

Vision for National Digital Preservation Programme *

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Dear colleagues and friends, ladies and gentlemen, good morning.

1. It is my great pleasure and on behalf of the Department of Information Technology, Ministry of Communications & Information Technology, Government of India, to welcome all of you, to participate in the Indo-US Workshop on "International Trends in Digital Preservation".

2. We have embarked upon a coordinated initiative to develop National Digital Preservation Programme/strategy/Policy/Action Plan with the participation of whole lot of stake holders, researchers and others. For this purpose, a broad based Working Group in DIT has been set-up under the Chairmanship of Special Secretary. The broad Terms of reference of the Working Group are :

- To develop National Digital Preservation Plan (NDPP) including a clearer definition of the roles and responsibilities of partners in the preservation network.
- To establish relationship among key partners in the private and public sectors including international institutions.
- Clarification on intellectual property issues that impede preservation together with recommendations to address them.
- Creation of advanced design for the digital architecture.
- Identification of the investments to advance the NDPP goals.

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- Development of an advanced research agenda for preservation of digital content.
- To recommend ways and means to raise awareness among key stakeholders and the general public about the challenges and opportunities of digital preservation.
- Standards of digitization of various types of items and dissemination policies.

The Working Group in turn has set-up five Sub-Committee with specific tasks, viz, (i) Develop Standards for digital Preservation including study of ISO reference model for Open Archival

Information System (OAIS) and Digital Repository Audit & Certification, (ii) R&D Agenda for Digital Preservation, (iii) Analysis of International Best Practices in Digital Preservation (including organizing International Workshop), (iv) Identify common issues for Digital Preservation across the technologies, strategies, Open Standards and Interoperability aspects including the legal issues and (v) Preservation Metadata. Work of the Sub-Committees are progressing steadily.

3. As a part of the consultation process with industry and stakeholders, a National Workshop on “Digital Preservation in India” was organized jointly by DIT and Federation of Indian Chambers of Commerce and Industry (FICCI) on November 7, 2008 in New Delhi. The proceedings of the Workshop are available on NDDP website (<http://www.ndpp.in>) created and being updated by C-DAC.

4. The current Indo-US Workshop is 2nd milestone of the Ongoing Initiative where we plan to learn from the experience of those who are in the forefront of this subject, to provide important inputs to our planning process.

5. World is transforming into Information Society. Strength of India in ICT sector is well known and it is quickly deploying its own strength for its own socio-economic growth. Various components of e-India are getting into place to deliver the benefits of ICT to common man. Buying train-tickets online from anywhere to anywhere from any place is becoming a common practice. Filing Income-tax returns, paying property tax, registration of companies online, internet banking, payment of electricity & water bills online, insurance, now mobile payment etc. are getting momentum. Significant work is being done on land records; telemedicine and e-education are taking its root. India wayback in 2000 enacted Information Technology Act (Cyber Laws) to promote e-commerce & e-governance; electronic record and digital signature getting accorded the same legal status as its physical counterpart. IT Act 2000 has now been amended to respond to certain specific needs. E-Governance is very high on national agenda. The country has embarked upon a major integrated National e-Governance Plan (NeGP). The vision of NeGP is :

“Make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man”.

As part of NeGP, 100,000 Common Service Centres have been planned across the country.

6. So, why National Digital Preservation Programme? If all citizen services like birth certificate, income tax return etc., go digital, as is the current trends and they are born digital, what happens if we need an authenticated certificate, say, after 25 or 50 years? How to ensure

technology proofing or future proofing in such a fast moving digital technology scenario which has become so fundamental and so pervasive, where technology change every year? What is the assurance that such sensitive information is temper-proof and if the data is tempered with, what is the legal remedy? Could generations, say after a century enjoy old classics of Satyajit Ray and the like? What is the cost and business model? What to preserve and what not to preserve.... for what time frame. How to ensure long-term sustainable preservation of society's knowledge assets and culture heritage, digital or otherwise, and towards that what are the responsibilities of society at large? Print materials can survive for centuries without direct intervention. In contrast, digital materials may need active management and preservation in order to survive even a decade.

7. Well, we are not alone to ask these questions and seek answers? The entire world is doing in multiple disciplines, library, museum & heritage, music, industry, motion picture industry – Hollywood, Bollywood, Medical, Earth Science, Archives and Records Administration etc. Some solutions are emerging and a lot more are getting debated/in-depth studies are being carried-out; pilot projects/test-beds are being set-up to try-out proposed solutions. In some disciplines, the needs are immediate and pressing and while in others, it is becoming important.

8. Some examples of the industry needs for long-lived data are as follows :

Healthcare

- Medical records should be preserved for the life of the individual and beyond; the entire sector is virtually getting digitized.
- Digital medical images are “born archival” with respect to essential metadata and these days are “born digital”.

Pharmaceutical Companies

- Pharmaceutical companies need off-line electronic data storage for 50 to 100 years for research and development purposes.

Aerospace & Ship designs

- Aircraft and ship designs records have to be retained for the lifetime of each aircraft/ship (30 + years)

Petroleum

- Oil-field data is used during the entire life of the field (50+ years)

Scientific and Cultural

- Satellite and earth service data is kept forever to enhance research and track changes in the earth and the cosmos
- National Archives and Libraries are required to maintain the documents in some cases for ever.
- Society would like to keep libraries and art data for ever.

9. The biggest change which has happened in e-society is globalisation of information/knowledge/market and therefore the need to understand and adopt international best practices and international standards wherever evolved. And, therefore learn from the experience of other countries, learn from the experience of other domains, learn from case studies – some successful and some not so successful and adopt them after suitably modifying to own needs. Certain international cooperation are important, as borne by a large numbers of ongoing initiatives in the world.

10. We may now take a few minutes to take a snap-shot of recent ongoing activities on Digital preservation globally particularly to bring-out the ongoing importance of the subject. Full impact of IT revolution leading to Information/e-Society can't be realized if long-term sustainable digital preservation strategy, where it matters, is not in place.

- National Digital Information Infrastructure and Preservation Programme (NDIIPP) Initiative and National Archive and Records Administration's Electronic Records Archive (ERA) are major ongoing programmes in USA which have put emphasis on collaborative problem solving, drawing on the opinions of experts and providing forum for valuable exchange of information that serves the purpose of these institutions and contributes to general understanding of the challenges and possible solutions to institutional preservation of digital assets including digital heritage preservation programmes of various countries. NDIIPP has generated digital archiving guidelines that are useful for any organization that is formulating its own strategy to collect, archive and preserve growing amounts of digital content for current and future generations, especially materials that are created only in digital form.

- CASPAR of European Union - Cultural, Artistic and Scientific Knowledge for Preservation, Access and Retrieval is another major programme under implementation. The current ongoing 7th Framework Programme for RTD of the EU has given significant importance to research agenda for digital preservation. Digital Preservation Europe (DPE) addresses the need to improve coordination, cooperation and consistency in current activities to secure effective preservation of digital materials.
- Amongst the recent trends in best practices and towards creating a consensus on long-term preservation of digital information, ISO Reference Model for Open Archival Information System (OIAS) – ISO 14721 : 2003 and emergence of Trustworthy Repository Audit & Certificate – say “OAIS-complaint” is noteworthy. “Compliance” needs as such HIPPA Act, SOX Act etc. are emerging as a need for digital era.
- Responding to the growing needs, World Intellectual Property Organization (WIPO) in July 2008 organized International Workshop on Digital Preservation and Copyright aimed at contributing to the debate amongst stakeholders and policy makers on how to develop and improve policies and practices that support digital preservation of copyrighted content.
- Science and Technology Council of the Academy of Motion Picture Arts and Sciences in 2007 has carried-out a detailed and interesting study: “The Digital Dilemma – Strategic Issues in Archiving and Accessing Digital Motion Picture materials,” giving significant insights into the core issues, including learning from the experience of digital preservation in other domains.

11. In 2008-09, a lot of Forum/Consortium have been created to track/collaborate the efforts of tackling digital preservation to ensure future access. Some examples include : British Library hosted iPRES 2008, an international conference on the Preservation of Digital Object with the theme “Joined Up and Working Tools and Methods for Digital Preservation”; US National Information Standards Organization (NISO) held Digital Preservation Forum on “Planning Today for Tomorrow’s Resources”; Digital PreservationEurope (DPE); Digital Preservation Newsletter of Library of Congress/ NDIIPP, USA.

12. During the course of the two days in the Workshop, we would hear so many learned speakers to share their experiences and contribute to developing the “Vision”. We would hear terminologies like Preservation Metadata, Data Migration, Emulation, present and future strategies for digital preservation, experiences and needs in various domains and therefore I

would not like to touch any of these topics. We will get insight of CASPER, OAIS, NDIIPP, NARA, initiatives related to Data Curation Infrastructure, specific needs & objectives of research test beds, Preservation Metadata packages – PREMIS, METS & FDDRA .. analysis of best practices, LOCKSS Programme, work of Blue Ribbon Task Force on Sustainable Digital Preservation and Access (BRTF-SPDA), work and experience of National Archives of India, IGNCA, NIC, CDAC etc. There is also a concluding session planned to capture certain recommendations for our National Digital Preservation Programme.

13. So, to realize the full potential of ongoing e-India initiative, amongst other things, the illustrative vision of National digital Preservation Programme could be:

- (i) Today, a child is born in an Indian village, his birth certificate (born digital) is received from a Common Service Centre (NeGP). When he wants his “Original” birth certificate online residing in another country after 25 years or more to register his marriage etc., he gets it in no time.
- (ii) Generation Next wants to watch Satyajit Ray classic film or hear Oscar winning Rehman ‘Jai Yo’ song or read original paper of Nobel Laureate C.V. Raman after 50 years, it should be possible in the digitized online world.

NDPP is all about working backward and put in place processes, technologies & systems to make such things happen. This Workshop, I am sure, would accelerate the momentum we are trying to build-up to develop NDDP.

Thank you.