NIST VCAT
Information Technology (IT) Sub-Committee

Kick-off Session

August 14, 2007

Wyatt Starnes, Chair NIST VCAT IT Subcommittee

IT Committee Members/Liaison

- Chairperson   Wyatt Starnes
- VCAT Member   Vint Cerf
- VCAT Member   David Spong
- VCAT Member   Gary Floss
- NIST Liaison   Cita Furlani

Agenda (8/14/07 1:45-5:00pm)

- **1:45-3:00pm**
  - IT SC Executive Session
    - Chair Presentation
      - Objectives, baseline, calibration, charter, vision & mission
    - Liaison Presentation
    - Committee Discussion
- **3:15-4:15pm**
  - External Market Observations and Needs Assessment

Agenda (8/14/07 1:45-5:00pm)

- **4:15-5:00pm**
  - Executive Session for next mornings readout

  (August 15 9am start – presentation to all VCAT and NIST Staff. Target 30 minutes with additional time for Q&A and discussion)

Objectives of this meeting

- Baseline
  - Review intersection of IT-SC goals with respect to overall NIST mission and VCAT charter
- Calibration
  - Review our scope, vision and mission statement
- Goal Setting
  - What can we reasonably accomplish over what time frame?
- Issue Framing
  - Survey the internal and external landscape

Objectives of this meeting

- Begin to identify challenges, risks, core competencies and opportunities
    - Help NIST to enhance the strategic view for the role of IT to NIST mission, internally and externally

Baseline

- ## NIST Vision & Mission

NIST will be the world leader in creating critical measurement solutions and promoting equitable standards. To stimulate innovation, foster industrial competitiveness and improve quality of life.

Promote US innovation and industrial competitiveness by advancing measurement science, standards and technology in ways that enhance economic security and improve our way of life

Calibration

- Internal NIST Group:
  - Information Technology Laboratory (ITL)
  - Cita Furlani, Director
- Sorting out IT at NIST
  - ITL is an Operating Unit (OU) serving
    - Market Needs like other NIST OU's
    - Internal NIST OU _enablement_ via enhanced IT methods, practices and technologies
  - The CIO and operating IT issues (internal IT support) IS NOT the charter of ITL

NIST VCAT IT-SC Charter

- To act as the <u>focal point</u> for VCAT activities with respect to the broader *enabling* Information Technology in support of the overall NIST mission statement

- To work closely with ITL to provide external market visibility in support of the overall ITL mission within NIST

- To act as a strategic resource in support of ITL mission including internal and external communications

NIST VCAT IT-SC Vision

- **To serve our major constituencies effectively**
  - **NIST-facing:**
    - Dept. of Commerce relative to NIST mission
    - Director of NIST relative to NIST objectives
    - Director of ITL in support of Director objectives
    - All NIST OU's in support of their objectives (as they may be better enabled by ITL)
  - **Market-facing:**
    - Serve as a bridge between external market needs and ITL core competencies
    - Advance the competitive contributions for NIST around all targeted IT initiatives

NIST VCAT IT-SC Mission

■ Proposed Mission Statement:

To act as a strategic resource in support of ITL mission including internal priorities, in conjunction with market-facing needs and requirements

IT as framed in the USMS

- From NIST Special Publication 1048 "An Assessment of the United States Measurement System: Addressing Measurement Barriers to Accelerate Innovation"
- Released February 2007
- See http://usms.nist.gov

■ **Information Technology (IT) Software**

Excerpted from page 30 of the report

Findings

- Performance measurement—in particular measurement of software and system performance, including interoperability—is critical to overcoming the measurement problems that pose technical barriers to technological innovation in the *IT Software* sector/technology area.

Other Observations

- For the *IT Software* sector/technology area, the need to improve both security and cyber-security, themes identified as cross-cutting in the Technology Roadmap Review, presents significant technical barriers requiring measurement innovation. This becomes particularly prominent at the production, marketing, and end-use stages of technological innovation in *IT Software*.

USMS Assessment (NIST SP 1048)

- Issues with accuracy, data, acceptability/ compatibility, and reliability, along with a lack of standards and a lack of fundamental knowledge, are measurement problems that are barriers to technological innovation, particularly during the applied research stage of technological innovation.

NIST Overall Organization

NIST VCAT
Information Technology (IT) Sub-Committee

Current Priorities and Focus Discussion

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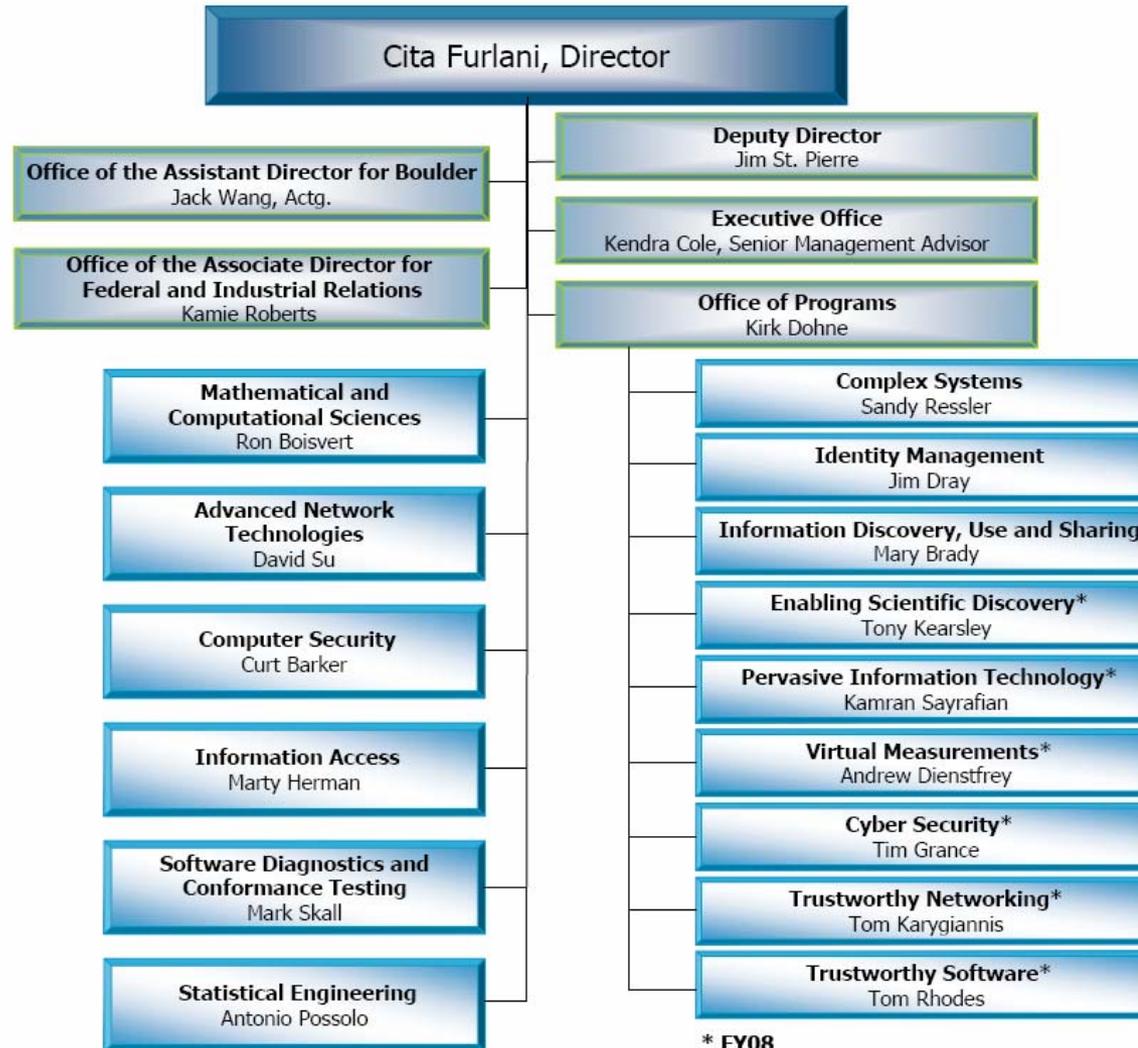Cita Furlani (interactive with IT-SC)

Current ITL Strategic Programs

- **Top 3 focus areas (FY 2007):**
  - Complex Systems
  - Identity Management Systems
  - Information Discovery, Use, and Sharing
- **Extended Areas (FY 2008):**
  - Cyber Security
  - Enabling Scientific Discovery
  - Pervasive Information Systems
  - Trustworthy Networking
  - Trustworthy Software
  - Virtual Measurement Systems

ITL Organization – FY07/FY08

Cita Furlani, Director

Deputy Director
Jim St. Pierre

Office of the Assistant Director for Boulder
Jack Wang, Actg.

Executive Office
Kendra Cole, Senior Management Advisor

Office of the Associate Director for Federal and Industrial Relations
Kamie Roberts

Office of Programs
Kirk Dohne

Mathematical and Computational Sciences
Ron Boisvert

Complex Systems
Sandy Ressler

Advanced Network Technologies
David Su

Identity Management
Jim Dray

Information Discovery, Use and Sharing
Mary Brady

Computer Security
Curt Barker

Enabling Scientific Discovery*
Tony Kearsley

Pervasive Information Technology*
Kamran Sayrafian

Information Access
Marty Herman

Virtual Measurements*
Andrew Dienstfrey

Cyber Security*
Tim Grance

Software Diagnostics and Conformance Testing
Mark Skall

Trustworthy Networking*
Tom Karygiannis

Statistical Engineering
Antonio Possolo

Trustworthy Software*
Tom Rhodes

* FY08

7/16/07

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Market Discussions - Context

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Wyatt Starnes and Vint Cert

Context Setting

- Information Technology (IT), broadly defined, is a key enabling technology for all global commerce
    - Computing, Networking and Communications
    - Software and Services
    - Infrastructure and enabling methods
- IT is also crucial for both defensive and proactive National Security
    - Defensive – Protect existing infrastructure
    - Proactive – Enabling for responsive Info Sharing

Context Setting

- On a standalone basis IT is a huge US industry

- On an influence to GDP basis, IT is a competitive enabler in nearly every major vertical commerce sector

- As in the physical world, the cyber world is facing similar globalization risks:
    - De-perimeterization
    - Infrastructure reliability and stability
    - Hostile threats and other risks

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Placeholder for IT-SC Discussion relative to External Market Need and Factors

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All Committee