U.S. Department of Energy's
Office of Science
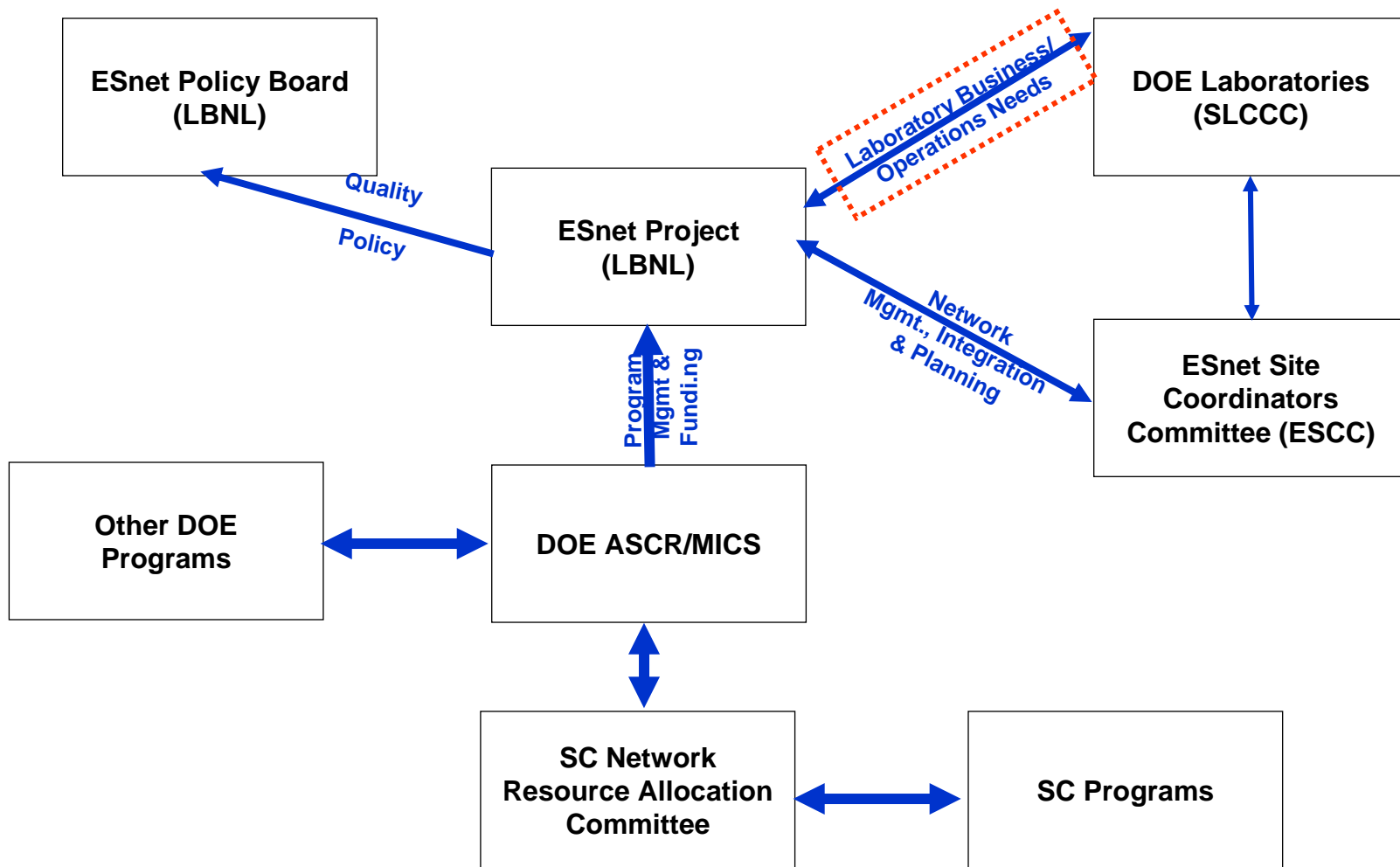
Network Update

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ESnet Management Structure

ESnet Policy Board (LBNL)

DOE Laboratories (SLCCC)

Laboratory Business/ Operations Needs

ESnet Project (LBNL)

Quality

Policy

Network Mgmt., Integration & Planning

Program Mgmt & Funding

ESnet Site Coordinators Committee (ESCC)

Other DOE Programs

DOE ASCR/MICS

SC Network Resource Allocation Committee

SC Programs

Program Management Tools

Document or Action	Who's Responsible	Frequency
Program specific network requirements workshops	ASCR; ESnet; other DOE programs	2 per year, cover all SC programs at least every 2 years
Consolidated Network Requirements Plan	ESnet, ESCC, ASCR	Major update every 3 years, annual addendum
ESnet Network Service Plan (What ESnet will deliver within baseline)	ASCR; ESnet (Customers are BES, BER, FES, HEP, NP)	3 yr window updated annually
Networks for Science R&D Roadmap	ASCR; ESnet, Network Research Community	Every 5 years

Program Specific Network Workshops

- BES Workshop: June 4th and 5th.
    - Attendees included reps from ANL, LBNL, BNL, ORNL, PNNL, SNL, and SLAC.
    - The 5 light sources projected 10s of Gbps total in 5+ years, as did nanoscience centers.
    - Draft report in August.
- BER Workshop: July 26th and 27th.
    - Presentations by NASA, NIH, and NSF confirmed that ESnet ahead of other scientific agencies.
    - In addition to the other agencies noted above, attendees included reps from ANL, LBNL, BNL, LANL, LLNL, ORNL, and PNNL.
    - Focused on proteomics and climate; e.g. Global Cloud Resolution Model (GRCM) will require 1 TF-year per sim year at 3.5 km res (1 km preferred).
    - EMSL expects over 10 Gbps.
    - NCAR presentation included the increase to exoscale with increased physics (e.g., GRCM), spatial res (from present 160 km to 1 km), time res (from present 100 year to 1,000 years), ensemble size (from present 5 runs to 1,000).
    - Draft report in Sept.

- On January 31, 2007, Dr. John Marburger, Director of OSTP, charged the NSTC Committee on Technology to:
  - Establish the Interagency Task Force on Advanced Networking (ITFAN)
  - Direct ITFAN to develop an interagency Federal Plan for Advanced Networking Research and Development
  - Deliver a preliminary draft by May, 2007 to provide input to the FY 2009 Federal budget planning cycle

- Terms of Reference called for the plan to include:
  - A strategic vision of current and future needs of the Federal agencies, the commercial sector and the academic community
  - Recommended scope and objectives for Federal advanced networking R&D
  - Identification of existing networking R&D programs and investments and a gap analysis of existing versus needed advanced networking R&D
  - Identification and prioritization of advanced networking R&D needs
  - A process for developing an implementation roadmap to guide future advanced networking R&D activities

Participating Agencies

- Federal Organizations Participating in ITFAN
  - Department of Defense (DoD)*
  - Department of Energy/Office of Science (DOE/SC)*
  - NARA
  - NASA
  - National Coordination Office (NCO)
  - National Institutes of Health/National Library of Medicine (NIH/NLM)
  - NIST
  - NSA
  - NSF*
  - OSTP
  - USDOJ

* CoChairs

Status

- Preliminary Plan Delivered to OSTP May 15, 2007
- Proposed coordinated research effort across Federal agencies focused on four goals:
  - Goal 1: Provide network services anytime, anywhere
  - Goal 2: Make secure global federated networks possible
  - Goal 3: Manage network complexity and heterogeneity
  - Goal 4: Foster innovation through development of advanced network systems and technologies
- Draft available for Comment now at http://www.nitrd.gov/advancednetworkingplan/index.php
- Comment Period Closes September 30, 2007
- Final Report Due April 2008