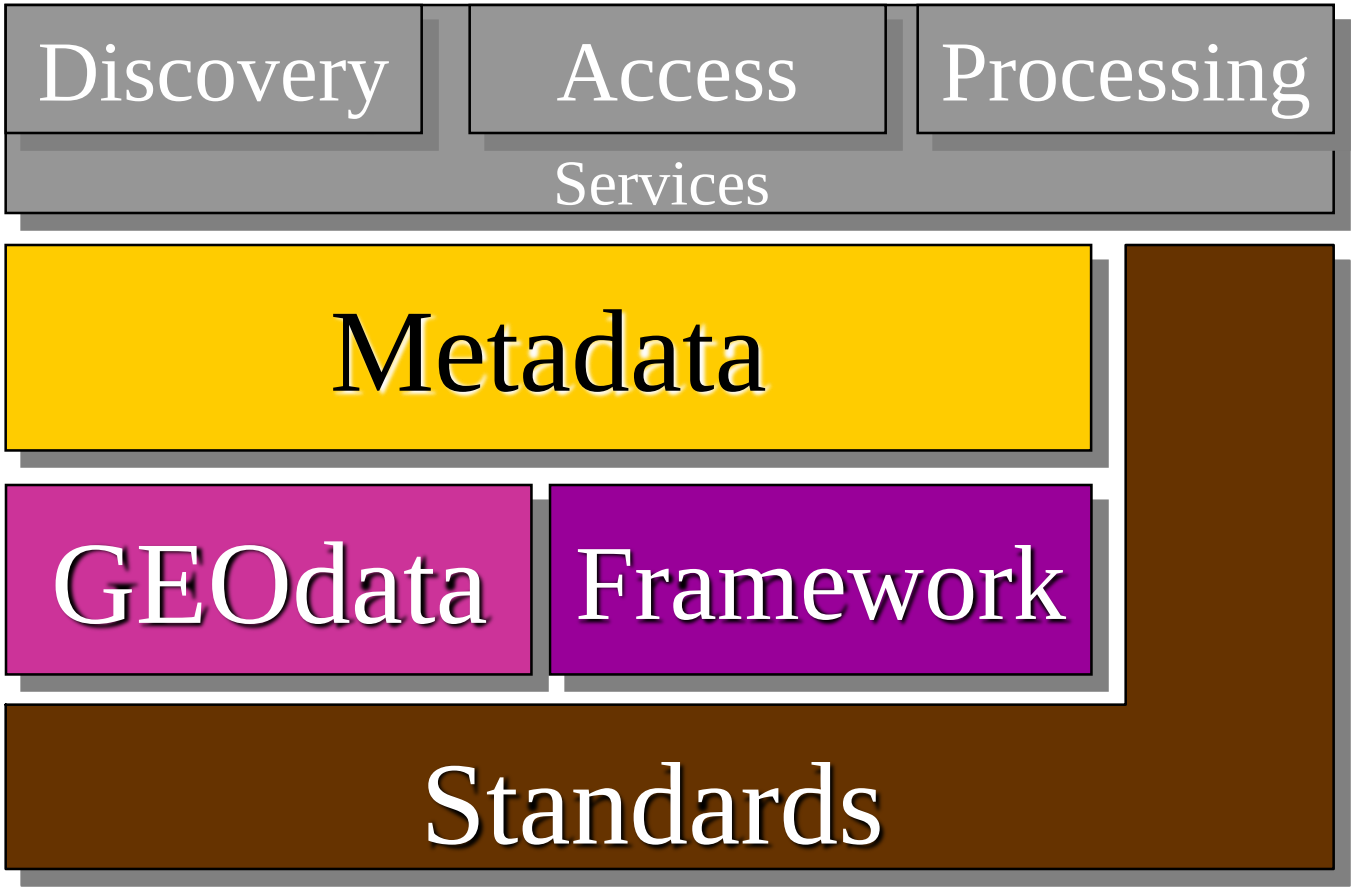


Data Access Via Web Services



Standards Make NSDI Work

- Standards include specifications, formal standards and documented practices



Today's Afternoon Session

- NSDI Technology Components
- Group Work: Inputs for spatial data design framework