The OSTP, NSTC, and the SQIS

Carl J. Williams

Senior Policy Analyst

Office of Science and Technology Policy

Executive Office of the President

What is OSTP?

Office of Science and Technology Policy

- Established in 1976 by the National Science and Technology Policy, Organization and Priorities Act
- OSTP's responsibilities include:
  - Advises the President in policy formulation and budget development for science and technology (S&T);
  - Articulates the President's S&T policies and programs;
  - Fosters partnerships among Federal, state, and local governments and scientific communities
- OSTP and OMB (Office of Management & Budget) annually issue a memorandum entitled "Administration Research and Development Budget Priorities."
  - Highlights the Administration's research & development priorities
  - Emphasizes improving management and performance to maintain excellence and leadership in S&T
  - FY 2008 memorandum available at http://www.ostp.gov/html/budget/2008/m06-17.pdf

OSTP

- Headed by the President's Science Advisor: John Holdren

- The President's Chief Technology Officer is one of the ADs (designate: Aneesh Chopra)

- Consists of 4 ADs – who co-chair the corresponding NSTC Committees
  - Science
  - Technology
  - Energy and the Environment
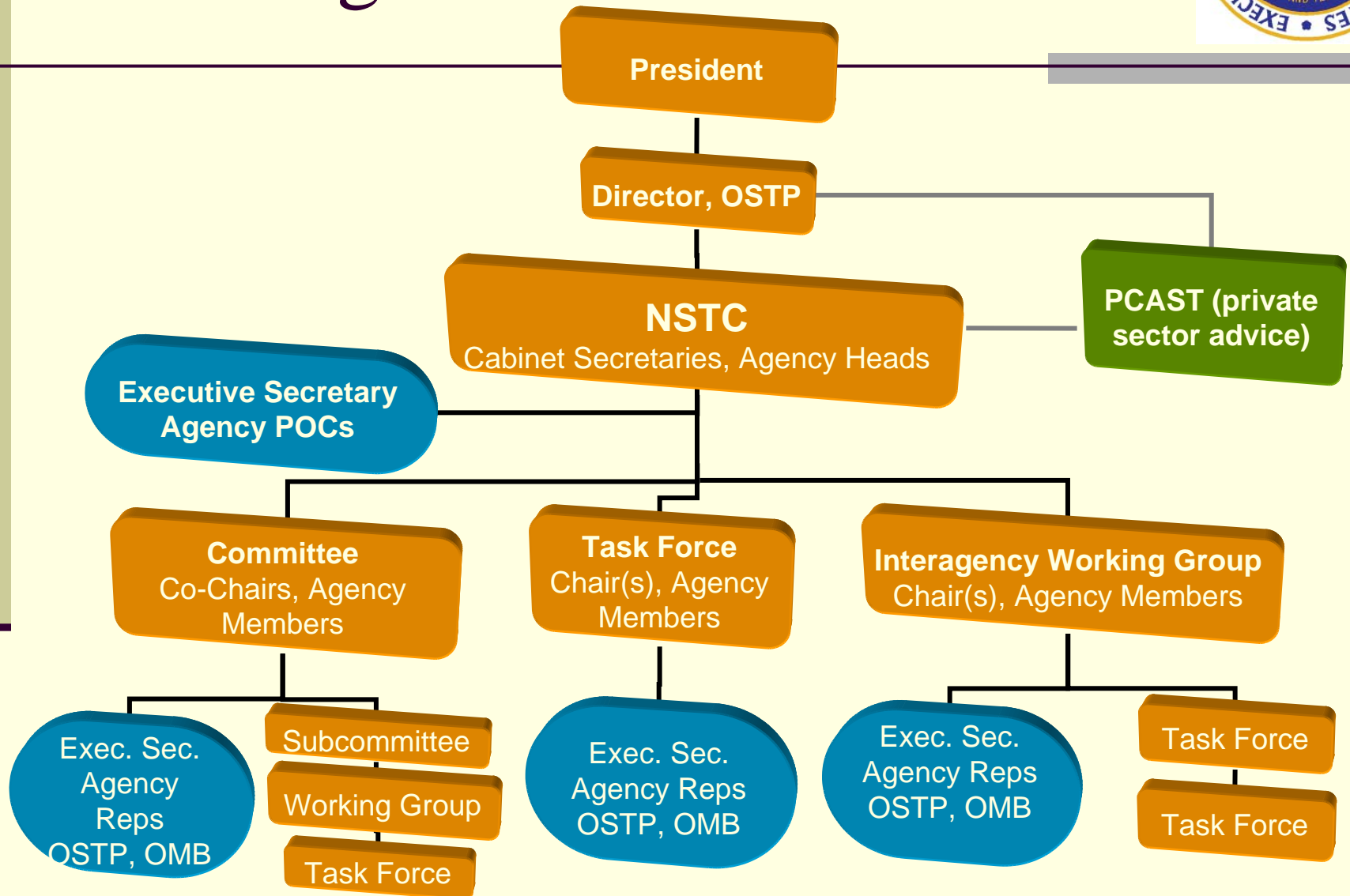 - National Security and International Affairs

What is the NSTC?
National Science & Technology Council

- A Cabinet-level council of advisers to the President on Science and Technology – chaired by the President and co-chaired by the Director of OSTP

- Principal means to coordinate science and technology matters within the Federal research and development enterprise

- Means to establish clear national goals for Federal S&T investments consistent with the President's goals and agenda

- Helps integrate the President's S&T policy agenda across the Federal Government

NSTC Organizational Framework

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                              President
                                 |
                            Director, OSTP ─────────────────┐
                                 |                          |
                               NSTC ──────────────── PCAST (private
                    Cabinet Secretaries, Agency Heads    sector advice)
                                 |
  Executive Secretary ───────────┤
     Agency POCs                 |
          ┌──────────────────────┼──────────────────────┐
          |                      |                       |
      Committee             Task Force         Interagency Working Group
  Co-Chairs, Agency      Chair(s), Agency      Chair(s), Agency Members
      Members               Members
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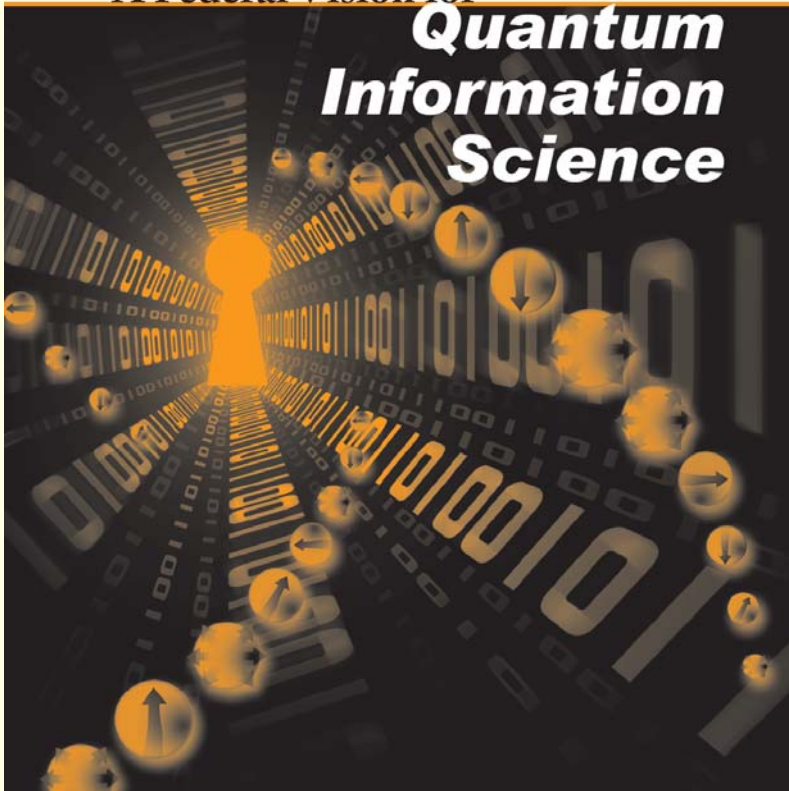| Committee	Task Force	Interagency Working Group
Exec. Sec. Agency Reps OSTP, OMB	Exec. Sec. Agency Reps OSTP, OMB	Exec. Sec. Agency Reps OSTP, OMB
Subcommittee		Task Force
Working Group		Task Force
Task Force		

Subcommittee on QIS (SQIS)

- Fall of 2007 several agencies met with John Marburger (Director OSTP in Bush Admin) and OSTP staff about QIS

- Dec. 2007 and Jan. 2008 NIST met with Dr Marburger and OSTP staff

- I was asked to help stand up an activity

- Agency heads were brought to a kickoff meeting in June 2008. Decisions:
  - Create a broad scientific agenda to build a foundation for future technologies based on QIS
  - Issue a vision document by end of admin.

Subcommittee on QIS (SQIS)

A Federal Vision for **Quantum Information Science**

- SQIS established under the CoT of the NSTC in December 2008

- "A Federal Vision for Quantum Information Science" released in January 2009

- January 2009, SQIS decides to host a workshop

Who is the SQIS?

- Co-Chairs:
    - Dr. Tony Chan (Asst Dir MPS/NSF)
    - Dr. Cita Furlani (Dir ITL/NIST)
- OSTP Rep: Dr. Carl Williams
- Exec Sec: Denise Caldwell (Dep Dir Phys/NSF)
- Members:
    - Dr. David Crandall (Chief Scientist/NNSA/DoE)
    - Dr. Patricia Dehmer (Dep Dir Science/SC/DoE)
    - William Klomparens (Dir LPS/NSA)
    - Dr. Robert Lehaney (Acting Dir DARPA)
    - Dr. Timothy Murphy (Dep Dir IARPA)
    - Dr. Jeanette Wing (Asst Dir CISE/NSF)
    - Dr. Robin Staffin (Asso Dir DUSD/LABS)
- Alternates: Marvin Kruger, Harriet Kung, Michael Mandelberg, Robert Meisner, Jagdeep Shah, William Ott, Eric Rohlfing

SQIS Report

- What is the true power of a general purpose quantum computer, what problems does it allow us to compute efficiently, and what does it teach us about nature?

- Are there fundamental limits to our ability to control and manipulate quantum systems, and what constraints do they place on technology and QIS?

- Are there exotic new states of matter that emerge from collective quantum systems, what are they useful for, how robust are they to environmental interactions, and do these collective quantum phenomena limit the complexity of the quantum computing devices we can build?

Goals of Workshop

- What are the most important scientific questions – to move the field forward – to have the greatest impact – to …

- What systemic problems exist within the field that might affect progress

- What issues or concerns affect the health and vitality of the field

- Summary: Inform the agencies of the most important questions or concerns you have so we can be better advocates for QIS

The End