November 2004 PI Meeting
Opening Thoughts

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DARPA / IXO

DAML In One Chart

Problem:

Computers cannot process most of the information stored on web pages

Solution:

Augment the web to link machine-readable knowledge to web pages

- Extend RDF with Description Logic
- Use a frame-based language design
- Create the first fully distributed web-scale knowledge base out of networks of hyperlinked facts and data

Approach:

Design a family of new web languages

- Basic knowledge representation (OWL)
- Reasoning (SWRL, OWL/P, OWL/T)
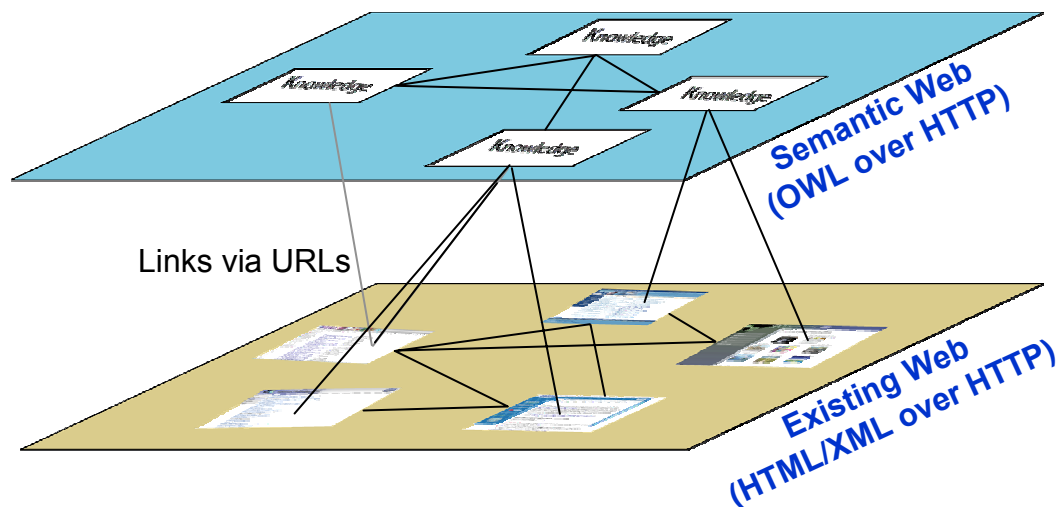- Process representation (OWL/S)

Build definition and markup tools

Link new knowledge to existing web page elements

Test design approach in the Intelligence Community and others
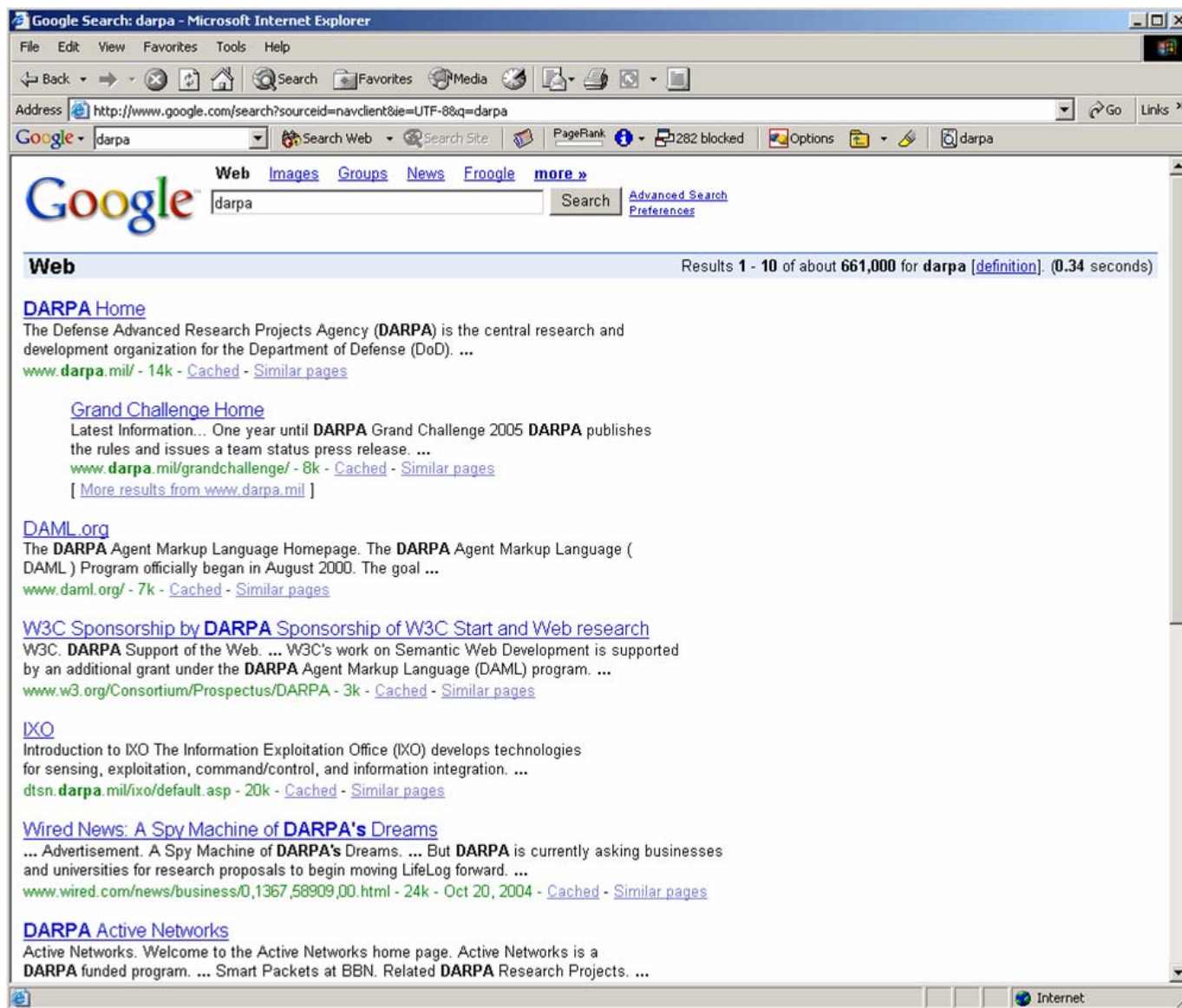
Standardize the new web languages

Computers require explicit knowledge to reason with web pages

Links via URLs

Semantic Web (OWL over HTTP)

Existing Web (HTML/XML over HTTP)

People use implicit knowledge to reason with web pages

Impact

#2

#3

Google "darpa"
on 10/21/04

More Impact

Intelligence Community

[6 fully-funded pilots]

Semantic Web for Intelligence Group (SWIG)

Department of Defense

AF AMC Foreign Clearance Guide

AF AMC NOTAMs

DISA Discovery Metadata Repository

FCS SOSCOE OWL/S use in the TIN

Joint Explosive Ordinance Detection ACTD

Center for Army Lessons Learned Prototype

Federal Government

Semantic Interoperability Community of Practice (web-services.gov)

SWANS conference Feb 8-9 2004

Commercial

43 companies in SWSI working on OWL/S

19 commercial OWL implementations

More evidence…

33 "Semantic Web" books on Amazon.com

NIH and NIST are sponsoring work to define a comprehensive protein chemistry taxonomy

LTG Boutelle (Army CIO) calls Semantic Web "a self-development imperative" at 2004 AKM conference

DARPA XG using OWL for policy language vocabulary

2005: DAML's Final Year

- **Financial POC: Althea Keegan (mkeegan@snap.org)**

- **Your AFRL agents are here to coordinate any financial or contractual issues**

- **2005 DARPA funding for DAML**
  - The DARPA funding well is dry
  - If you don't have 2005 funding
    - Please send me (cc Jack) a list of all commercial or Government organizations that are using technology developed under DAML funding
    - Final software goes on SemWebCentral, with documentation
    - Final briefing at this meeting
    - Remember your final report, and include a CD with funded products
    - Funds expended by 31 Dec 2004
  - If you do have 2005 funding
    - I have most of your IOWs and will be talking to you at this meeting
    - There will be a small PI meeting in May 2005
    - Final out-of-funds date for 2005 performers should be around May 2005

- **New Programs**
  - Will say more about this on Thursday, but the situation is bleak at DARPA

DAML PI Meeting Goals

- **Understand DAML's success**
  - The core of this PI meeting is program reviews and interaction
  - Showcase what we have done, and what issues are still unsolved
  - Format is designed to yield a presentation balanced between programmatic and technical

- **Plan for additional 2005 work in Services and Rules**
  - DAML's story is not complete here
    - Technologies have been developed: OWL/S 1.1, SWRL FOL
    - Tools are being developed
    - Standards process is difficult
  - Dedicated sessions on each of these, plus breakouts

- **Showcase 2004 OWL-based tools and technologies**

Other Workshop Details

- **Enjoy San Antonio and the Riverwalk!!**
  - Real Tex-Mex food
  - Real Tex-Mex music

- **802.11 Internet access during the PI meeting**
  - Not on during plenary sessions
  - Before and after, as well as during breaks

- **Demos at 6:30 tonight**
  - Relax over food and drink and fine company
  - Marvel at the standards-compliant tools that we have wrought
  - BoF meetings are encouraged

- **In case you can't get enough**
  - All presentations will be on the DAML website within 1 week of workshop end
  - I am here to interact you and available for sidebars if necessary

Thank You