
NIST Deputy Director's Update

Visiting Committee On Advanced Technology (VCAT)
October 14, 2009

Patrick D. Gallagher
Deputy Director

NIST
National Institute of
Standards and Technology
U.S. Department of Commerce



New VCAT Member



Photo credit: Jeremiah Sullivan from Scripps
Institution of Oceanography, UC San Diego

Dr. Tony Haymet

Director, Scripps Institution of Oceanography,
Vice Chancellor for Marine Sciences, and
Dean of the Graduate School of Marine Sciences
University of California, San Diego

Distinguished researcher and leader in climate change and other environmental issues

Joined Scripps in 2006

Co-founder and Vice Chair of CleanTECH San Diego

Board member of the Consortium for Ocean Leadership

Executive Committee member of the Partnership for the Observation of the Global Ocean

Other memberships include NSF's Geosciences Advisory Board

Served as Science and Policy Director and former Chief of Marine and Atmospheric Science at CSIRO, Australia's national science agency

Established the Environmental Modeling Institute at the University of Houston

Published more than 165 peer-reviewed articles and numerous Op-Ed pieces

Overview

- News/update
- Budget/construction
- VCAT agenda

President's Innovation Strategy:

Driving Towards Sustainable Growth and Quality Jobs

Innovation for Sustainable Growth and Quality Jobs



Catalyze Breakthroughs for National Priorities

- Unleash a clean energy revolution
- Support advanced vehicle technology
- Drive breakthroughs in health IT
- Address the "grand challenges" of the 21st century



August 5, 2009

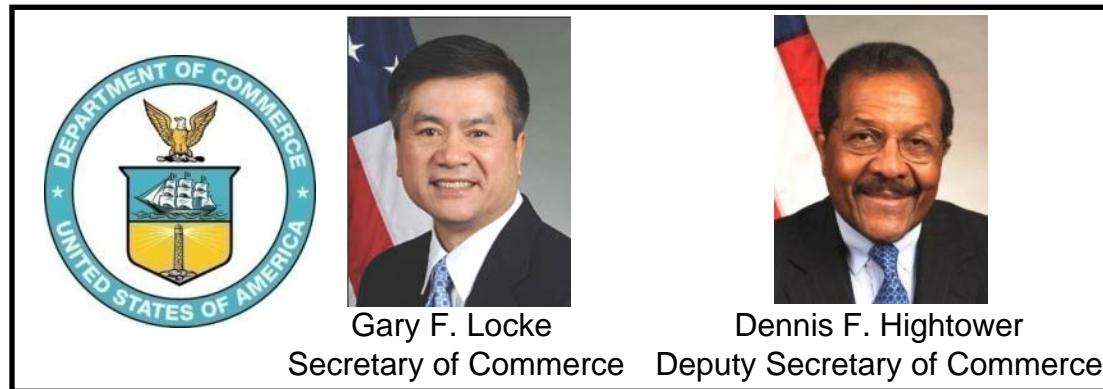
Promote Competitive Markets that Spur Productive Entrepreneurship

- Promote American exports
- Support open capital markets that allocate resources to the most promising ideas
- Encourage high-growth and innovation-based entrepreneurship
- Improve public sector innovation and support community innovation

Invest in the Building Blocks of American Innovation

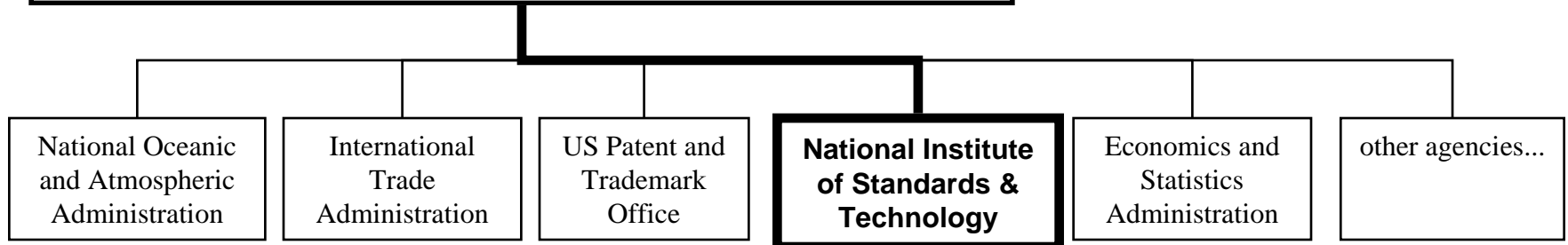
- Restore American leadership in fundamental research
- Educate the next generation with 21st century knowledge and skills while creating a world-class workforce
- Build a leading physical infrastructure
- Develop an advanced information technology ecosystem

Department of Commerce



Gary F. Locke confirmed as US Commerce Secretary on March 24, 2009

Dennis F. Hightower confirmed as Deputy Secretary of Commerce on August 7, 2009



The historic mission of the Department is **"to foster, promote, and develop the foreign and domestic commerce"** of the United States. This has evolved, as a result of legislative and administrative additions, to encompass broadly the responsibility **to foster, serve, and promote the Nation's economic development and technological advancement.**



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Secretary Locke announced President Obama's intent to nominate Dr. Gallagher to be the 14th Director of NIST on September 10, 2009

Developments at DOC

DOC launches Commerce Connect in Plymouth, MI

- Make Department programs more accessible to business
- Provide resources to improve competitiveness of businesses at every stage of their life cycle

Secretary creates the Office of Innovation and Entrepreneurship

- Encourage Entrepreneurs through Education, Training, and Mentoring
- Accelerate Technology Commercialization of Federal R&D

Standards Review

- Internal review of department roles and responsibilities with regard to standards
- Focused on federal coordination and international engagement



NIST Staff on Assignment

Roger Kilmer leads the DOC's Commerce Connect Initiative



Aimee Dobrzeniecki is detailed to CEQ working on the Administration's policies on Green and Sustainable manufacturing



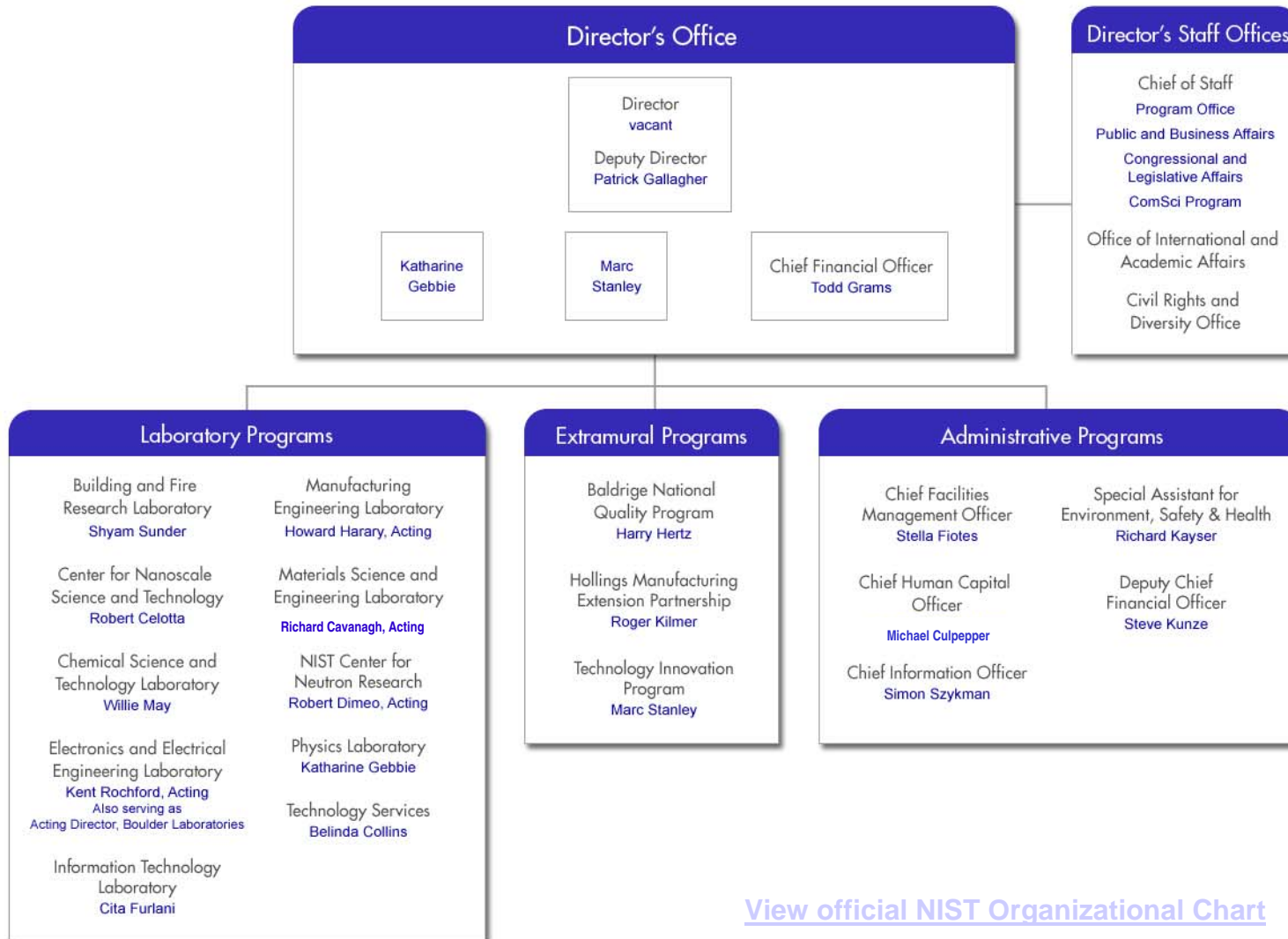
Curt Barker has been detailed to DOC as the Cybersecurity Coordinator



Carl Williams is on detail at OSTP working on QIS issues



NIST Organization



[View official NIST Organizational Chart](#)

NIST Staffing Changes

Rich Cavanagh, CSTL Deputy Director
Acting Director of MSEL.



Mike Culpepper
New Chief Human Capital Officer



Virginia “Ginnie” Holtzman-Bell
Boulder Laboratory Site Manager

Safety at NIST - update

- Update on NRC actions from plutonium spill
- FY09 highlights
 - Develop high level NIST requirements
 - Improve communication to staff
 - OU-developed Hazard review programs
 - Rebuild NIST Safety Office
 - Focus on NIST senior management
- Priorities for FY10
 - Improve safety programs through regular review cycle
 - Continue to strengthen safety office
 - Improve program development
 - Develop agency-wide metrics
 - Improve safety support services to OUs
 - Initiate external audit programs for NIST labs

Awards and External Recognition of NIST Staff

Presidential Early Career Awards for Scientists and Engineers (PECASE), the nation's highest honor recognizing extraordinary achievements of young professionals at the outset of their independent research careers.



Craig Brown (NCNR)
Neutron Imaging of
materials for Energy
Applications



Dean DeLongchamp
(MSEL) Organic
electronics, flexible
displays and solar
cells



Till Rosenband (PL)
Future-generation
quantum logic clocks

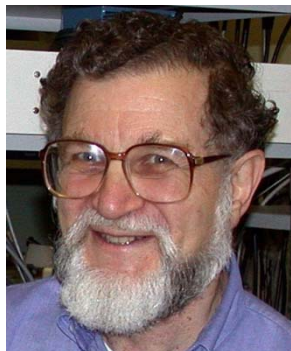
Awards and External Recognition of NIST Staff

2009 R&D 100 Award – Thermodynamics Research Center group leader **Michael Frenkel**, chemist **Robert Chirico**, physicist **Chris Muzny**, chemical engineer **Eric Lemon**, physicist **Andrei Kazakov**, and NIST associate **Vladimir Diky** together with Aspen Technologies received an award for the Aspen Plus 2006.5 with NIST ThermoData Engine (TDE).



Awards and Recognition of NIST Staff

2009 Award for Meritorious Senior Professionals and Executives



Michael R. Moldover— for his leadership in revolutionizing the measurement of thermophysical properties of fluids and for stimulating the development of theoretical tools to analyze the fluid property data



David J. Nesbitt – for his pioneering contributions to the development of high resolution infrared laser spectroscopy to study species in free jet expansions.

NIST Budget FY 2008 – FY 2010

Dollars in Millions

	FY 2008 Enacted	FY 2009 Enacted	ARRA *	FY 2010 Request	FY 2010 House **	FY 2010 Senate **
STRS	\$440.5	\$472.0	\$220.0	\$534.6	\$510.0	\$520.3
National Measurement and Standards Labs	415.2	442.6	211.1	508.3		484.5
Baldrige National Quality Program	7.9	9.4	0.0	9.6		9.6
Corporate Services (CIO and Business Systems)	16.5	16.5	8.9	16.7		16.7
Congressionally Designated Projects	0.9	3.5	0.0	0.0		9.5
ITS	154.8	175.0	0.0	194.6	194.6	194.6
Technology Innovation Program	65.2	65.0	0.0	69.9	69.9	69.9
Hollings Manufacturing Extension Partnership	89.6	110.0	0.0	124.7	124.7	124.7
CRF	160.5	172.0	360.0	116.9	76.5	163.9
NIST Construction & Major Renovations	79.2	98.0	180.0	116.9	56.5	116.9
Competitive Construction Grant Program	30.0	30.0	180.0	0.0	20.0	0.0
Congressionally Designated Projects	51.3	44.0	0.0	0.0	0.0	47.0
Total NIST	755.8	819.0	580.0	846.1	781.1	878.8
						822.3 ***

* Excludes \$10M from DoE for Smart Grid and \$20M from HHS for Health IT.

** House/Senate Committee budget marks

*** Total after subtracting Congressionally Designated Projects

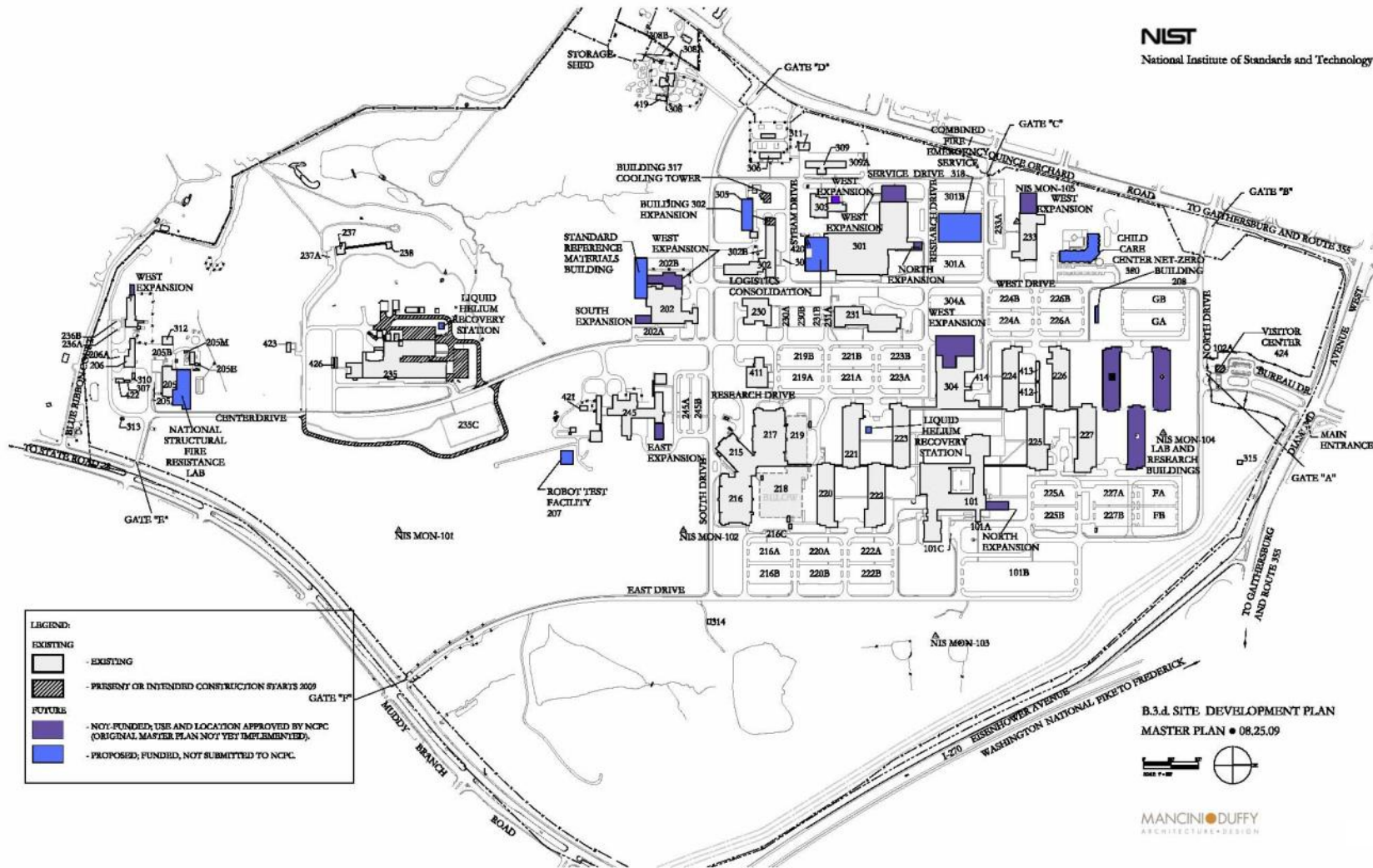
NIST Recovery Act Funds

128.0 Total Awarded / Obligated as of 9/24/2009

55.5	Construction grants to four universities to provide cost-shared support for the construction of new scientific research facilities
22.0	Phase One procurement of research and measurement equipment
12.5	Internal construction and SCMMR projects A/E design contracts. The Construction A/E design includes Boulder B1E Extension construction, B1E enhancements, Liquid Helium Recovery System, NCNR Pump House and Infrastructure, National Structural Fire Resistance Laboratory, consolidated emergency services, advanced robotics, and logistics operations
10.8	Expand NRC/NIST Postdoctoral Research Fellowship Program and retain NRC postdoctoral fellows through the end of FY10 following the end of their tenure
9.0	Information Technology Infrastructure contracts to improve NIST information technology infrastructure for improving measurements and research at NIST
8.5	Management and oversight support of the construction grants program, construction management support of NIST construction projects, acquisition support management services, and risk management support services
6.9	Competitive research contracts to small businesses under the Small Business Innovation Research (SBIR) Program to develop new technologies supporting NIST's measurement and research mission
2.29	Contracts to help sustain accelerated development of standards to build a secure, interoperable smart electric power grid

NIST Gaithersburg Site Development Plan

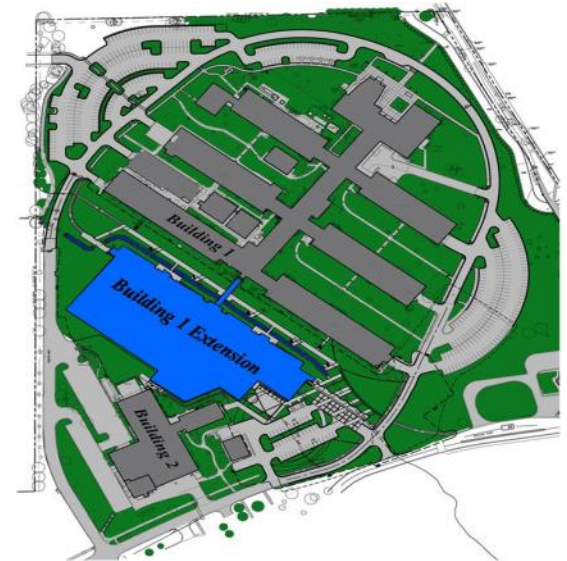
NIST
National Institute of Standards and Technology



NIST Gaithersburg Master Plan 3-D Model



NIST Construction Projects



VCAT agenda

VCAT has an “official role as the private sector policy advisor of the Institute”. A primary function is to “make recommendations regarding general policy for the Institute, its organization, its budget, and its programs...”

Report deals essentially, but not exclusively, with:

- Policy matters affecting NIST;
- Areas of research of potential importance to the long-term competitiveness of U.S. industry;
- Comment on programmatic planning document

NIST Planning and NIST Priorities

Three-year program plan → second iteration

- **Strengthen NIST's laboratories and facilities** *to ensure U.S. leadership in measurement science* and focus this capability on addressing *key measurement barriers*.
- **Focus new activities on critical national priorities:** *Energy, Environment, Manufacturing, Health Care, Physical Infrastructure, and Information Technology*
- **Stabilize, fortify, and fully leverage TIP, MEP, and BNQP** *to promote innovation, industrial competitiveness, and sustainable economic growth*.
- **Maximize NIST's impact through effective collaboration and coordination** *with companies, universities, other NMIs, other Federal agencies, and states*.

NIST Programmatic Planning

- Highlight unique mission roles for NIST
- Improve the “moving parts” of the planning process:
 - Develop mechanism for credible external input
 - Transition from budget initiative planning → program planning
 - Regularize the planning process
- Workshops as mechanism for external input and needs validation
 - Quantitative measurement of greenhouse gases (Jan 2010)
 - Bridging the gap for photovoltaics beyond 2015 (Jun 2010)
- Program planning documents under development
 - Multiyear program descriptions (phasing and priorities)
 - First 10 based on ongoing program initiatives

Unique mission role: documentary standards

NIST is to: “compare standards used in scientific investigations, engineering, manufacturing, commerce, industry, and educational institutions with the standards adopted or recognized by the Federal Government and to coordinate the use by Federal agencies of private sector standards, emphasizing where possible the use of standards developed by private, consensus organizations.”

Explore the NIST role in documentary standards and the interplay with the NIST laboratories:

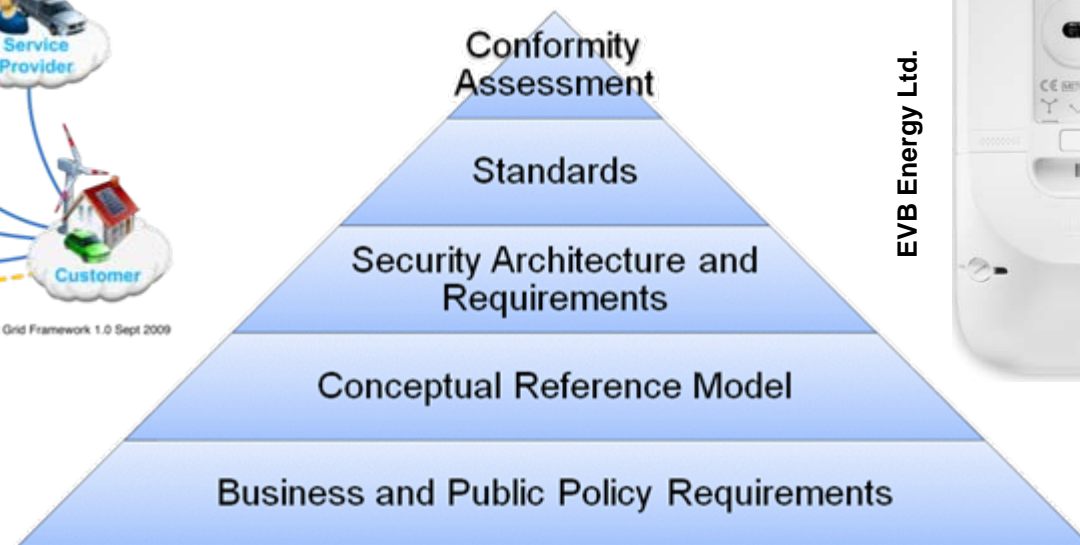
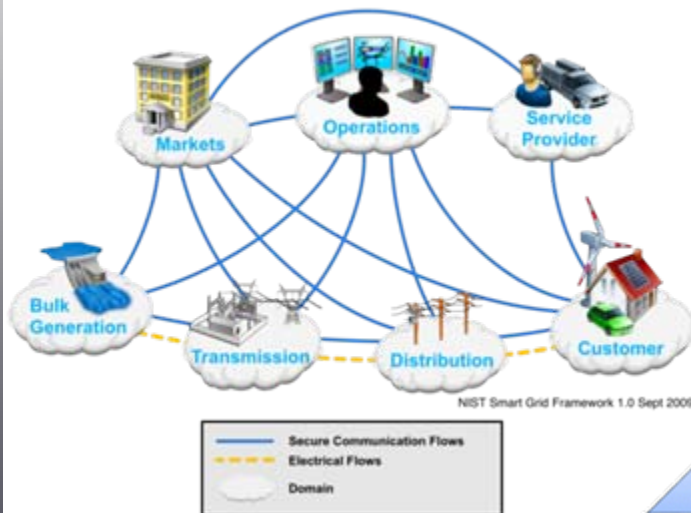
- What aspects of the Federal coordination role leverage the technical capabilities of the labs?
- How could NIST enhance its support of Federal agencies?
- The NIST role in coordinating federal standards has become a priority (e.g. Cybersecurity, Smart Grid, Health IT). How should this change shape planning and priority setting efforts for the NIST laboratories?

Standards for Smart Grid Interoperability – Update

April 2009: Office of National Coordinator for Smart Grid Interoperability established at NIST to focus and accelerate standards development

Progress since June 2009 VCAT meeting:

- Version 1.0 of NIST identified standards for inclusion in Smart Grid Interoperability Standards Framework released for public comment
- SDO workshop to address standards priorities – buy in from SDOs
- Smart Grid Cyber Security and Priority Action Plans identified to address standards gaps
- Infrastructure for public-private partnership Smart Grid Interoperability Panel established
- NIST Smart Grid Interoperability Framework Report released at GridWeek



EVB Energy Ltd.



Nationwide Healthcare Information Infrastructure - Update

Progress since June 2009 VCAT meeting:

- Agreement on technical work plan for ARRA and received ARRA funds from HHS
- NIST-developed health IT standards conformance test tools
 - Adopted for use by Nationwide Health Information Network (NHIN), a public/private collaboration to support standards-based clinical information exchange
 - Featured for use at Integrating the Healthcare Enterprise (IHE), ANSI's Health IT Standards Panel (HITSP), and IHE Connectathon
- NIST co-sponsoring “Discovery and Innovation in Health IT” workshop with NSF, HHS
- NIST co-sponsoring a “Informatics for Consumer Health” summit with NCI

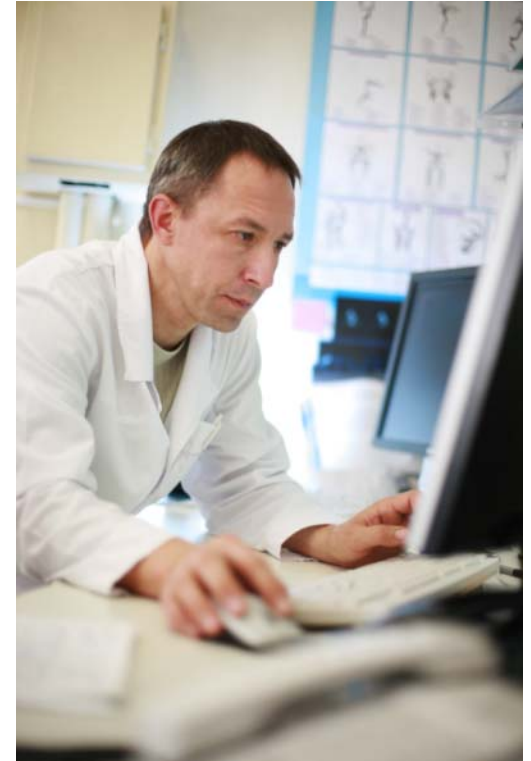


Image: Shutterstock, ©Konstantin Sutyagin

Recent Events in Cybersecurity

60-day Cybersecurity Review released

- Provides a number of recommendations including the creation of a new cyber czar position, reporting to the NSC and the NEC - position has not yet been filled

Pending cybersecurity legislation

- Cybersecurity Act of 2009 (S.773) – Would place significant new responsibilities for developing and enforcing compliance of cybersecurity standards at NIST.
- U.S. Information and Communications Enhancement Act of 2009 (S.921). Proposes shifting many security responsibilities from OMB and NIST to DHS.

Discussion