Chairman Clay, Ranking Member McHenry, Members of the Subcommittee:

Thank you for your invitation to testify before you on the National Archives and Record Administration (NARA) and the proper balance between the agency’s core mission of record management, preservation and access, and its creation and management of museum exhibits, educational and public programs, and other outreach efforts.

My name is Carl Malamud and I am the Founder and President of Public.Resource.Org, a 501(c)(3) nonprofit corporation with a charter of making government information more accessible. We are responsible for placing over 90 million pages of government documents on the Internet that were not previously available, including almost all the opinions of the U.S. Courts of Appeals,¹ 20 million pages of U.S. District Court documents,² and the building, fire, electrical, plumbing and other public safety codes for most of the country.³ From 1993-1995, when I ran the Internet Multicasting Service, I was responsible for placing the U.S. Securities

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and Exchange Commission and Patent databases online. As part of running the first radio station on the Internet, I was a member of the U.S. House and Senate Radio-TV Galleries, where we connected the floors of the U.S. House of Representatives and Senate to the Internet as live webcasts.

In addition to placing new information online, Public.Resource.Org has been active in finding and redacting Social Security numbers and other Protected Personal Information (PPI), including the removal of approximately 500,000 Social Security numbers of military officers from government and commercial copies of the Congressional Record, and an audit of 30 U.S. District Courts that found significant privacy violations and resulted in the recent changes in procedures to better protect privacy recently instituted by the Judicial Conference.

Public.Resource.Org also runs the FedFlix program, a joint venture with the National Technical Information Service (NTIS). In this program, NTIS and other agencies send us video tapes, which we digitize, then return the tapes and a disk drive to the agency. In addition to giving the agency a digital copy, we upload all these videos to YouTube and the Internet Archive, and also make them available in bulk on our systems where they serve as a public domain stock footage library. No money changes hands in this program and the only cost to the government is to ship the tapes to us.

FedFlix is one of the most popular government channels on YouTube and has received more channel views than the Smithsonian and NARA channels combined. A successful pilot of FedFlix with the House of Representatives was conducted with 4 committees, including the Committee on Oversight and Government Reform, and the pilot received the support of Speaker Pelosi, who called it a “wonderful program.” We are hopeful that in 2010, the House Broadcast Studio will be able to begin to loan us tapes of committees that choose to make their archives more broadly available.

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A Mission of Preservation, Administration, and Access

Your invitation to testify asked me to discuss NARA's mission to preserve and ensure access to records, and asked if I believe the agency's efforts in exhibits, civic education and public programs influence that performance. When President Herbert Hoover laid the cornerstone for the National Archives Building, he stated:

“The building which is rising here will house the name and record of every patriot who bore arms for our country in the Revolutionary War, as well as those of all later wars. Further, there will be aggregated here the most sacred documents of our history, the originals of the Declaration of Independence and of the Constitution of the United States. Here will be preserved all the other records that bind State to State and the hearts of all our people in an indissoluble union.”

The display of the Declaration of Independence and of the Constitution are certainly a visible symbol of our National Archives, but they are merely a symbol. It is the preservation of records, and the corollary processes of gathering those records from the agencies and making them available to the public that are the core mission of this unique institution. To the extent that the National Archives has a role to play that is more than incidental in exhibitions, I believe that role is primarily with the Presidential Libraries.

In a world of infinite resources, one cannot object to the National Archives competing with organizations such as the Smithsonian Institution that are “in the business” of being a museum, but the sad truth is that NARA faces significant challenges in the areas it must work in and must focus intently on overcoming those challenges. In this testimony, I will address some of those challenges, including the Electronic Records Archives (ERA), electronic records management, digitization of the archives, public access to the archives, and the role of public-private partnerships.

Electronic Records Archives (ERA)

NARA is in the process of launching a highly ambitious ERA system for the ingestion and preservation of electronic records. Last month, David A. Powner of the Government Accountability Office appeared before this Subcommittee and testified that through FY2008, NARA has spent $237 million on the ERA system including $112 million in disbursements to

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8 Herbert Hoover, Remarks Upon Laying the Cornerstone of the National Archives Building, February 20, 1933.
the contractor, Lockheed Martin. The total life cycle cost for the system is $551.4 million, of which $317 million will go to Lockheed Martin. These are breathtaking numbers for a computer system, even by the standards of federal government procurement.

It was thus very disturbing to read that the GAO cannot figure out what the system does. Mr. Powner stated:

“NARA’s plans for ERA lacked sufficient detail to, for example, clearly show what functions had been delivered to date or were to be included in future increments and at what cost.”

The GAO testimony went on to explain that the system included no backup and restore capability despite $237 million already spent, and that the backup and restore capabilities would only be included in the so-called Increment 4, which is currently in the “early planning, analysis, and design” stages and is not slated to be completed until 2012. Of the 10 mandated activities for any agency doing contingency planning and continuity of operations, all 10 were deficient.

It is not only the General Accountability Office that is mystified. NARA’s own Inspector General testified in that same hearing that he has no idea what the system does:

“As engaged as I have been, I do not know what capabilities and capacity will reside in ERA when the contractor throws another party, turns in their badges, shakes hands, and exits the door. Such a statement should be viewed as troubling.”

Despite a continuing series of incidents, including a Cure Letter sent to the contractor, the Acting Archivist reported in that same hearing that things were back on track, but then went on to state that “the subcommittee should also know that the start of Increment 3 development has not been as smooth as desired ... We believe that this is part of the normal

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10 See National Institute of Standards and Technology, Recommended Security Controls for Federal Information Systems, Special Publication 800-53 Revision 2 (Gaithersburg, MD: December 2007). Note that GAO used Revision 1 (December 2006) for their audit and that there is a Revision 3 about to be finalized.

give and take between the agency and its contractor that occurs with any large-scale contract."

After a thorough review of all the minutes of the Advisory Committee on ERA (ACERA), interviews with some of its members, examination of all available presentation materials, GAO reports, IG reports, and further research, I must say I share the mystification of GAO and the Inspector General. I have no idea what the system does. In the world of complex computer systems, one expects summary information that give some indication of scope, such as the number of processors, the amount of disk space, the programming languages being used, or the number of programmers. Likewise, one expects financial metrics such as how much money is being spent on Oracle or Documentum licenses, the brands and models of hardware, and the cost of Internet transit, colocation space, or support services. None of that information seems readily available.

What I did find in the ACERA meeting minutes was particularly disturbing. For example, on November 16, 2008, NARA staff presented the Findings of the Online Public Access (OPA) Integrated Product Team (IPT) but cautioned that even at that late date the findings “had not been fully vetted by NARA.” The presentation consisted of a series of mockups of web pages, and Best Current Practices for web site design such as wireframe diagrams or an information architecture were not presented. Most importantly, there was no mention at all of an Application Programming Interface (API) for access to the ERA system. Best Current Practice for design of public access to government data is to start with bulk access, then an API, then finally worrying about issues such as web site design, colors, and fonts. Public access seems to be an afterthought and is not being pursued with any degree of rigor.

An examination of the ACERA minutes yields some even more disturbing information. While there is no contingency planning for Continuity of Operations, there is contingency planning by NARA for an alternative architecture that would replace the ERA system in 2011, when NARA will be recompeting the contract. In other words, it appears that there is a contingency plan to simply throw away the current system. Even more shocking, it appears

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13 Final Minutes of the Advisory Committee on the Electronic Records Archives, November 6, 2008. See also Pamela Wright, Update on Online Public Access for ACERA, April 30, 2009.


15 Final Minutes of the Advisory Committee on Electronic Records Archives, November 5, 2008.
that Lockheed Martin has also put some time to thinking about the future of ERA as they have taken out 15 patent applications on the system, and it is unclear if the government will have full rights in the case of a vendor change.\textsuperscript{16}

Even if the federal government has full rights, it is clear that any state archivist wishing to use this half-billion-dollar computer system developed at taxpayer expense will have to pay dearly to Lockheed Martin for those rights. It seems obvious that if the taxpayers fork over that much money, the people should have the rights to use the resulting code. (I would go so far as to say that any nonprofit corporation or government agency that develops software should make it open source as a precondition of their use of taxpayer dollars.)

What can one do about the ERA system? It is my worry that Lockheed Martin and NARA, in the development of this system over many years, perhaps did not anticipate recent radical decrease in the cost of disk space or changes in paradigms for enterprise computing, such as large arrays of commodity computers based largely on open source software used in systems such as Amazon or Google.

A good hard look this system is clearly in order. One option would be to bring in a “tiger team” to scrub this system from top to bottom and make recommendations as to which parts of the system might yield useful results and which might perhaps be thrown away as a lost effort that needs to be restarted. This is perhaps drastic action, but it is clear from testimony to the congress over several years, and a history of GAO and IG bafflement, that a strong and forceful audit is necessary.\textsuperscript{17}

\textbf{Electronic Records Management}

One of the reasons that the ERA system is so complex is because of the incoming deluge of electronic records. It is useful to remember that in the period 1935-1939 when the National Archives was being created, Archivist Connor faced a similar challenge. At first, the archives were simply unable to keep up. In 1936, 9,178 series of records were submitted by agencies to the special examiners charged with the “Survey of Useless Records,” but they were able to


\textsuperscript{17} Government Accountability Office, National Archives and Records Administration’s Acquisition of Major System Faces Risks, GAO-03-880, August, 2003.
examine only 2,484 series. In 1937, they received 27,873 record series, and were able to examine only 3,237.  

Archivist Connor instituted a series of changes, moving the examiners closer to the source and providing better guidance and standardized forms and schedule to the agencies. Not only did these changes reduce the backlog for his agency, these contributions to archival science spread to archives in the states and other countries.

For many years, records management has been sorely neglected. The Archivist is charged by law to “promulgate standards, procedures, and guidelines with respect to records management and the conduct of records management studies.” But, guidance has been limited to telling agencies to “print and save” documents, and a recent survey shows no agency-wide policies for important archives such as electronic mail.

It was heartening to hear Archivist Ferriero list this area as one of his key concerns, stating that he would reinstitute agency inspections and that “NARA should play a leadership role.” While NARA should indeed play a leadership role, it will require the active participation of the entire government. Archivist Connor had a similar issue, when he needed government-wide cooperation. He formed a National Archives Council, and the initial meeting was hosted by President Roosevelt in the Cabinet Room. Secretary of State Cordell Hull was named Chairman of the Council. This established the issue of records management as one of great import, and in the second meeting of the Council a resolution was passed that specified how agencies should maintain their records and which should be sent over to the Archives and when.


22 U.S. Senate Committee on Homeland Security and Governmental Affairs, Pre-Hearing Questionnaire for the Nomination of David Ferriero to be Archivist of the United States, September 16, 2009.

23 Donald R. McCoy, National Archives, op. cit., p. 87.
After that second meeting of the Council, attendance was no longer the agency heads and delegates began to attend in their place. Later the National Archives Council was replaced with a Federal Records Council. However, that initial summit established the importance of the area and insured the cooperation of all agencies in the development of their records schedules. As he examines the area of records management, perhaps the Archivist will consider a similar summit, perhaps calling on the support and assistance of the White House, particularly the Federal CIO, the Federal CTO, and the OIRA Administrator.

One more aspect of records management needs to be raised, and that is the conscious decision of NARA not to crawl and archive web sites on a regular basis. NARA has outsourced this important function to the well-respected Internet Archive, but has only provided very limited funds and has snapshots taken every two years for congressional sites and every four years for the executive branch. The results of these crawls are returned to NARA on tape, and NARA does not make these crawls available for public access. While the Executive Office of the President has been aggressively pursuing a goal of archiving not only the web site but also social media such as Facebook and Twitter, there is no evidence NARA is considering this. NARA should archive all social media, and should perform regular crawls and operate or contract out to have operated a “Wayback Machine” for government.

Digitization and Public Access

In addition to access to electronic records, one of the key challenges facing NARA today is digitization of older materials. Looking back again at Archivist Connor, we see that NARA dealt with an incoming deluge of paper records by pioneering an important set of technical advances, including the development of microfilm, invention of the airbrush for cleaning paper records, and invention of the laminating machine to protect paper. The microfilm effort was such a success that space needs were reduced by 95 percent!

Digitization of paper, audio tapes, video tapes, and other materials should be a key priority for NARA, as well as the Smithsonian Institution, the Library of Congress, and the Government Printing Office. The current state of the art for mass scans of paper is about 10 cents per page, a figure that has been mentioned by players such as the Internet Archive and


26 Ibid., p. 76.
Google Book Search. However, it is clear that these costs could decrease dramatically at larger scale, and that there would be additional savings in reduced storage space for those items where it is not necessary to keep the original (although it is important to note that the originals should always be kept on the most important items).

All the agencies would benefit from a dramatic increase in the pace of scanning older materials, and it is instructive to look once again to the birth of NARA, an institution that was born in the middle of the last depression. One of the startup challenges Archivist Connor faced was a survey of what records actually existed. He went to Harry Hopkins, and with the support of President Roosevelt, was able to secure $1,176,000 for WPA Sponsored Project No. 4, which employed white-collar workers to survey federal archives in the states. This program put 3,171 people to work in 1,057 communities, and the project continued until 1942 when the Works Project Administration was terminated. This work produced the Historical Records Survey and the Inventory of Federal Archives, reference aids still in use today.27

A search of recovery.gov shows no entries for the National Archives or the Library of Congress, and only a single $25 million grant to the Smithsonian for fixing buildings.28 In the midst of the most severe economic downturn since the last great depression, there is a tremendous opportunity to advance the state of the art for scanning on a massive scale, while putting people to work.

Instead of viewing digitization of materials as an opportunity, the National Archives has declared the task as out of scope and has created as an alternative a series of “public-private partnerships” with organizations such as Footnote.Com and Amazon.Com. These partnerships are very disturbing as they place a lien on the public domain. While the agreements in theory are non-exclusive,29 in practice they give these companies exclusive access to key NARA holdings for periods of 5 years or even longer.

An example of such a partnership is the agreement with Amazon whereby the company is able to sell public domain DVDs on its web site. It is of course wonderful that Amazon is making these DVDs available for sale on their web site. But, this deal came at a very high

27 Record Group 69.4.5, Records of the Division of Professional and Service Projects, Records of the Works Project Administration, National Archives.


price for NARA. If you look on the government web site and search the Archival Research Catalog for digital copies of motion pictures, almost every item that comes up in search results contain a 2-minute preview of the video, and a government advertisement encouraging users to purchase the item from “our partner, Amazon.Com.”

An examination of the sole-source contract NARA signed with Amazon shows a large number of restrictions on the government. While NARA gets back a “proof copy” and is able to allow people to view these films in a few NARA locations, it is prohibited from posting the videos for the public to view for at least 5 years. It is unclear if NARA gets back the full-resolution digital copies of the videos, and may instead just get back the consumer DVDs at lower resolution.\(^ {30} \)

At last count, there were 1,899 of these DVDs listed on the Amazon.Com web site, with retail prices starting at $10.95.\(^ {31} \) There are three potential benefits to NARA from this deal. The first is revenue, where NARA receives 20% of total Amazon.Com revenue, minus “ingestion fees” of $35/tape and $150/film. To date, total NARA revenue on this agreement has been $3,273.66.\(^ {32} \) The second benefit to NARA is making inexpensive copies of the videos available to a mass audience, however neither the prices nor the total revenue seem to indicate that this video has been broadly distributed. (Even if all ingestion fees are included as offsets, I estimate a maximum possible gross revenue of $110,000 and a more likely gross revenue well under $50,000, indicating total unit sales of 5,000–11,000 units at $10/DVD.) The third benefit is that NARA will get “free” digitization services for its video, however the contract indicates that NARA gets right to use these copies only for those videos where Amazon has made a profit.\(^ {33} \)

To Amazon’s credit, they have not asserted copyright on any of these DVDs. As an experiment, Public.Resource.Org spent $691.49 and posted 47 of these videos to YouTube and to the Internet Archive.\(^ {34} \) In less than a week, we reached a greater audience than all the

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\(^ {30} \) NARA, Distribution Services Agreement with Amazon.Com, July 1, 2007.

\(^ {31} \) Amazon.Com, Films from the Vaults of the National Archives, last accessed December 12, 2009.

\(^ {32} \) Electronic mail from the Chief of Staff, National Archives, December 11, 2009.

\(^ {33} \) ArchivesNext, Follow up on terms of NARA-Amazon agreement, December 7, 2009.

\(^ {34} \) Boing Boing, Watch America’s public domain video treasures, rescue the public domain from paywalls, December 4, 2009 and Boing Boing, Watch the 1967 Bob Hope special, save America’s public domain videos, December 13, 2009.
1,899 DVDs combined, and we are confident that if all 1,899 DVDs had been posted by the government, viewership would be even higher.

After the videos were posted, we received mail within two days about one of the films, “Up In Flames, A History of Fire Fighting in the Forest.” It turns out NARA and Amazon had incorrectly characterized this as a work of the government, whereas the film had in fact been created by the Forest History Society and was being used without permission. Needless to say, we promptly removed this video and the Forest History Society has contacted both Amazon and NARA about this situation.

The reason usually given for government not to scan these materials is that it is too difficult and too expensive. The equipment I use for the FedFlix program costs less than $10,000, including a $4,000 video encoder, a $350 Component to SDI converter, a $100 terabyte disk drive, and a $2,000 used Betacam deck. I estimate that two government employees with less than $30,000 in hardware could crank out 2,500 videos in a year and make available a huge stash of Betacam, U-matic, and VHS materials. Even digitizing film has become easier.

Even if digitizing video, microfilm, photographs, or other materials is hard, the way NARA has gone about it is quite disturbing. Each deal has been a back-room, sole-source negotiation. No solicitations are conducted, the public is not given a chance to comment on the deals before they are finalized, and there is no indication that NARA has been examining nonprofit partners in addition to the .Coms they have so ardently pursued.

These “no cost to the government” deals are not just at NARA and they are not just for executive branch materials. The Government Accountability Office entered into a similar arrangement with Thomson West for digitizing 60 million pages of federal legislative histories. At great expense to the government, these materials were packed up and sent to Thomson West, who digitize the materials and then return them to the GAO. What Thomson West does not return is a digital copy of the data. GAO employees were given “free” access to the Thomson West product, but that was all they got. If members of Congress wish to consult these materials on-line, they must get a commercial account with Thomson West. Meanwhile, Thomson West boasts that “thanks to an exclusive contract with the U.S.

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Government Accountability Office (GAO), Westlaw now offers you hundreds of federal legislative histories compiled by GAO law librarians.37

It is my understanding from NARA officials that a similar arrangement may be in the works, in which a large number of congressional hearings would be scanned by LexisNexis and made available on that retail information service. It is my hope that this committee would carefully examine any such arrangement, as it is vital that the proceedings of the U.S. Congress be available to all citizens, not just those with a healthy expense account.

In a recent report submitted on the future of the presidential library system, NARA suggested that more rigorous guidelines governing the public-private partnership between the presidential library foundations and the government were in order.38 If more rigor is required in these partnerships with nonprofit corporations formed by former presidents, it goes without saying that even more attention should be paid to the relationship with .Com companies and retail information providers.

At the very least, any such arrangements must ensure that the government receives back a full-resolution, high-quality scan and that there are no limitations on use. Any such partnerships should be available for public comment, and NARA should consider relationships with nonprofits, foundations, and universities as well as commercial providers.

Opportunities, Not Obstacles

In the 1930s and 1940s, the National Archives and Records Administration leapt into uncharted territory, facing daunting challenges and meeting them by creating, defining, and professionalizing records management and the science of archiving. This was all new, and Archivist Connors was quick to say that he and his staff were “amateurs at our jobs.”39

In his opening statement in his confirmation hearing, Archivist Ferriero also quoted Connors and his observation that 45 percent of the records he surveyed were infested with vermin and insects and that records “mingled higgledy-piggledy with empty whiskey bottles.” This was a defining moment for the new institution. Archivist Ferriero said NARA

39 Donald R. McCoy, National Archives, op. cit., p. 106.
faces a similar defining moment, with “vermin and insects replaced by a variety of software packages, platforms, and old technologies.”

It is always difficult to reconcile the many missions and the varied stakeholders an institution such as NARA faces. Perhaps the Archivist can learn from the experience of the other institutions represented in the first panel of this hearing. The Smithsonian has long balanced its primary roles as a museum and a research institution, and the Library of Congress has experience going back to its formation in 1800 in balancing its primary mission to the Congress with service to the public and other stakeholders.

What is clear is that NARA faces immense challenges, and must focus on the job at hand and not be distracted. This message has been repeatedly delivered to NARA by stakeholders and to the Congress in testimony. In May, Dr. Thomas Battle of the Society of Archivists told this committee “our stories are preserved and our destiny is recorded in the archives of the United States. It is within the archives that we document our democracy, our liberty, our opportunities, and most importantly, the hope of our nation’s people.”

Most of all, NARA must reinvent itself to deal with a new set of challenges. To do so it must heed the words of Franklin Roosevelt and believe in its capacity to change:

“To bring together the records of the past and to house them in buildings where they will be preserved for the use of men and women in the future, a Nation must believe in three things.

It must believe in the past.

It must believe in the future.

It must, above all, believe in the capacity of its own people so to learn from the past that they can gain in judgement in creating their own future.”

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40 David S. Ferriero, Opening Statement on Hearing on Nomination to be Archivist of the United States, U.S. Senate Committee on Homeland Security and Governmental Affairs, October 1, 2009.


43 Franklin D. Roosevelt, Remarks on the Dedication of the Roosevelt Presidential Library, June 30, 1941.