



*Information Technology Laboratory
View of the Cloud*

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November 4, 2010



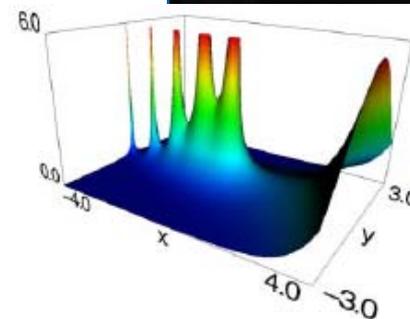
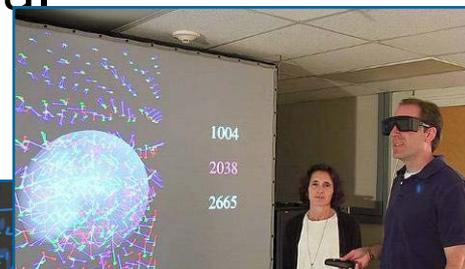
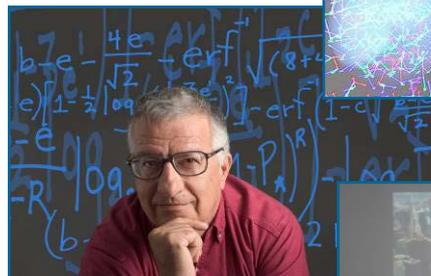
ITL Mission

To promote US innovation and industrial competitiveness by advancing

*measurement science,
standards, and
technology*

through research and development in

*information technology,
mathematics, and
statistics.*





ITL Goals

- Accelerate the development and deployment of reliable, secure, usable, and interoperable information and communication systems.
- Catalyze the development of particular applications of national importance that have significant IT requirements.
- Enable world-class measurement and testing through innovations in mathematics, statistics, and computer science.



ITL's Role in Cloud Computing

- **Widely adopted and referenced NIST Definition of Cloud Computing**
 - *Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction*
- **Asked by the U.S. CIO to assume a technical leadership role in the adoption of Cloud Computing by U.S. government agencies to promote the effective and secure use of technology within government by:**
 - providing technical guidance
 - promoting and accelerating standards



NIST Information Technology Program Portfolio from a Cloud Computing Perspective

- **Infrastructural Technologies**
 - Biometrics
 - Cyber Security
 - Key Management
 - Virtualization
 - Authentication
 - Identity Management
 - Advanced Networking (e.g., Internet Protocol Version 6 (IPv6))
 - Software Assurance
 - Statistics for Uncertainty
 - Usability
 - Emerging Technologies
 - Complex Systems
 - Pervasive Information Technology
 - Virtual Measurement Systems
- **Applications**
 - Health Information Technology
 - Smart Grid
 - Voting Systems



Questions

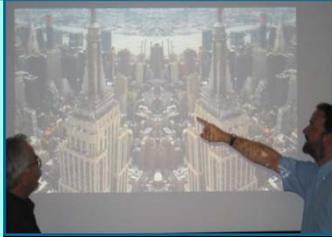


Backup

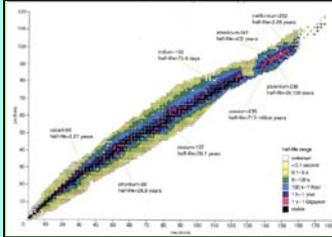


ITL Core Competencies

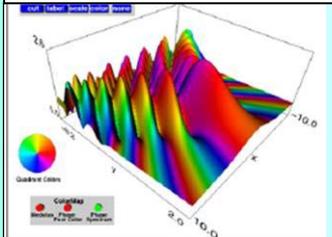
Technology Development



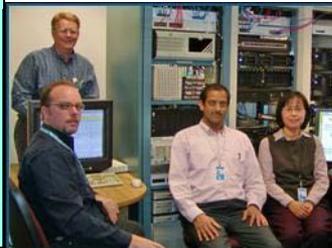
IT Measurement and Testing



Mathematical and Statistical Analyses for Measurement Science



Modeling and Simulation for Measurement Science



IT Standards Development and Deployment

Customers

Industry

Consortia

Govt

Academia