



ISO/IEC Digital Preservation Interoperability Framework (DPIF)

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Global Priority

Sustainable Digital Preservation and Access



*"Digital information is a vital resource in our knowledge economy, valuable for research and education, science and the humanities, creative and cultural activities, and public policy. But digital information is inherently fragile and often at risk of loss. **Access to valuable digital materials tomorrow depends upon preservation actions taken today; and, over time, access depends on ongoing and efficient allocation of resources to preservation.**"*

Blue Ribbon Task Force, February, 2010



How Much Information (US alone)?

Digital Data Statistics

- ❖ Digital data being produced reached to 281 exabytes (EB, 10^{18}) in 2007 [1] [For scale, if digitalized, the holdings of the entire Library of Congress would amount to ~3 petabytes (PB, 10^{15})] [2]
- ❖ American homes roughly consumed 3.6 zettabytes [ZB, 10^{21} or 3,600 EB, including TV (~35%) and video games] of information in 2008 [3]

Digital Data Trends

- ❖ Total amount of digital information will grow at a rate of 58% per year, reaching 1.6 ZB or 1,610 EB by 2011 [1]

1. John F. Gantz, et. al., *The Diverse and Exploding Digital Universe: An Updated Forecast of Worldwide Information Growth Through 2011*, IDC (March 2008)
2. Michael Lesk, www.lesk.com/mlesk/ksg97/ksg.html
3. Roger Bohn & James Short, http://ddp.nist.gov/refs/HMI_2009_ConsumerReport_Dec9_2009.pdf

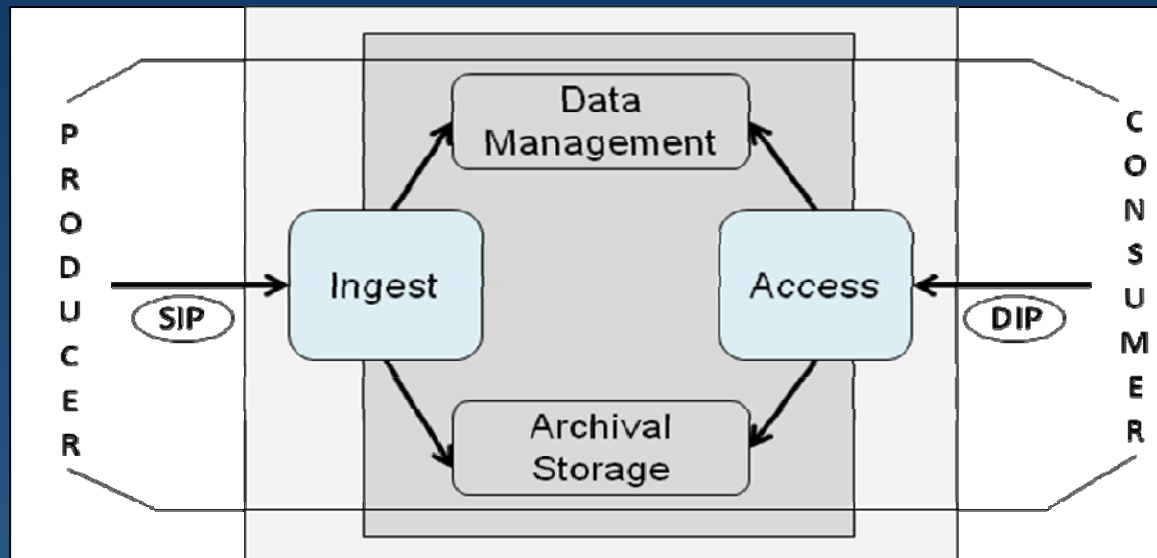


ISO/IEC Activities: 2008 - 2009

Standards Development

- ❖ Supported by 12 countries: Canada, China, Germany, Italy, Japan, Netherlands, New Zealand, Spain, Singapore, Switzerland, UK, and USA.
- ❖ Proposed (7/2009) and approved (11/2009) to establish ISO/IEC Study Group on Digital Content Management and Protection (SGDCMP) focuses on Digital Preservation based on the Open Archival Information System (OAIS) reference model.

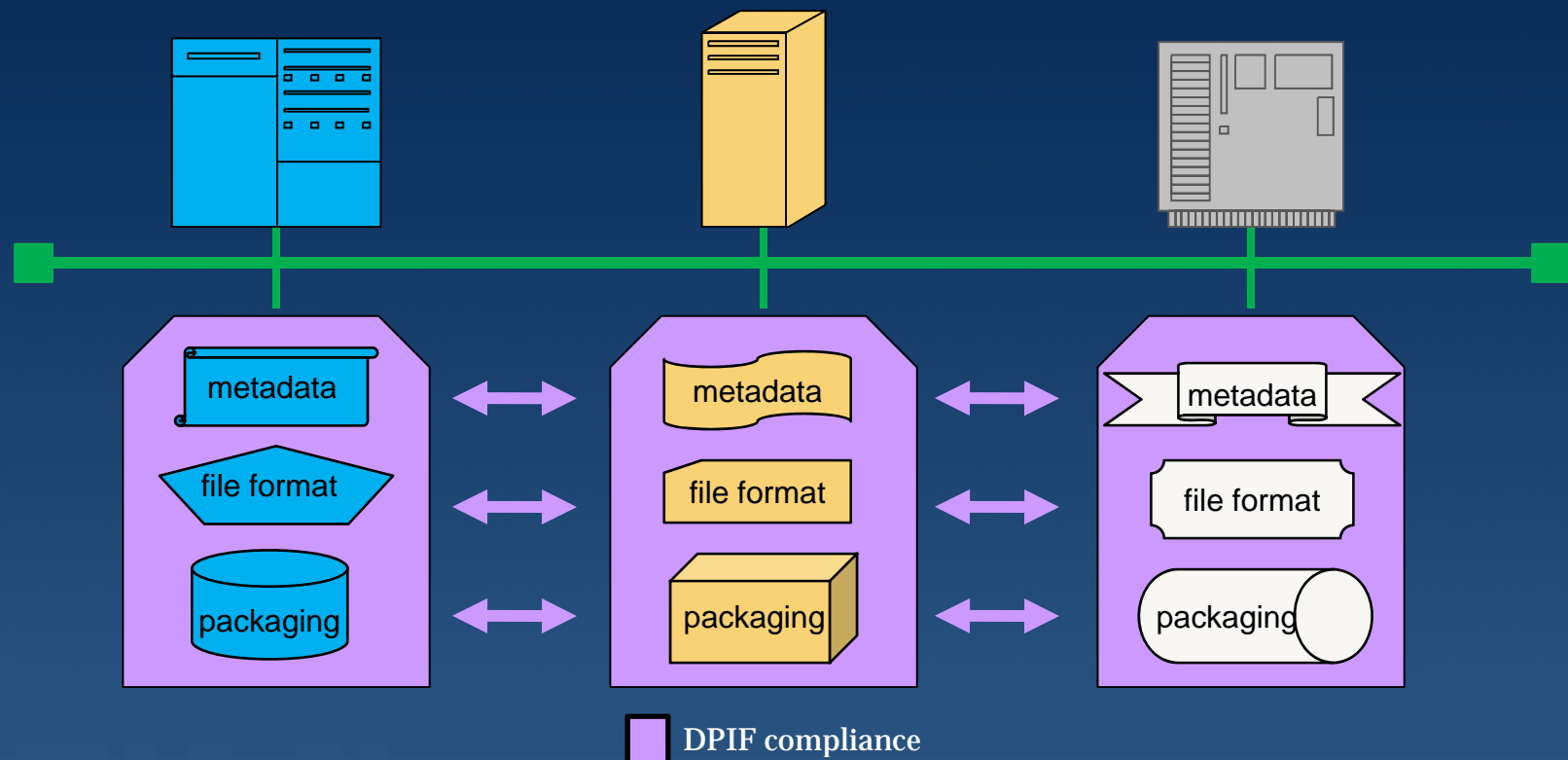
OAIS Reference Model



ISO/IEC Activities: 2008 - 2009

Standards Development

- ❖ Initial approach is to establish Digital Preservation Interoperable Framework (DPIF) using standard SIP (Submission Information Package) and DIP (Dissemination Information Package) components



ISO/IEC Activities: 2009 - 2010

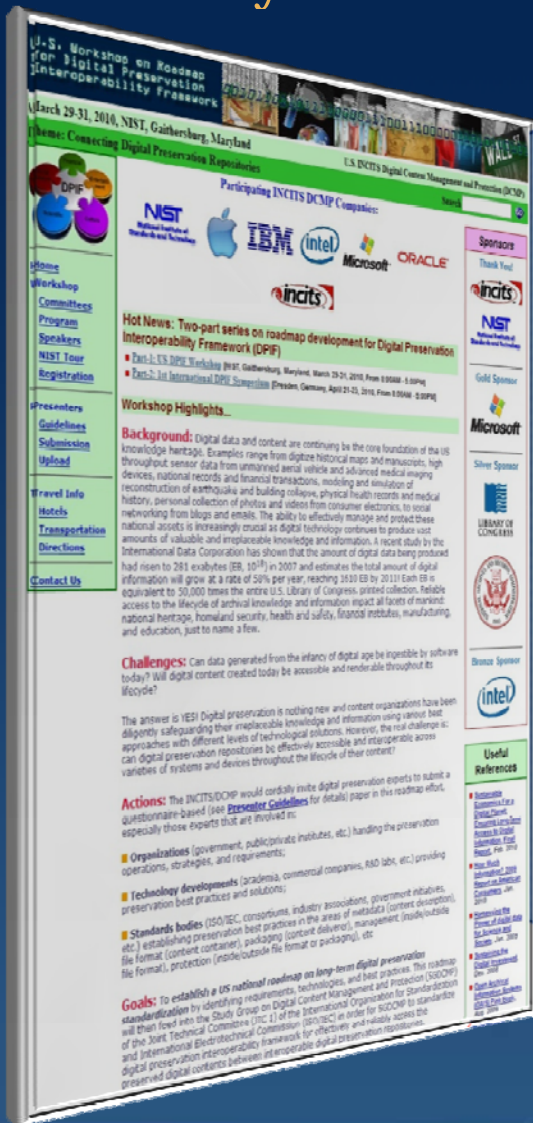
Industry Collaboration: workshop & symposium

- ❖ Goal: To establish a long-term digital preservation standardization roadmap by identifying requirements, technologies, and best practices in order for SGDCMP to create roadmap and standardize digital preservation interoperability framework for effective and reliable access to the preserved digital contents between interoperable digital repositories. Experts from 3 tracks:
 - *Content organizations* (government, public/private institutes, etc.) for handling the preservation operations, strategies, and requirements
 - *Technology developers* (academia, commercial companies, R&D labs, etc.) for providing preservation approaches and solutions
 - *Standards bodies* (ISO/IEC, consortiums, industry associations, government initiatives, etc.) for establishing preservation best practices and standards



ISO/IEC Activities: 2009 - 2010

Industry Collaboration: US DPIF Workshop, 3/29-31, NIST



❖ Keynote Speakers

- Dr. Chris Greer, White House
- Dr. Ken Thibodeau, NARA
- Dr. Sylvia Spengler, NSF
- Dr. Franc Berman, RPI

❖ Contributions: 30 presentations

❖ Attendants: 100+ preservation experts from over 20 major US government-related agencies (the White House, NSF, NARA, NASA, NOAA, DOC, DOD, DOE, GPO, LOC, NIH, NTIS, Smithsonian, VA, etc.) and over 40 academia and industry companies

❖ Website: <http://ddp.nist.gov/workshop>



ISO/IEC Activities: 2009 - 2010

Industry Collaboration: Intl. Symposium, 4/24-26, Dresden, Germany

❖ Keynote Speakers

- Dr. Ken Thibodeau, NARA
- Ms. Krystyna Marek, European Commission
- Ms. Martha Anderson, LOC

❖ Contributions: 26 presentations from 11 countries (Austria, Belgium, Canada, France, Germany, Italy, Japan, New Zealand, Singapore, UK, and US)

❖ Topics included (27 participants):

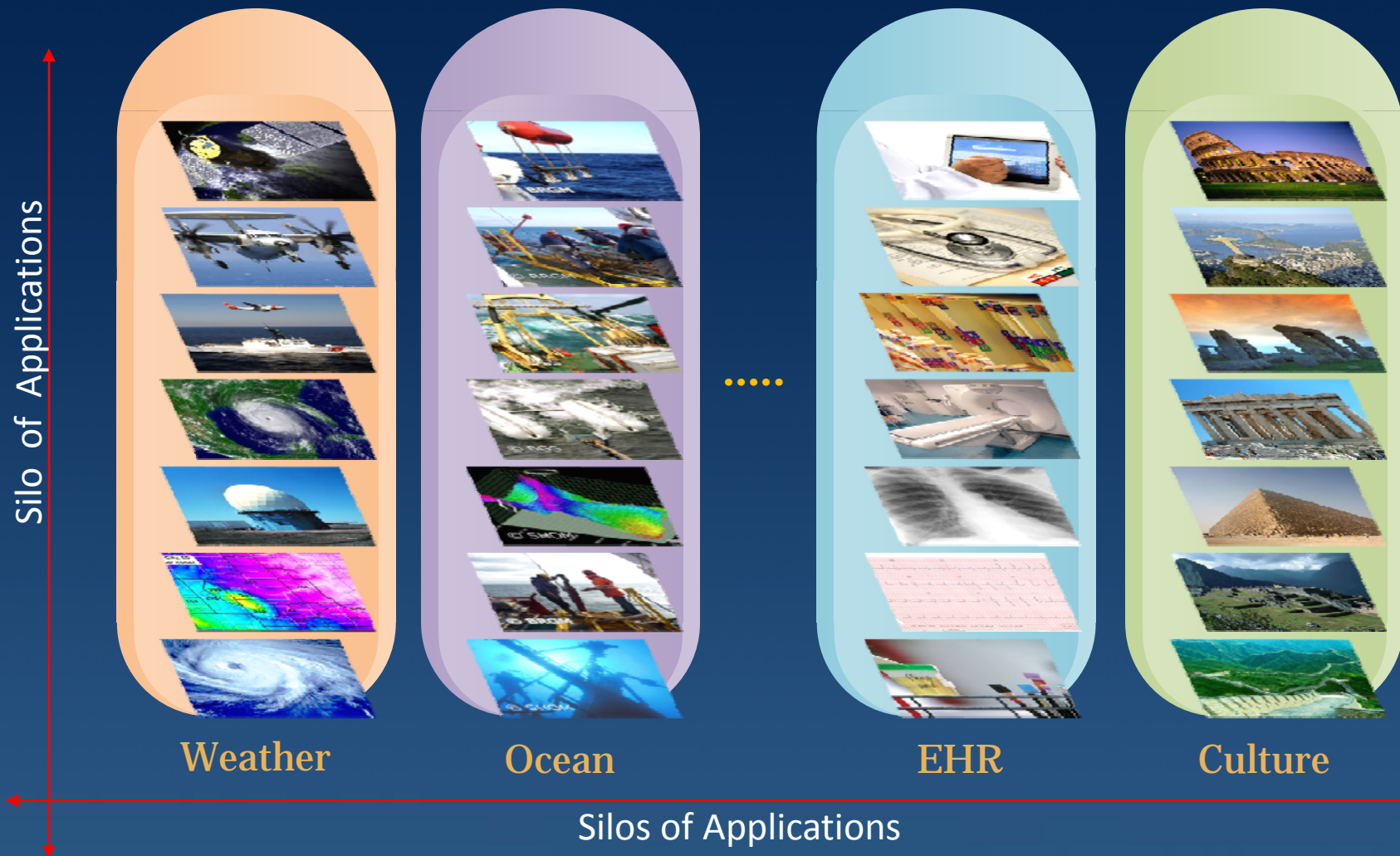
- **Communicating Across Cyberspace & Time**
- **National Library Digital Preservation**
- **NARA Electronic Records Archives**
- **ISO File Format for Digital Preservation**
- **PLANETS Interoperability Framework**
- **eXtensible Characterization Languages**
- **Professional Archival Application Format**
- **MPEG-21 Digital Items**
- **Audio Archive Systems**
- **Euro-VO Framework**
- **PARSE Insight Framework**
- **CASPAR Framework**
- **Long-term Preservation of Digital Record**
- **Digital Archives for Molecular Microscopy**
- **Scientific Data e-Infrastructures**
- **NDIIPP Lessons Learned Through National Action**
- **Multimedia Digital Preservation**
- **LOCKSS & LuKII Project**
- **METAFOR project**
- **PrestoPRIME Project**
- **Geo-Seas e-infrastructure**
- **ESA Long Term Data Preservation**
- **Policy-based Data Management**
- **Quality Assurance on Digital Documents**
- **National Library Technical & Operation Challenges**
- **Addressing Professional Competency Needs through the DigCCurr Professional Institutes**

❖ Website: <http://ddp.nist.gov/symposium>



ISO/IEC Activities: 2009 - 2010

Standards Development: ISO/IEC DP Interoperability Framework



ISO/IEC Activities: 2009 - 2010

Upcoming SGDCMP Meeting: August 23 – 26, 2010

❖ Discussion topics include:

- Collect, analyze, and identify digital preservation requirements from the SGDCMP symposium contributions,
- Review, assess, and adopt digital preservation technology solutions from the SGDCMP symposium contributions,
- Review, assess, and integrate digital preservation best standard practices from the SGDCMP symposium contributions.
- Identify specific digital preservation functionalities for the standard digital preservation interoperability framework,
- Identify digital preservation roadmap tasks to establish the digital preservation interoperability framework,
- Distribute digital preservation roadmap tasks to national bodies for review and comments.
- Identify new terms of reference and request JTC 1 to establish a permanent SC on Digital Content Management and Protection (DCMP).



Questions?

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