Blue Ribbon Task Force Report: Preserving Our Digital Knowledge Base Must be a Public Priority

Dollars Won't Do It Alone: Deluge of Digital Data Needs Economically Sustainable Plans

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Addressing one of the most urgent societal challenges of the Information Age - ensuring that valued digital information will be accessible not just today, but in the future - requires solutions that are at least as much economic and social as technical, according to a new report by a Blue Ribbon Task Force.

The Final Report from the Blue Ribbon Task Force on Sustainable Digital Preservation and Access, called "Sustainable Economics for a Digital Planet: Ensuring Long-term Access to Digital Information", is the result of a two-year effort focusing on the critical economic challenges of preserving an ever-increasing amount of information in a world gone digital. The full report is available online at http://brtf.sdsc.edu/biblio/BRTF_Final_Report.pdf

"The Data Deluge is here. Ensuring that our most valuable information is available both today and tomorrow is not just a matter of finding sufficient funds," said Fran Berman, vice president for research at Rensselaer Polytechnic Institute, and co-chair of the Task Force. "It's about creating a "data economy" in which those who care, those who will pay, and those who preserve are working in coordination."

The challenge in preserving valuable digital information - consisting of text, video, images, music, sensor data, etc. generated throughout all areas of our society - is real and growing at an exponential pace. A recent study by the International Data Corporation (IDC) found that a total of 3,892,179,868,480,350,000,000 (that's roughly 3.9 trillion times a trillion) new digital information bits were created in 2008. In the future, the digital universe is expected to double in size every 18 months, according to the IDC report.

While much has been written on the digital preservation issue as a technical challenge, the Blue Ribbon Task Force report focuses on the economic aspect; i.e. how stewards of valuable, digitally-based information can pay for preservation over the longer term. The report provides general principles and actions to support long-term economic sustainability; context-specific recommendations tailored to specific scenarios analyzed in the report; and an agenda for priority actions and next steps, organized according to the type of decision maker best suited to carry that action forward. Moreover, the report is intended to serve as a foundation for further study in this critical area.

In addition to releasing its report, the Task Force earlier this month announced plans for a one-day symposium to provide a forum for discussion on economically sustainable digital preservation practices. The symposium, to be held April 1 in Washington D.C., will include a spectrum of national leaders from the Executive Office of the President of the United States, the Academy of Motion Picture Arts and Sciences, the Smithsonian Museum, Nature Magazine, Google, and other organizations for whom digital information is fundamental for success.

Value, Incentives, and Roles & Responsibilities The report of the Blue Ribbon Task Force focuses on four distinct scenarios, each having ever-increasing amounts of preservation-worthy digital assets in which there is a

public interest in long-term preservation: scholarly discourse, research data, commercially-owned cultural content (such as digital movies and music), and collectively-produced Web content (such as blogs).

"Valuable digital information spans the spectrum from official e-documents to some YouTube videos. No one economic model will cost-effectively support them all, but all require cost-effective economic models," said Berman, who was director of the San Diego Supercomputer Center at the University of California, San Diego, before joining Rensselaer last year.

The report categorizes the economics of digital preservation into three "necessary conditions" closely aligned with the needs of stakeholders: recognizing the *value* of data and selecting materials for longer-term preservation; providing *incentives* for decision makers to preserve data directly or provide preservation services for others; and articulating the *roles and responsibilities* among those involved in the preservation process. The report further aligns those conditions with the basic economic principle of supply and demand, and warns that without well-articulated demand for access to preserved digital assets, there will be no supply of preservation services.

"Addressing the issues of value, incentives, and roles and responsibilities helps us understand who benefits from long-term access to digital materials, who should be responsible for preservation, and who should pay for it," said Brian Lavoie, research scientist at OCLC and Task Force co-chair. "Neglecting to account for any of these conditions significantly reduces the prospects of achieving sustainable digital preservation activities over the long run."

Task Force Recommendations The Blue Ribbon panel report cites several specific recommendations for decision makers and stakeholders to consider as they seek economically sustainable preservation practices for digital information. While the report covers these recommendations in detail, below is a summary listing key areas of priority for near-term action:

Organizational Action

develop public-private partnerships, similar to ones formed by the Library of Congress
ensure that organizations have access to skilled personnel, from domain experts to legal and business specialists
create and sustain secure chains of stewardship between organizations over the long term
achieve economies of scale and scope wherever possible

Technical Action

build capacity to support stewardship in all areas
lower the costs of preservation overall
determine the optimal level of technical curation needed to create a flexible strategy for all types of digital material

Public Policy Action

modify copyright laws to enable digital preservation
create incentives and requirements for private entities to preserve on behalf of the public (financial incentives, handoff requirements)
sponsor public-private partnerships
clarify rights issues associated with Web-based materials

Education and Public Outreach Action

promote education and training for 21st century digital preservation (domain-specific skills, curatorial best practices, core competencies in relevant science, technology, engineering, and mathematics knowledge)

raise awareness of the urgency to take timely preservation actions

The report concluded that sustainable preservation strategies are not built all at once, nor are they static.

"The environment in which digital preservation takes place can be very dynamic," said OCLC's Brian Lavoie. "Priorities change, policies change, stakeholders change. A key element of a robust sustainability strategy is to anticipate the effect of these changes and take steps to minimize the risk that long-term preservation goals will be impacted by short-term disruptions in resources, incentives, and other economic factors. If we can do this, we will have gone a long way toward ensuring that society's valuable digital content does indeed survive."

About the Blue Ribbon Task Force on Sustainable Digital Preservation and Access The Blue Ribbon Task Force on Sustainable Digital Preservation and Access was launched in late 2007 by the National Science Foundation and The Andrew W. Mellon Foundation, in partnership with the Library of Congress, the Joint Information Systems Committee of the United Kingdom, the Council on Library and Information Resources, and the National Archives and Records Administration. The Task Force was commissioned to explore the economic sustainability challenge of digital preservation and access. An Interim report discussing the economic context for preservation, *Sustaining the Digital Investment: Issues and Challenges of Economically Sustainable Digital Preservation,* is available at the Task Force website, http://brtf.sdsc.edu. Please visit the website for more information about the Task Force and its upcoming symposium, called *A National Conversation on the Economic Sustainability of Digital Information*, to take place April 1, 2010 in Washington D.C. A similar symposium will be held in the United Kingdom on May 6, 2010, at the Wellcome Collection Conference Centre, in London. Space is limited so early registration is advised. More information is available at http://www.jisc.ac.uk/whatwedo/programmes/preservation/BRTFUKSymposium.aspx.

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