

NIST Big Data Public Working Group

Overview of NIST Big Data Interoperability Framework Volume 9

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Presentation Overview

- Volume Presentation Outline
- Volume 1, Definitions (Nancy Grady, SAIC)
- Volume 2, BD Taxonomies (Nancy Grady, SAIC)
- Volume 3, Use Cases and General Requirements (Geoffrey Fox, Indiana University)
- Volume 6, Reference Architecture (David Boyd, InCadence Corp.)
- Volume 4, Security and Privacy (Arnab Roy, Fujitsu; Mark Underwood, AVP, Strategic Initiatives, Controls and Countermeasures)
- Volume 8, Reference Architecture Interface (Gregor von Laszewski, Indiana University)
- Reference Architecture Software Implementation Environment and Demonstration (Gregor von Laszewski, Indiana University)
- Volume 7, Standards Roadmap (Russell Reinsch, Center for Government Interoperability)
- **Volume 9, Adoption and Modernization (Russell Reinsch, Center for Government Interoperability)**

NBDIF Volume Overview

Vol. 1 BD Definitions
Defines common language

Vol. 2 BD Taxonomies
Hierarchy of NBDRA components

Vol. 3 Use Cases & Vol. 5 Arch Survey
Info gathered; requirements extracted

Vol. 6 NBDRA
Developed NBDRA

Vol.4 S&P
Interwoven topics of S&P examined

Vol. 7 Standards Roadmap
Examine standards wrt NBDRA

Vol. 8 NBDRA Interfaces
Implementation of NBDRA

Vol. 9 Adoption & Modernization



Volume Presentation Outline

- For each volume
 - Scope of the volume
 - Brief recap of version 1
 - Highlights of version 2 accomplishments
 - Summary of version 2 areas needing contributions
 - Topics that could be considered for version 3

Volume 9, Adoption and Modernization

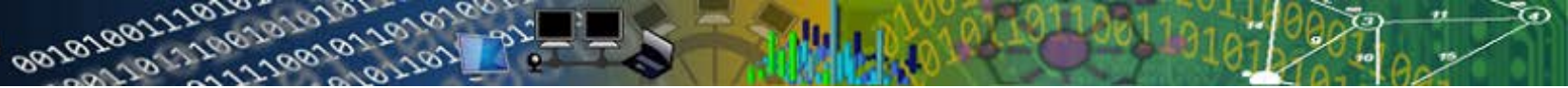
Document Scope

- Explore current state of adoption of BD systems and barriers to system implementation
- Examine factors affecting the maturity of technologies related to Big Data
- Provide a reusable assessment of the challenges facing modernization projects
- Provide a reusable knowledge base for understanding various roles and technologies involved in modernization projects

Volume 9, Adoption and Modernization

Version 2 Accomplishments

- Developed during Phase 2; no version 1 of this document
- Explored adoption of Big Data systems by industry
- Observed barriers to adoption
- Evaluated technology maturity stages
- Discussed organizational maturity and the relationship to successful BD system implementation



Aggregate Data on Adoption Barriers from a number of Surveys

Non-Technical Barriers	Aggregate Surveys					
Category • Sub-category	CDW	Accenture	Knowledgegent	Hitachi	TDWI	Information Week
Developing an overall management program						
Budget; expensive licenses	32%	47%	47%			34%
Stakeholder definition and product agreement			45%			40%
Establishing processes to go from POC to production			43%			
Compliance, privacy and regulatory concerns			42%		29%	
<ul style="list-style-type: none"> • S&P challenge in regulation understanding or compliance • Governance: monitoring; doc operating model • Governance: ownership • Governance: adapting rules for quickly changing end users 						
Difficulty operationalizing insights			33%	31%		
Lack of access to sources						
Silos						
<ul style="list-style-type: none"> • Lack of willingness to share; departmental communication. 				36%		

Volume 9, Adoption and Modernization

Version 2 Opportunities for Contribution

- Discuss patterns in BD adoption and factors in successful adoption (Section 3.1.1)
- Contribute to list of types of BD technologies that are being adopted and in which industry (Section 3.1.2)
- Augment discussion of barriers to adoption of BD systems (Section 3.2)
- Enhance discussion of organizational maturity and the relation to successful BD system implementation (Section 4.2)
- Add to discussion of considerations for implementation and modernization (Section 5)

Volume 9, Adoption and Modernization

Possible Version 3 Directions

- An SV-1 or CV-6 oriented toward mapping business, engineering, and modernization aspects of a big data project, and synchronizing the efforts of all three
- Recommendations on how organizations may initiate big data projects, and meet performance targets
- Conform to / integrate with the NIST BDPWG User Guide