SC/OSTI Proposed or Completed Actions in Response to ASCAC-STI Subcommittee Report (9/4/15)

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Quick Recap of Chronology

- **November 2014**. Dr. Dehmer's charge letter:
  - Are OSTI products and services "best in class?"
  - Do they meet customers' current and future needs?
  - What is OSTI's national and international standing; where must it be a clear leader?

  Subsequent questions
  - Is the mission statement sensible in light of the statutory authorities?
  - Is OSTI organized and staffed to accomplish today's mission?
  - Are the current and planned products and services the correct ones?
  - What suggestions would the subcommittee make for the next steps?
- **March 2015**. Hitson provided OSTI overview briefing to ASCAC.
- **May 2015**. ASCAC-STI Subcommittee performed on-site review at OSTI in Oak Ridge. Chaired by Tony Hey.
- **July 2015**. Tony Hey presented ASCAC-STI report summary to full ASCAC.
- **September 2015**. ASCAC Chair Roscoe Giles transmitted formal report to Dr. Dehmer.

ASCAC-STI Summary

1) Observations

- Progress in addressing 2009 COV recommendation to focus resources on DOE R&D results
  - Re-balance/Re-focus initiative; strategic plan; product consolidation/streamlining
  - Reorganization around three core functions of "collect, preserve, disseminate"
- Progress in fixing "leaky pipes" and lack of comprehensiveness in STI submissions

STI Submissions

FY12	FY13	FY14	FY15
20,205	28,793	41,867	44,795

- DOE's leadership in implementing new public access requirements (DOE PAGES^{Beta})
  - Partnership with NSF and DOD
  - Minimize submission burden

ASCAC-STI Summary

1) Observations (cont'd)

- "Best in class" product aspects:
  - SciTech Connect's semantic search
  - ScienceCinema's audio-indexing technology
  - Federated search engines Science.gov and WorldWideScience.org
  - WorldWideScience.org's multilingual translation technology
- OSTI's Data ID Service and its role in promoting data discoverability
- Not "best in class" – Energy Science and Technology Software Center (ESTSC)
- OSTI's primary customer "groups" are: (a) public, (b) librarians, and (c) researchers
  - **OSTI is effectively reaching first two but needs to better understand needs of researchers**.
  - To researchers, OSTI services seem cumbersome compared to existing domain-specific solutions
- Researchers see need for more integration of OSTI products and improved user interface
- The OSTI team's overall enthusiasm, competency, innovation, and adaptation to evolving technology trends
- Change in the mix of technical expertise and skills will be needed

ASCAC-STI Summary

2) Recommendations to OSTI

1. If OSTI is to truly fulfill its mission to create products and services to make 'R&D findings available and useful to DOE researchers', it needs to initiate **a vigorous outreach program with the DOE Lab researchers**.
2. OSTI should work with the DOE research community to **re-invent the ESTSC software service**.
3. Work with the labs to **identify 'researcher champions'** who can work with the STIP community **to strengthen the link to researchers**.
4. OSTI should work aggressively to continue toward **a unified user environment with a limited number of, clearly delineated, non-redundant tools** and develop a master plan for future development and areas of expansion through community input.
5. Through partnership with the national lab librarians and researchers identify and **address publication content gaps** and develop clear instructions and guidelines regarding content submission requirements.

ASCAC-STI Summary

2) Recommendations to Office of Science

1. To promote a **successful implementation of the public access requirement** issued by OSTP, OSTI needs top-down support from DOE in clearly communicating that this is not a requirement/burden imposed by OSTI but rather a government-wide and DOE-wide requirement meant to share federal research results and accelerate scientific progress. In this regard, labs, grantees, and their authors need to be incentivized to comply with this requirement, which partnership with OSTI staff can help them to fulfill, and one such incentive could be a **measurable expectation expressed in labs' annual performance plans**.

2. The Office of Science should consider **defining a useful role for OSTI and the STIP management team in managing DOE data**. (**Six "possible roles" suggested**.)

OSTI Strategies/Actions

Strategy 1 - Strengthen Ties to DOE Researchers

(Addresses OSTI Recommendations 1 and 3)

Actions

Near Term

- Hold a "Round 1" series of results-oriented workshops/"listening" sessions at DOE labs to address questions such as:
  - Where and how do researchers use STI in their workflow;
  - How can OSTI's STI products and/or STI content be more useful to researchers;

FY17

- Hold a "Round 2" series of centrally-located, community-driven workshops focused on specific STI types (data, software, etc.).
- Other secondary Actions...

OSTI Strategies/Actions (cont'd)

Strategy 2 - Enhance Product Cohesiveness and Comprehensiveness

(Addresses OSTI Recommendations 2, 4, and 5)

Actions

FY16-17

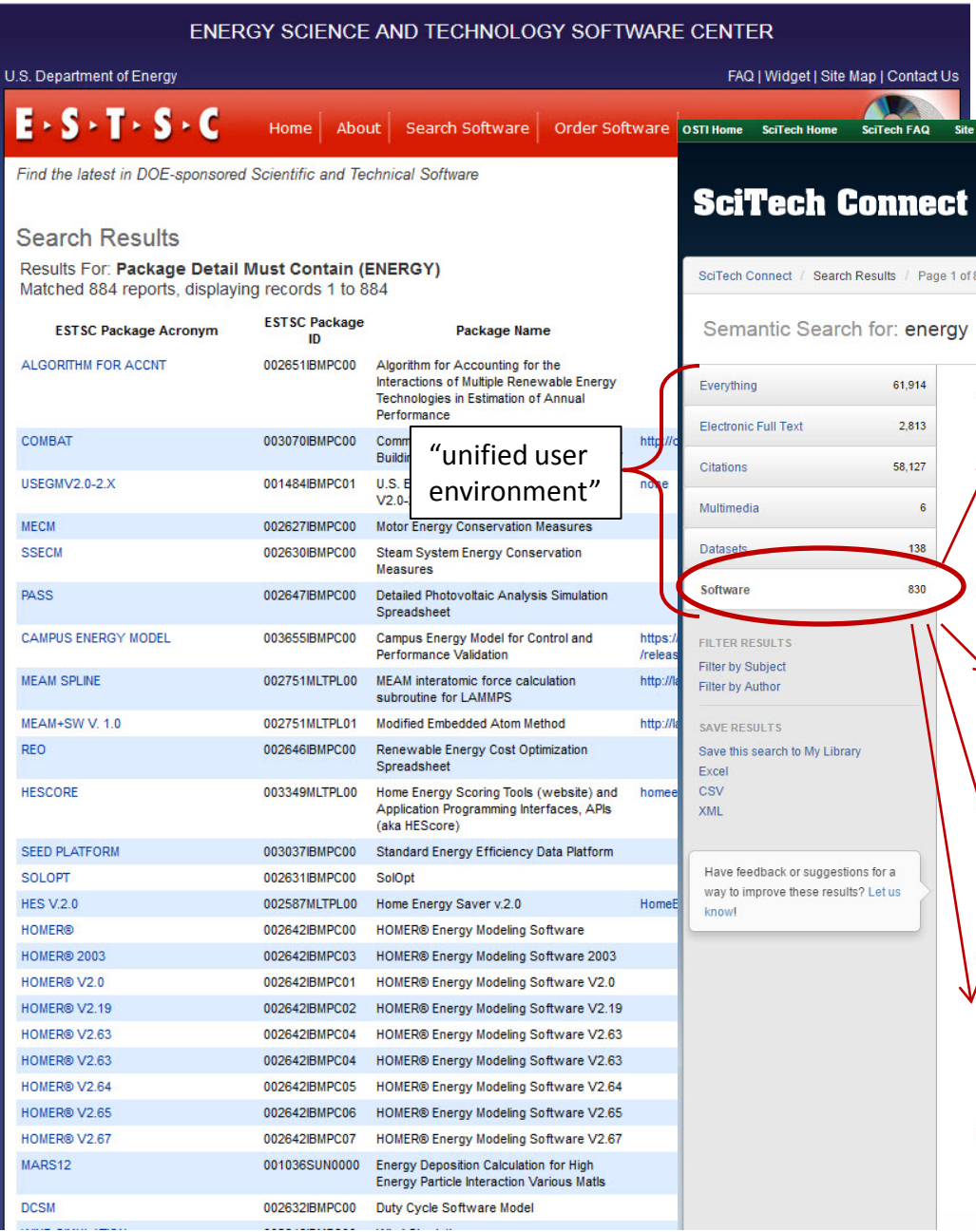
- Re-invent software service, integrated with other STI types, in tune with researchers' workflow needs.

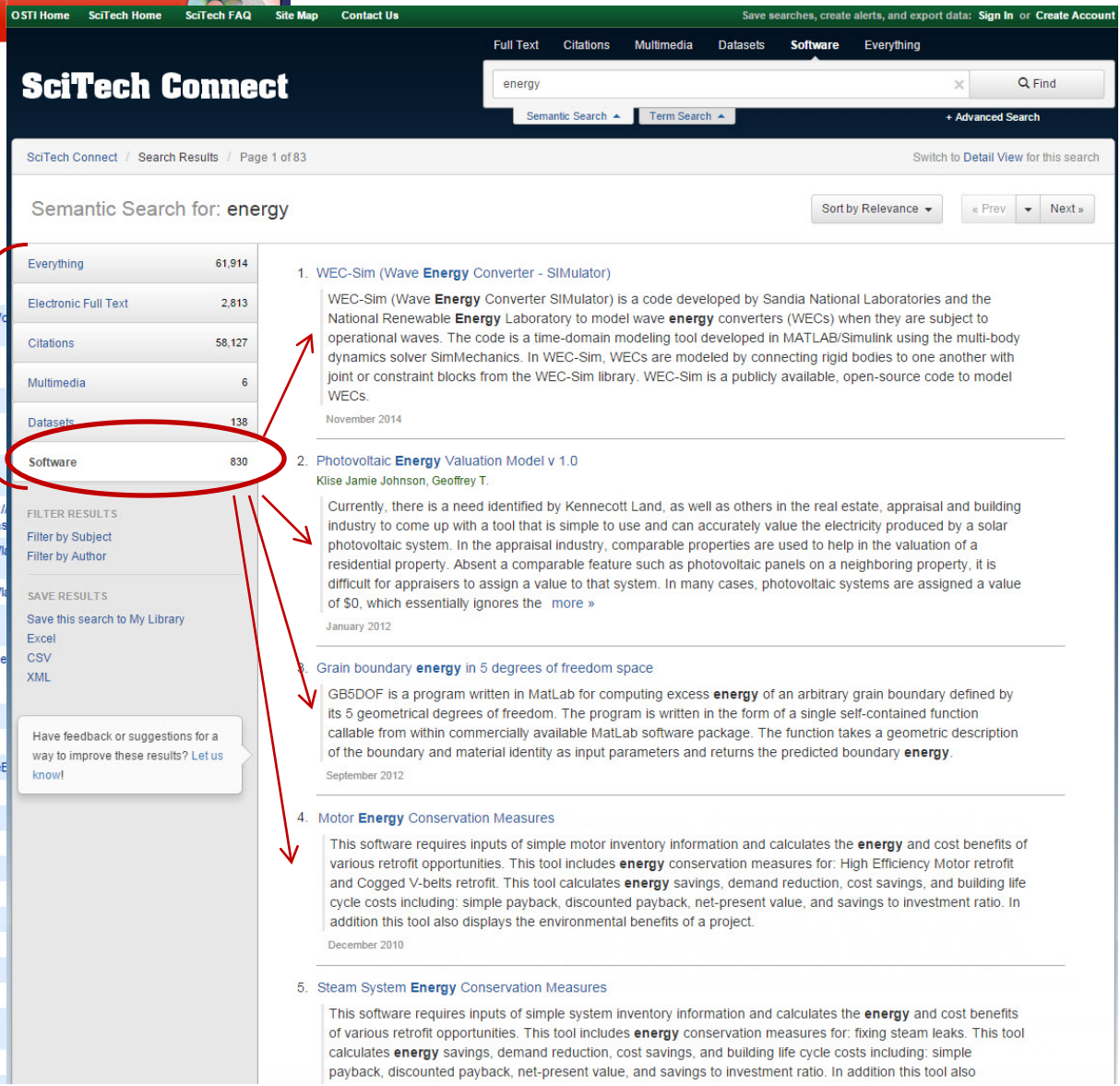
BEFORE

"Software in Isolation"

AFTER

Toward a "unified user environment"





OSTI Strategies/Actions (cont'd)

Strategy 2 - Enhance Product Cohesiveness and Comprehensiveness

(Addresses OSTI Recommendations 2, 4, and 5)

Actions

FY16-17

- Re-invent software service, integrated with other STI types, in tune with researchers' workflow needs.
- Develop enhanced product/user focus group processes and more granular metrics to understand user behavior within products (e.g., PAGES usability study at UT-ORNL User eXperience Laboratory.)
- Define and implement "unified user environment" as a content environment where diverse but linked forms of STI are seamlessly available.
- Apply numerator/denominator comprehensiveness model to public access.
- Other secondary Actions...

OSTI Strategies/Actions (cont'd)

Strategy 3 - Implement Public Access

(Addresses SC Recommendation 1)

Actions

Completed/Ongoing

- For all DOE labs, establish FY16 PEMP goal/objective language related to public access support and, specifically, submission of accepted manuscripts.
- For SC labs, establish an FY16 PEMP Notable Outcome, where labs address their progress in public access implementation in their annual plans.
- Follow up with labs/site offices to provide specific guidance and examples of successful implementation.

OSTI Strategies/Actions (cont'd)

Strategy 4 - Define OSTI's Role in DOE's Data Landscape

(Addresses SC Recommendation 2)

Actions

FY16-18

- Through Lab and community-specific workshops, assess and characterize DOE needs related to the Subcommittee's six suggested roles for OSTI and, with SC approval, integrate the resulting new goals and strategies into OSTI's strategic plan and budgeting/staffing.

ASCAC STI Summary

Six suggested roles for OSTI in data management:

1. Following the example of major journals and **collecting digital versions of tables, graphs, and images from papers**.
2. Working with all of the Office of Science Programs and the different research communities in the DOE labs to develop **better solutions for linking data and software to publications**.
3. Coordinating reviews of the **data needs by discipline to identify explicit commonalities and differences** between disciplines.
4. Participating in collaborative pilots that **establish the open data and open science end-to-end infrastructures** (data provenance, data workflows, experiment integration).
5. Assisting in the development of an evaluation plan to **assess how well the DMP and OSTI services support the community**.
6. Developing **cost models for manageable and cost-effective data solutions**.

OSTI Strategies/Actions (cont'd)

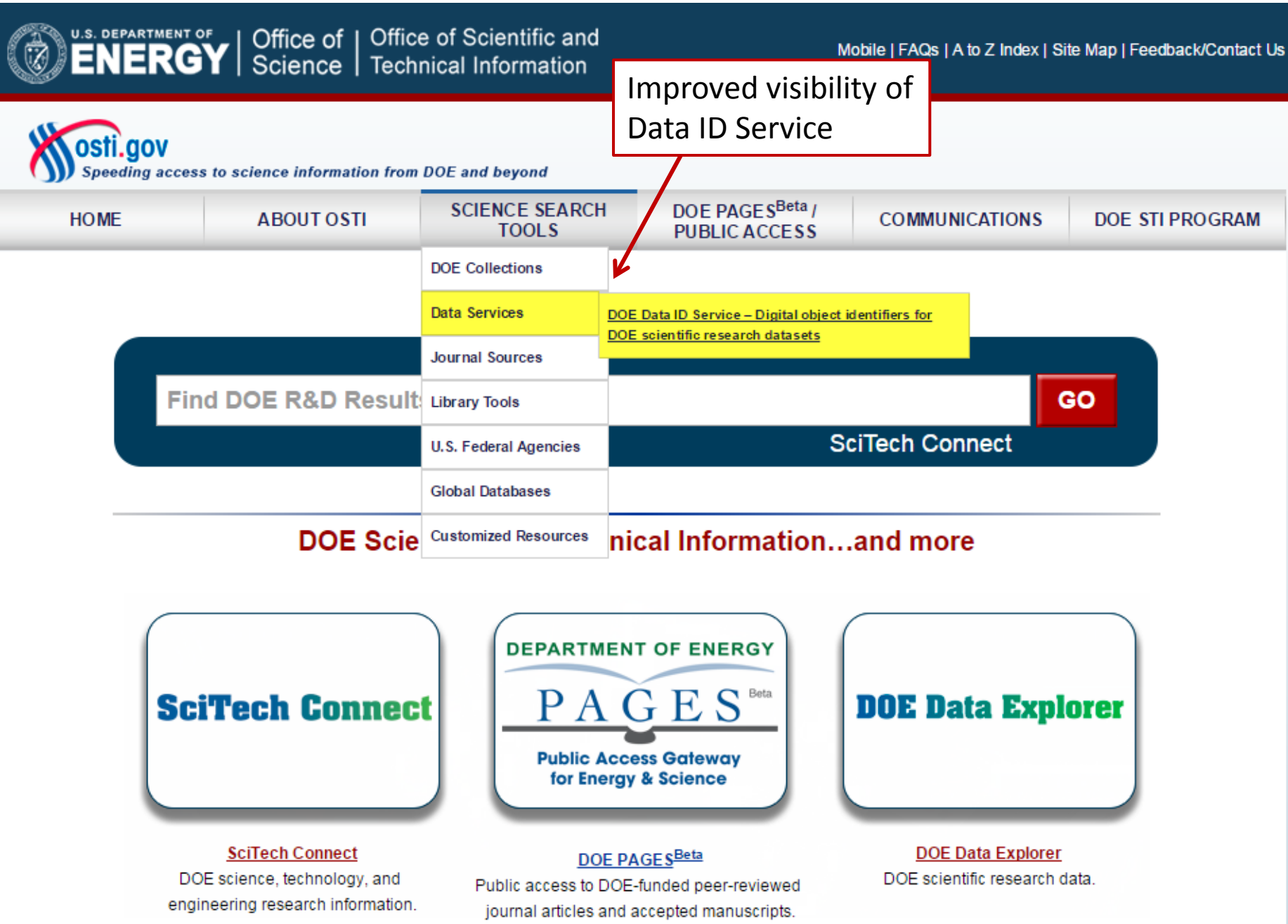
Strategy 4 - Define OSTI's Role in DOE's Data Landscape

(Addresses SC recommendation 2)

Actions

FY16-18

- Through Lab and community-specific workshops, assess and characterize DOE needs related to the Subcommittee's six suggested roles for OSTI and, with SC approval, integrate the resulting new goals and strategies into OSTI's strategic plan and budgeting/staffing.
- Explore providing institutional and operational data management support to the SCWGDD and DOE-WGDD.
- Leverage Data ID Service and E-Link "supplemental material" metadata to enable linking of publications, software, and data.
- Identify and obtain new data and software management skills/expertise.
- Other secondary Actions...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DOE Data Explorer
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Conclusions

- OSTI's goal is to be "best in class;" STI Subcommittee's work helps us immensely.
- DOE researcher needs will shape the "unified user environment".
- Public Access "is an area in which OSTI must be a clear leader to fulfill its mandated responsibilities."
- OSTI appreciates ASCAC and ASCAC-STI Subcommittee efforts and looks forward to continuing to work with the subcommittee in helping to shape the future of OSTI.

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