



Netted Sensors Community 2005 Workshop

Information Management Session

Michael E. Los



MITRE





Information Management

- **Process of producing actionable knowledge from multiple, distributed, and potentially autonomous sensors**

*Netted Sensor Technology Roadmap,
MITRE Technical Report 03B0000033, May 2003*

- **Environment that enables that enables the “five rights” i.e., the right person getting the right information in the right form at the right place and time to make the right decisions**

*Data/Information Management, AF - CIO Chief Architect Office,
Discussion Paper No. DP-009, Rev 2.24, 22 Oct 2002*

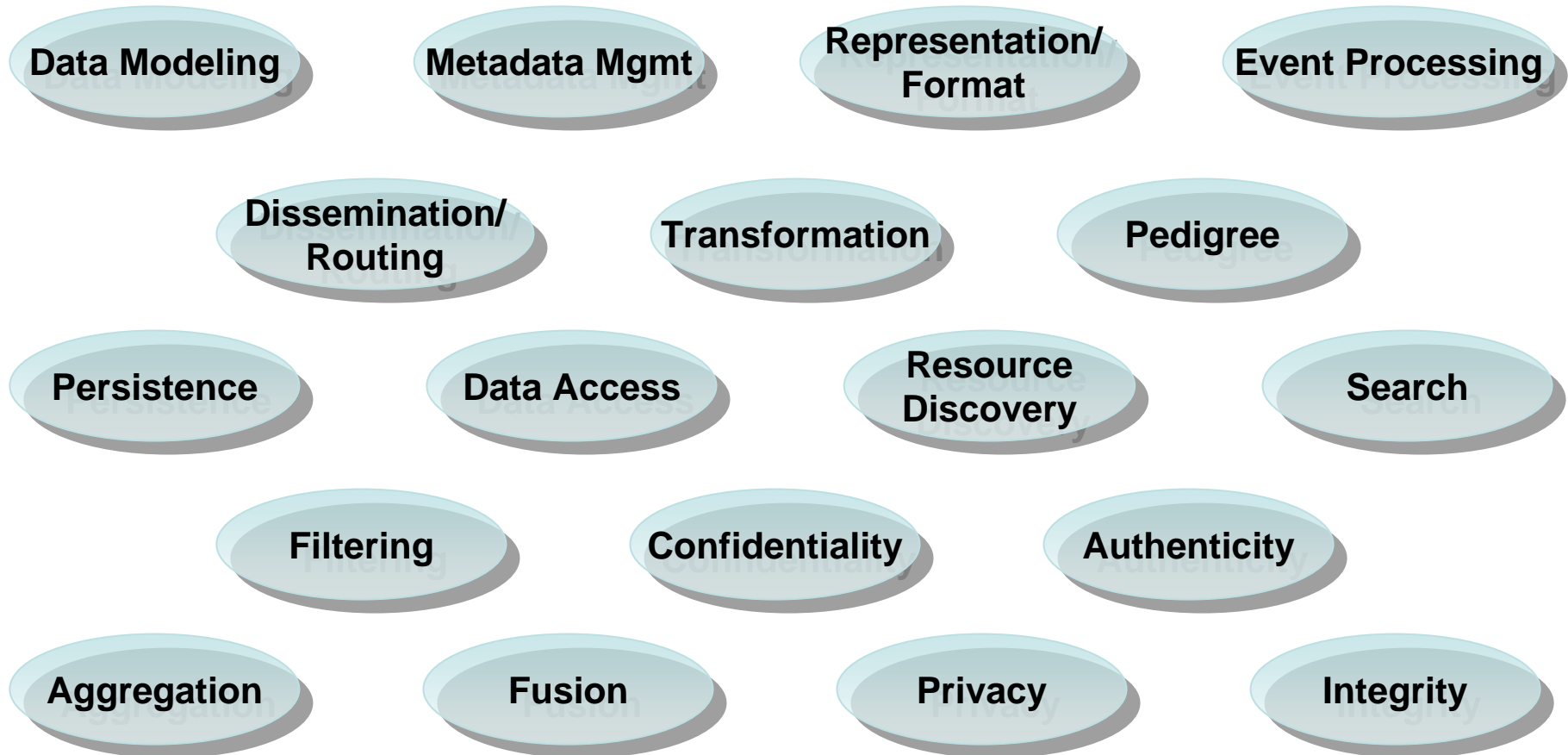


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Information Management Challenges





Dr. Bhavani Thuraisingham

Secure Sensor Information Management

Persistence

Data Access

Confidentiality

Authenticity

Privacy

Integrity

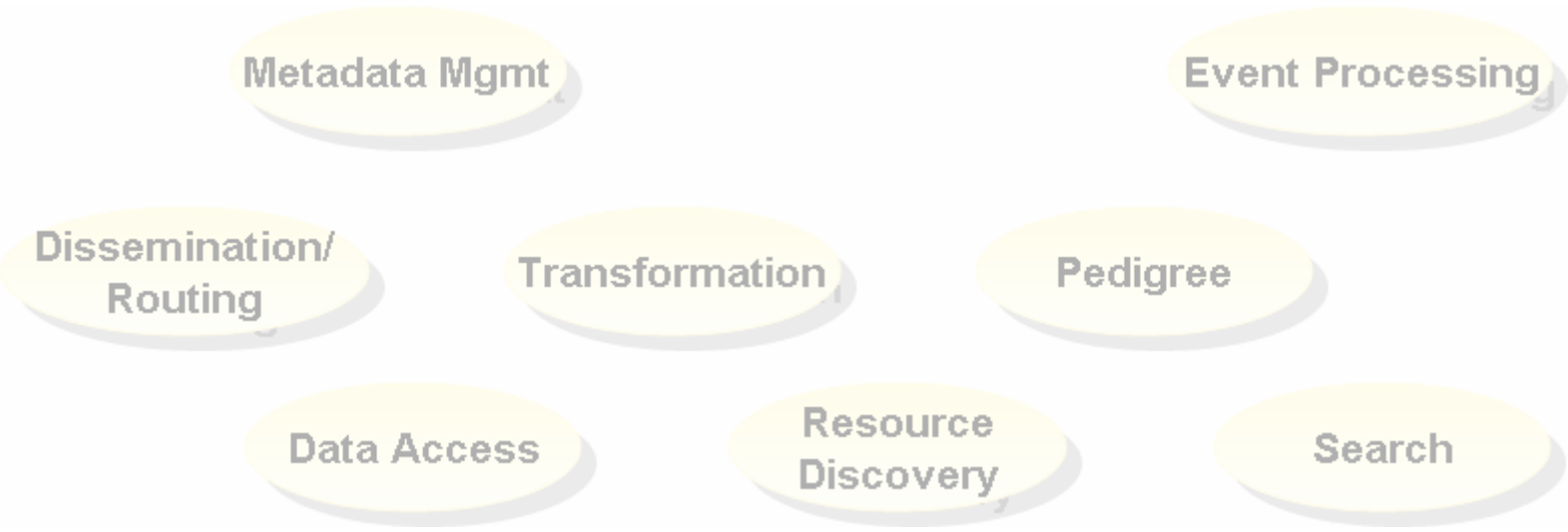


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Mr. Paul Giangarra



Overview of IBM Technologies Relating to Netted Sensors





Dr. Mike Botts

Data Modeling

Metadata Mgmt

Representation/
Format

Data Access

Resource
Discovery

SensorML and the OGC Sensor Web Enablement Framework

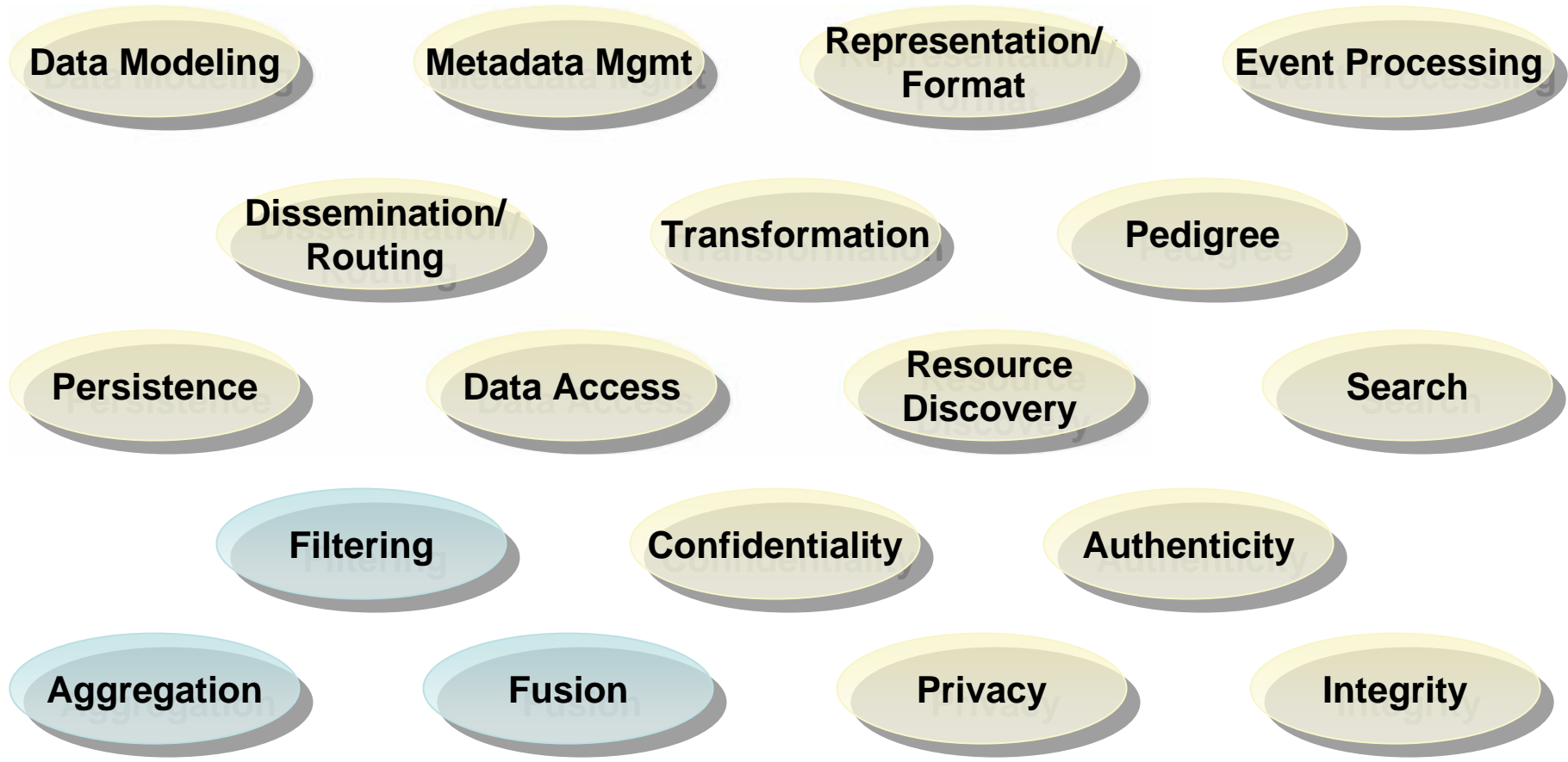


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Information Management Session Coverage





Agenda

- 1600 - 1605** Session Introduction – Michael Los (MITRE)
- 1605 - 1625** Dr. Bhavani Thuraisingham (Univ. of Texas)
"Secure Sensor Information Management"
- 1625 - 1645** Mr. Paul Giangarra (IBM)
"IBM Netted Sensors' Technology Overview"
- 1645 - 1705** Dr. Mike Botts (Univ of Alabama, Open Geospatial Consortium)
"SensorML and the OGC Sensor Web Enablement Framework"
- 1705 - 1725** Speaker Questions and Answers





Dr. Bhavani Thuraisingham

- **Joined the University of Texas at Dallas in October 2004 as a Professor of Computer Science and Director of the Cyber Security Research Center in the Erik Jonsson School of Engineering and Computer Science.**
- **Fellow of the IEEE (Institute for Electrical and Electronics Engineers)**
- **Fellow of the AAAS (American Association for the Advancement of Science)**
- **Fellow of the BCS (British Computer Society)**
- **Recipient of the IEEE Computer Society's 1997 Technical Achievement Award for "outstanding and innovative contributions to secure data management"**
- **Authored over 70 journal articles, over 200 refereed conference papers and workshops, and awarded three US patents**
- **Authored seven books in data management, data mining and data security and is completing her eighth book on Trustworthy Semantic Web**
- **Presented over 25 keynotes at various technical conferences and has also given invited talks at the White House Office of Science and Technology Policy and at the United Nations on Data Mining for counter-terrorism.**
- **Currently the Editor in Chief of Computer Standards and Interfaces Journal.**
- **Founding President of Dr-Bhavani Security Consulting**
- **Her research interests are in secure semantic web; data mining, security, and privacy; and secure geospatial and sensor information management.**



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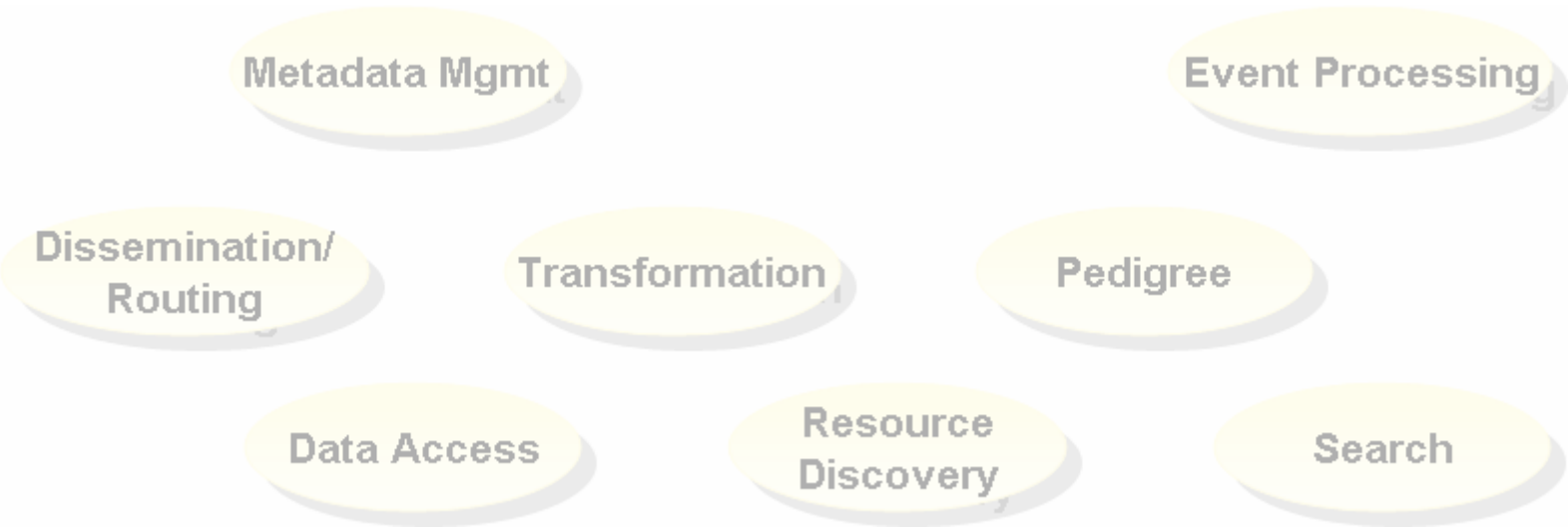




Mr. Paul Giangarra

- **Executive Consultant and e-Government Solutions Architect in the Strategic Technical Relations team**
 - Works in the office of the CTO of IBM Software Group Federal.
 - Works with nearly all branches of Federal government, including the DoD, DHS, the State Department, the IRS and FEMA to help identify and solve critical and complex IT problems.
- **Previously, Senior Consultant and Solution Architect in IBM's e-Business Solutions Services team**
 - Led large scale Java/Network Computing/e-Business strategy, architecture, and development projects for customers around the world
 - Chief Technology Advisor for the Office of the e-Envoy in the U.K. Cabinet Office during an 18 month secondment to the U.K. Government
- **In 1991, chosen to lead the technical assessment team at Apple that resulted in the formation of Taligent**
- **Appointed Chief Designer for OS/2 in 1988**
 - Responsible for the overall system architecture and design of OS/2, including the first 32-bit version of OS/2.
 - Awarded multiple patents related to OS/2 system architecture and design
 - Led the architecture of multiple releases of OS/2, including Warp V4.





Overview of IBM Technologies Relating to Netted Sensors



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Dr. Mike Botts

- **Principal Research Scientist within the Earth System Science Laboratory at Univ of Alabama at Huntsville**
- **Worked with NASA, EPA, NGA, MASINT standards community, and others**
- **Creator & Chief architect of Sensor Model Language (SensorML)**
- **Chair of OGC Sensor Web Enablement Working Group**
- **Chief architect of Space-Time Toolkit a Java-based 4D visual environment for on-demand discovery and fusion of disparate sensor observations**
- **Participant in the OGC Interoperability Project (OWS3)**
- **Authored over two dozen journal articles and conference papers**
- **Awarded Ph.D. in Geotechnical Engineering from the University of Alabama**



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