



NIST VCAT

Information Technology (IT) Sub-Committee

December Sessions

Dec 11-12 2007

Wyatt Starnes, Chair NIST VCAT IT Subcommittee

IT Committee Members

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

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

NIST VCAT IT-SC Charter

- To act as the focal point for VCAT activities with respect to the broader enabling Information Technology in support of the overall NIST mission statement
- To work closely with NIST to provide external market visibility in support of the overall mission of IT within NIST
- To act as a strategic resource in support of NIST's IT mission including internal and external communications

NIST VCAT IT-SC Mission

- Mission Statement:

To act as a strategic resource in support of NIST overall mission to promote IT innovation by validating and championing internal priorities and by representing market-facing needs and requirements

The background of the slide is a close-up, slightly blurred photograph of a dictionary page. The page is open, and the word "monitor" is prominently displayed in a large, bold, black font. Above it, the word "warn" is visible in a smaller font. The page is set against a dark, moody blue background that transitions into a solid blue bar at the bottom of the slide.

NIST VCAT

Information Technology (IT) Sub-Committee

Summary Actions from Boulder

Group (NIST & IT-SC) Next Steps

1. Understand WHO the customers are (and what they need – Requirements)
2. Understand the MANDATES that drive (some of) NIST IT investments
3. Understand IT Market Trends, Needs & Opportunities
 - Now
 - Future
4. Map the market Problems & Needs to potential NIST role

Group (NIST & IT-SC) Next Steps

5. Identify Tactical & Strategic Steps to position IT at NIST to satisfy future requirements
6. Continuously Validate Deployed and Planned effort to Problem/Opportunity/Needs Assessment

Next Steps, Goals and Timeframes

- Assign actions and timeline
- Goal is to have steps 1-3 ready for report by December meeting
- Goal is to have steps 4-6 ready for report by April meeting

Current IT Strategic Programs

- Complex Systems
- Identity Management Systems
- Information Discovery, Use, and Sharing
- Cyber Security
- Enabling Scientific Discovery
- Pervasive Information Systems
- Trustworthy Networking
- Trustworthy Software
- Virtual Measurement Systems

Objective 1 – Who are our Customers?

■ ***Internal - Complex Systems***

- Foundations of Measurement Science for Information Systems (ITL)
- Factory Floor Integration Standards and Testbeds (MEL)
- Complex Systems Testbed (ITL)
- Cybernetic Building Systems (BFRL)
- Complex System Failure Analysis (BFRL, ITL)
- Grid Security Infrastructure (ITL)
- Measurement Science for Complex Information Systems (ITL)

Objective 1 – Who are our Customers?

■ Customers/Collaborators

■ Community at Large

- EC Framework 7 Partners
- Manufacturing organizations, suppliers, consumers

Objective 1 – Who are our Customers?

- Customers/Collaborators
- Industry/Consortia/Standards Development Organizations
 - Accordare
 - ASHRAE
 - AT&T Labs
 - Automotive Industry Action Group (AIAG)
 - Booz Allen & Hamilton Inc
 - Fujitsu
 - HP
 - IBM
 - IBM TJ Watson Research Center
 - Institute for Defense Analysis
 - Intel
 - ISA

Objective 1 – Who are our Customers?

- Customers/Collaborators
- Industry/Consortia/Standards Development Organizations
 - National Center for Ontological Research (NCOR)
 - OAGIS
 - OASIS
 - OMG
 - Open Grid Forum (OGF), including Reliability Group members
 - Open Grid Services Architecture Working Group (OGSA- WG)
 - Oracle
 - Platform Computing
 - Semantic Interoperability Community of Practice (SICoP)
 - Sun Microsystems
 - The Washington DC Area SGML/XML Users Group
 - W3C

Objective 1 – Who are our Customers?

■ Customers/Collaborators

■ Federal

- Defense Advanced Research Projects Agency (DARPA)
- National Science Foundation (NSF)

■ Academia

- Carnegie Mellon U.
- Dartmouth College
- George Mason U.
- Indiana U.
- NCSA/U. of Illinois
- Penn State U.
- Purdue U.
- U. of Arizona
- U. of California Santa Barbara
- U. of Maryland
- U. of Maryland College Park
- U. of Minnesota
- U. of North Carolina
- U. of Toronto
- U. of Virginia

Mandates Summary

NIST IT Mandates

Biometrics	4
CyberSecurity	12
Emergency Alert for Wireless Mobile Devices	1
Healthcare	1
Internet Protocol	1
NIST Administrative	1
Voluntary Voting (HAVA)	1
Total Mandates	21

Objective 2 – What are the Mandates?

■ Biometrics

- [USA PATRIOT Act](#) of 2001 (Public Law 107-56)
- [Enhanced Border Security and Visa Entry Reform Act of 2002](#) (Public Law 107–173)
- [Homeland Security Presidential Directive #12](#): Policy for a Common Identification Standard for Federal Employees and contractors
- US-VISIT 10-Print Transition: mandated by Homeland Security Council Deputies Committee (2005)

Objective 2 – What are the Mandates?

■ Cyber-Security

- Federal Information Security Management Act (FISMA) of 2002, (Title III of the E-Government Act, Public Law 107–347), including
 - Information Security and Privacy Advisory Board (ISPAB) mandate amended (Section 304)
- Computer Security Research and Development Act of 2002 (Public Law 107–305)
- Homeland Security Presidential Directive #12
- Conference Report on House Resolution 5441, Department of Homeland Security Appropriations Act, 2007: Title V - General Provisions (Western Hemisphere Travel Initiative (WHTI) Certification effort)

Objective 2 – What are the Mandates?

■ Cyber-Security

- [OMB M04-04 E-Authentication Guidance for Federal Agencies](#)
- [Information Technology Management Reform Act of 1996](#) (Public Law 104-106)
- [OMB Circular A-130](#) and [OMB Directive 05-24](#)
- Policies that require federal government agencies to implement standards/guidelines developed/published by NIST
 - [OMB M05-24](#), Implementation of Homeland Security Presidential Directive (HSPD) 12 – Policy for a Common Identification Standard for Federal Employees and Contractors
 - [OMB M06-16](#), Protection of Sensitive Agency Information
 - [OMB M07-16](#), Safeguarding Against and Responding to the Breach of Personally Identifiable Information

Objective 2 – What are the Mandates?

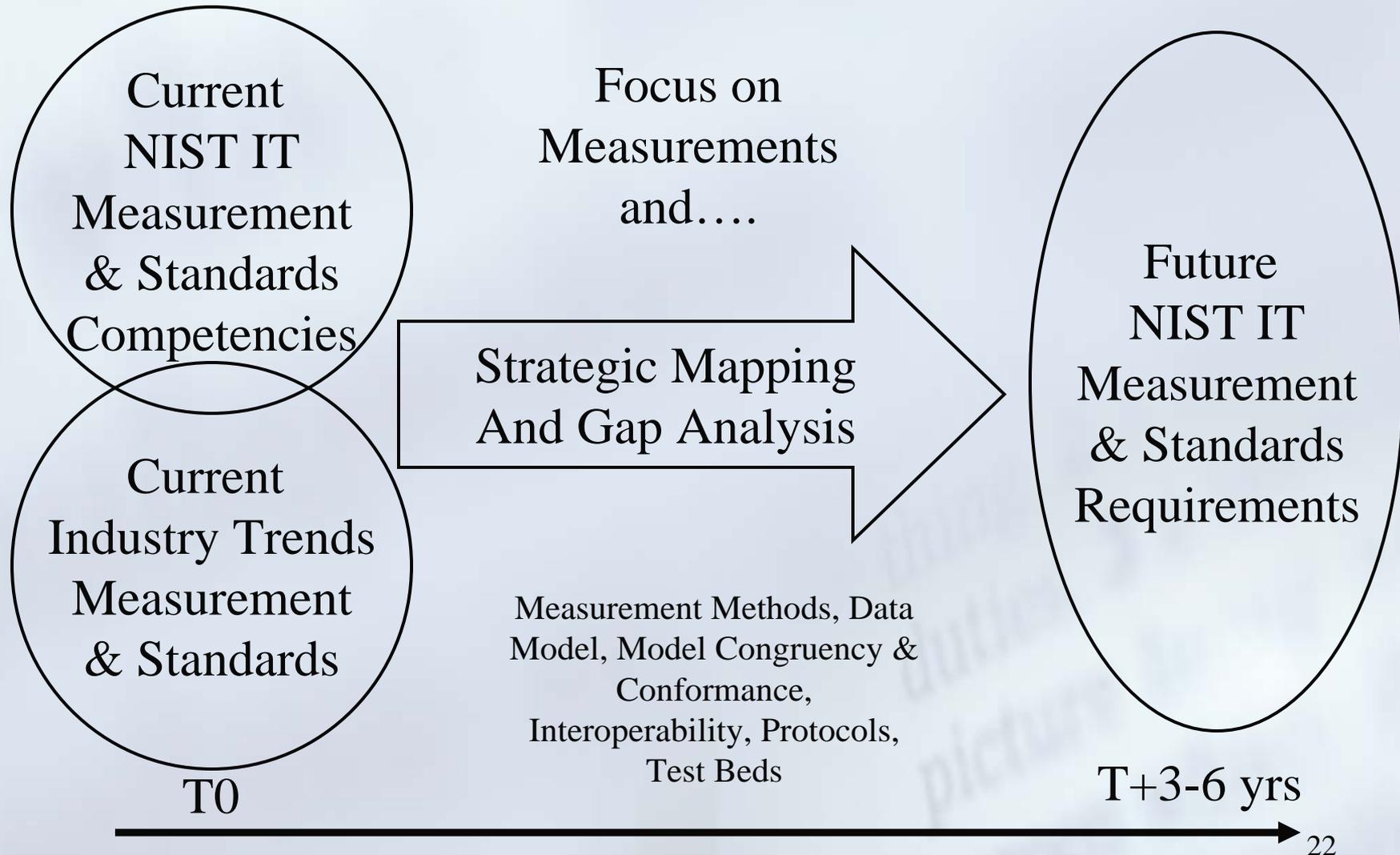
Emergency Alert for wireless mobile devices

- [Warning, Alert, and Response Network Act](#) (Title VI of the Security and Accountability For Every Port Act of 2006 (or SAFE Port Act, Public Law 109-347))

Objective 2 – What are the Mandates?

- Healthcare
 - Executive Order: [Incentives for the Use of Health Information Technology and Establishing the Position of the National Health Information Technology Coordinator](#)
- Internet Protocol version 6 (IPv6)
 - [OMB memo M-05-22 on Transition Planning for IPv6](#)
- Statistical methods for evaluating and expressing the uncertainty of NIST measurement results
 - [NIST Administrative Manual Subchapter 4.09, Appendix E, 3b](#)
- Voluntary Voting System Standards
 - [Help America Vote Act of 2002](#) (Public Law 107-252)

The Strategic Mapping Process



Objective 3: The BIG External Trends

- IPv6 & Network transitions
- Cyber Security transitions
- S/W & Systems Quality, Reliability & Trust
- Virtualized Data Centers (Enterprise)
- Virtualized Computing (Individual)
- Web 2.0 & SOA
- Multicore (usage and performance)
- Green Data Centers
- Data Archival Issues (over time)

Objective 3: The BIG External Trends

- Globalization of IT
- Meta Data Specs & Info Harvesting
- Virtual & Distributed Collaboration
- Mobile & Pervasive IT Challenges
- Robotics, Telepresence & Automation
- IT Human Capital Issues (R&D + Operational)
- Calibration of S/W driven instruments to International Standards
- Applied S/W Modeling, Simulation and Validation through Measurement

Objective 3: The BIG External Trends

- Risk Mitigation Investments
 - Quantum Computing
 - Electronic Voting (HAVA)
 - Nano EHS Research

Group (NIST & IT-SC) Next Steps

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- Understand IT Market Trends, Needs & Opportunities
 - Now
 - Future
- 1. Map the market Problems & Needs to current NIST activities and potential NIST role (Gap Analysis)

Group (NIST & IT-SC) Next Steps

5. Identify Tactical & Strategic Steps to position IT at NIST to satisfy future requirements (What do we do now?)
6. Continuously Validate Deployed and Planned effort to Problem, Opportunity, Needs Assessment

Next Steps, Goals and Timeframes

- Assign actions and timeline
- Goal is to have steps 1-3 ready for report by December meeting
- Goal is to have next steps ready for report by April meeting

Thank You...!!