A Declaration of Data Independence

Kevin T. Smith
Chief Technology Officer, Tridium
Some Semantic Web History


- My co-authors & I published this book 2 years later, expanding on the vision, applying it to the technologies available.

- Spent much time focusing on secure semantic interoperability within the US government over the next decade.
How do you

• **Move** data between systems?
• **Make data understandable** between systems?
• **Share data** within systems, groups & communities of interest?
• **Analyze Data** stored in different formats from various applications?
Open Standards & Semantics Drive Value

- Data becomes identifiable,
- Data becomes actionable and more usable.
- Relationships and patterns become apparent.
- Data becomes interoperable.
- Data becomes independent.
A Declaration of Data Independence

i. Data is more important than applications.

ii. Data value increases with the number of connections it shares.

iii. Data about data can expand to as many layers as there are meanings.

iv. Data modeling harmony is the alignment of syntax, semantics, and pragmatics.

v. Data and logic are the yin and yang of information processing.

vi. Data modeling makes the implicit explicit and the transparent apparent.

vii. Data standardization is not amenable to competition.

viii. Data modeling must be decentralized.

ix. Data relations must not be based on probability or luck.

x. Data is truly independent when the next generation need not reinvent it.

Lessons Learned in the 2000s

1. Modeling from DNA on up doesn’t work
2. Don’t try to solve every use case at the beginning
3. If you try to model everything, you effectively model nothing
4. Don’t try to model data that you don’t understand
5. Abstract concepts rarely translate into actionable data
6. A standard is only useful if other people use it
7. Make sure that technology actually supports the vision

Start Small.. Crawl, Walk, Run.
The Smart Data Continuum (2003)
