

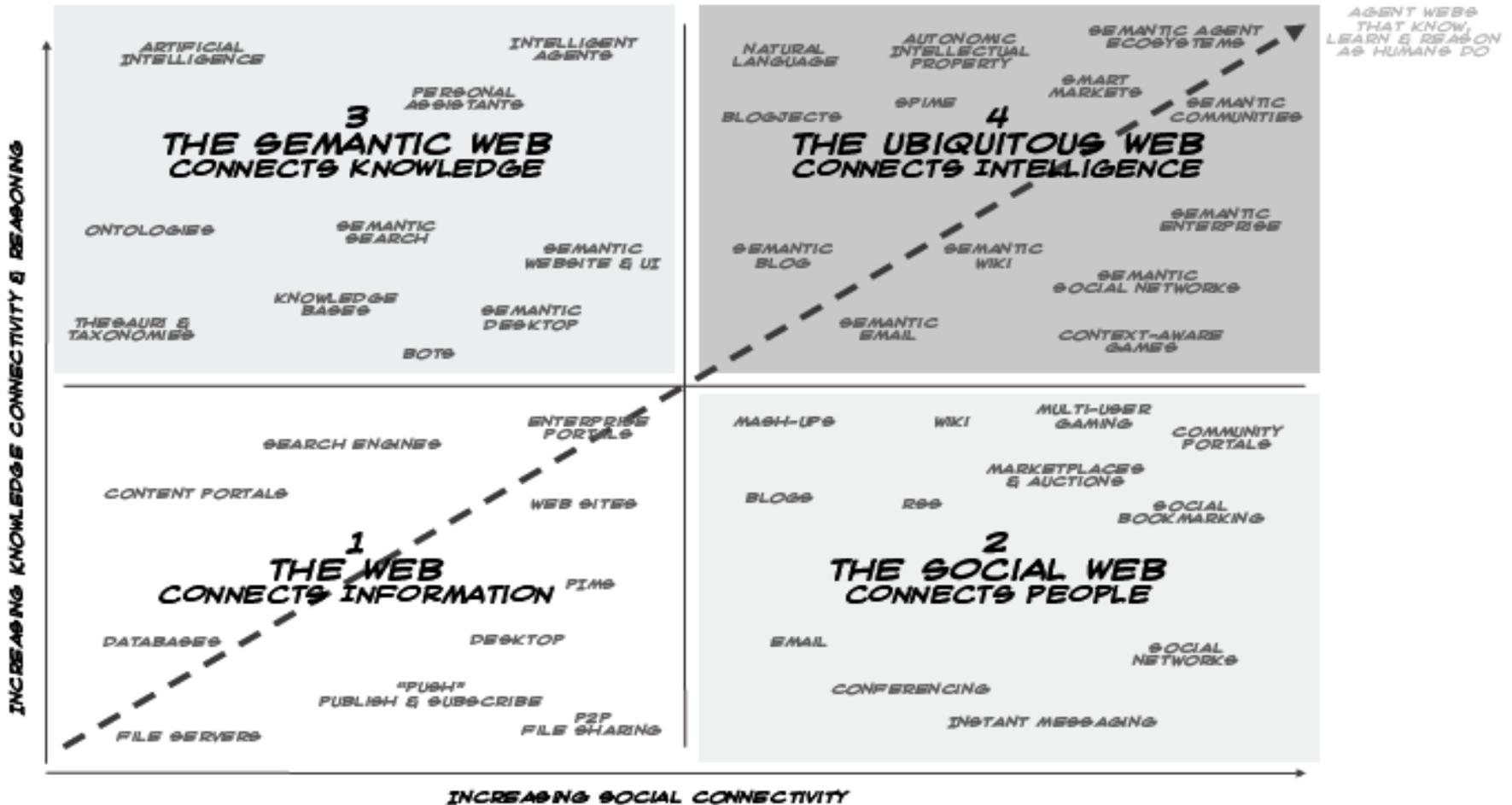
Toward More Transparent Government

Federal CIO Council's
Semantic Interoperability Community of Practice
(SICOP)

Topics

- Internet evolution to 2020
- Evolving transparency
- Medici effects
- SICOP
- SICOP partnering

Internet evolution to 2020



SOURCE: NOVA SPIVAK, SAPAR NETWORKS; JOHN BRIDLIN, REIZ; & MILLE PAINS, PROJECTION

Evolving transparency — building DRM 3.0 and Web 3.0 for managing context across multiple documents and organizations

- Intelligence community R&D has produced tools to disambiguate word senses, state time relationships correctly, combine context and process specifications, empower agents to discover and share knowledge precisely, and build true semantic service oriented architectures, not just application programs repackaged as web services.
- **AQUAINT** (Advanced Question Answering for Intelligence) — advanced language understanding, reasoning about time, and question answering. Key results include: (a) evolution of Wordnet and Framenet as lexical ontologies that disambiguate word senses of both nouns and verbs, (b) development of TimeML for reasoning about time, and (c) advances in reasoning to answer complex questions.
- **NIMD** (Novel Intelligence for Massive Data) — Addressed complex reasoning, knowledge exchange, and scalability. Developed the IKRIS Knowledge Language (IKL) that extends Common Logic (CL) with some capabilities of second order and non-monotonic logics. The result is that formalisms for data, process, and logic in use today such as SQL, XML, RDF, OWL, SWRL, PSL, KIF, etc. become proper subsets and provably interoperable with each other.

Medici effects

- “The Medici were a banking family in Florence who funded creators from a wide range of disciplines. Thanks to this family and a few others like it, sculptors, scientists, poets, philosophers, financiers, painters, and architects converged on the city of Florence. There they found each other, learned from one another, and broke down barriers and cultures. Together they forged a new world based on new ideas – what became known as the Renaissance.”
- “When you step into an intersection of fields, disciplines, or cultures, you can combine existing concepts into a large number of extraordinary ideas.”
- “We have met teams and individuals who have searched for, and found, intersections between disciplines, cultures, concepts, and domains. Once there, they have the opportunity to innovate as never before, creating the Medici Effect.”
 - Frans Johansson, *The Medici Effect*, Harvard Business School Press, 2006

Community of Practice

- What's the purpose?
 - To develop members' capabilities; to build and exchange knowledge.
- Who belongs?
 - Members who select themselves.
- What holds it together?
 - Passion, commitment, and identification with the group's expertise.
- How long does it last?
 - As long as there is an interest in maintaining the group.

William Snyder, Building Communities of Practice. Excerpted from the article "Communities of Practice: The Organizational Frontier" in the Harvard Business Review, January-February 2000. <http://hbswk.hbs.edu/archive/1317.html>

Semantic Interoperability Community of Practice (SICOP)

- SICoP is chartered to do:
 - White Papers (3):
 - Introducing Semantic Technologies and the Vision of the Semantic Web (2005).
 - Semantic Wave 2006 - Executive Guide to the Business Value of Semantic Technologies. Update in 2007.
 - Operationalizing the Semantic Web/Semantic Technologies:
 - A roadmap for agencies on how they can take advantage of semantic technologies and begin to develop Semantic Web implementations (recently released for public review).
 - Conferences: 10.
 - Special Recognitions: 35.
 - Pilots: More than 50.

SICOP supports communities of practice

- Nanomanufacturing informatics COP
- Federal Sitemaps
- Net-ready sensor networks COP
- SOA — service oriented architecture COP
- SWIM — semantic wikis for information management
- SOCOP — spatial ontology COP
- Agile financial data services COP
- Autism COP
- NCOIC — net-centric operations industry consortium
- DERI — digital enterprise research institute

Summary

HAVE	NEED
<p>Mandates and policy guidance</p> <p>Maturing standards and technology</p> <p>Case examples and proof cases at both the pilot and deployment stage</p>	<p>Fit with acquisition (buying categories)</p> <p>More people with skills</p> <p>Inter-government funding</p> <p>Access to information for re-use (cultural and technical issues)</p>