

Plenary Session on Strategic Vision Bruce James, Public Printer

GPO's Future Digital System: Phase 3 Presentation by Mike Wash

Discussion

QUESTIONS FROM COUNCIL

QUESTION 1: MR. ALDRICH: Duncan Aldrich, Reno, Nevada. What are the next steps after this, where you'll be hanging some sales programs, some depository library program, and functionality, basing it on this system? Do you anticipate the planning process will continue in this fashion?

RESPONSE: MR. WASH: I don't know if I completely understand the question relative to the sales program, so I don't know if I can address that. So could you give me a little more detail?

QUESTION 2: MR. ALDRICH: I'm basically impressed with how organized the decision-making process is here. I would hope this would become a model for decision-making and organization for the implementation. For example, there's some pilots being worked on right now: LOCKSS, for example -- where we'll have a prototype for distribution of information to various depository libraries.

RESPONSE: MR. WASH: One thing that we've done at GPO, right about the first of the year, is we formed a Planning and Strategy Board. It's a cross functional senior management team. And at that board, we reviewed projects, and it's a review that allows complete involvement by senior management. So there is where we get the direct involvement with Judy, for example, on sales programs. Making sure that her requirements for business needs are well reflected as we develop requirements for, in my case, a system development and architecture that can deliver that. The same is true with the infrastructure aspects, in the CIO's area. We want to make sure

that as we are replacing the plumbing at GPO, we don't do something that will cause a blowout. A lot of it is detailed communication, and maybe overcommunication at times internally. And that's what the Planning and Strategy Board is really focused on.

LOCKSS was a topic at one of our recent strategy boards for that reason, as an IT need for support, as a business need for being able to meet some pilot needs associated with the programs, and, actually, it also reads directly on one of the requirements or a couple of the requirements that are within these 1,100 requirements that I referred to. So LOCKSS, for example, was an interesting discussion. My question was, how does this functionality map to the requirements of our future system? And Lisa LaPlant, who was presenting the LOCKSS program to the Planning and Strategy Board, said, "It's this line item and this line item, and this is how it really fits in from an integration perspective." It makes us all feel a little bit better that it's consistent with the long-term plan.

MS. RUSSELL: Let me just add, that the other project the Planning and Strategy Board has recently reviewed and approved was Web harvesting. Mike's staff worked with us very closely on the requirements for that before the RFP even went out, and then also participated in the review of the proposals that came in. So we were using a lot of that same discipline to be sure that we developed pilots that can be measured and that can actually feed useful input into the Future Digital System.

QUESTION 3: MR. SUDDUTH: Bill Sudduth from the University of South Carolina. What I don't see in the model, or what isn't clearly evident to me in the model, is what I would call the post-dissemination services. What I see the model doing is building a car. This is the analogy that has popped into my mind. Depending on your resources, you're going to build a really fancy car, really whatever car. But at a certain point, I, the person who needs the information, I, the depository librarian, need to drive this car. Once you've delivered that car to us, after testing and all that, where's that part where the feedback and sustainability is? And where is that service component that this whole model is building? Where is that in here?

RESPONSE: MR. WASH: The next time you see a phases and gates chart, we'll actually start to see the Phase 7 starting to appear, which is sustainment. And the functionality is in the sustainment phase. So in the example of your car; you're the owner; you're driving it; you may have, you know, issues with the warranty and service and things. Sustainment is where that is really addressed. But the planning for sustainment starts in Phase 4.

And, actually, it even starts in the requirements. When you see those, you'll see issues associated with service and user support that are identified in the details. But that will feed forward into that Phase 7 type of planning, so that we have sustainment capability. And at that point, it's sustaining the system from an infrastructure level, so that it continues to work the car, continues to be reliable. But it's also sustaining the business operations. In the case with Judy, it continues to sustain the functions that she's going to need. And, actually, it's also that feedback loop as new aspects are needed. It's not like you can go out and change your car necessarily, unless you want to pull the engine and drop a new engine in. But in the case of a digital system, you may well be able to respond to a market need that is identified in the Phase 7 sustainment activity and get new functionality incorporated into this system.

And we particularly have to be sensitive to that in the development of the system, given the rapid change of technology that we are all experiencing today. I refer to it as the velocity of technology. There are areas of the world that we're living in today that directly impact this digital system. They're at extremely high velocity. In cases like that, you may go through the entire evaluation and concept selection phase and realize that technology has passed you up already.

In my past work of Kodak with digital still cameras, the day that we launched the new model of digital still camera, it was obsolete because technology was running at such a rapid rate. I believe that in our business of information, we have to be very sensitive to the velocity at which technologies are changing. So that's why sustainment starts now.

QUESTION 4: MS. SELBY: Barbie Selby, University of Virginia. Could you talk about interoperability, LOCKSS and the ILS and those things.

RESPONSE: MR. WASH: Interoperability is one of the top-system concept requirements. It's an overarch, we call it. Interoperability is key. We want to be open source as much as possible, but we specifically identify with interoperability. We need that internally within GPO. We have other systems that are getting installed now, the back-end systems for finance, for example. So interoperability with finance systems needs to be in place. But we've taken it very broadly for interoperability, with foreman interfaces, and that's where specifications can become very critical. And we stated the requirement, and now the specifications will help us get there. And there's a number of standards that we're reviewing right now to make sure that we kept them all on the table when we go through concept selection.

QUESTION 5: MR. WARNICK: Walt Warnick from the Department of Energy. I think Duncan had it right: This is very well organized and thought through project. It's a very, very complex project, too. I think that those of us who have been involved in systems development know that it's tough, and those of us who have not been involved in the systems development sometimes have difficulty appreciating how tough it is. We have a whole system of walls, the Cohen Act, for example, which has been created in response to some enormous failures and complex IT systems. I just want to compliment Mike on giving us very, very careful thought and planning to avoid inherent risks with this system's development.

You have a schedule for your Phase 4. When do you think Phase 4 will be nearing completion?

RESPONSE: MR. WASH: We're targeting late summer for that. We don't have a firm date yet, but that's where we're headed.

QUESTION 6: MS. MCKNELLY: Michele McKnelly, University of Wisconsin at River Falls. It's very interesting, and it's very well thought out, and it's on a very aggressive schedule of completion, target October 2007. And as we've been sitting here yesterday discussing digitization, digital content management, costs seems to be one of the limiting factors. And in the strategic vision, there's a statement that the FDLP will determine content of GPO's new digital content system. But yesterday I came away really with a feeling that the inherent cost of the digital content will be what determines what's within this system. And I was wondering if Bruce

could speak to sustaining resources for this project, because without overall continued funding for this, this excellent plan could fall into areas where it could not be completed, procurement processes could not be followed through, and the funding would not be there to sustain this into the future.

RESPONSE: MR. JAMES: Well, you raised a very good issue, Michele. The way our Government funds programs makes every day interesting. Part of this is under the control of GPO, but not entirely. It's how we choose to apply the resources that we have and continue to have in the future. A good portion of the cost of what we do will come from GPO-generated funds. However, it's not going to be enough to complete the system. I think, Mike, you're estimating at this point we need about 25 million more than we will get through internally generated funds.

MR. WASH: (Nods head.)

MR. JAMES: That's an estimate at this point, and we probably put that much in from our own internally generated funds, too. And so we're looking at source of funding for this system, and have discussions going on with Congress now. I think that there is no question in anybody's mind this is a good investment, and the question is going to come, where do we get that money from? And there's several different sources made available. We can reprogram some of the money that we didn't spend in previous years that's been set aside to complete work. The reason that we had some discussions with Congress about this is that we're getting more efficient, and some of the money that we put aside in past years to complete projects, we're doing less expensively. Congress, of course, can elect to take that money back and put in the Treasury of the United States, or they could allow us to reprogram those funds for this purpose, and we have a dialogue with Congress going on right now. We have not yet made a formal request, but I expect we will make a formal request in the near future.

We also, of course, always have the opportunity, through the appropriations process, to ask for the money. Now, we've been guided by our Appropriations Committees in the idea that there is not going to be a lot of excess money in the coming years and that we have to be very careful with any requests we make, and we have to have it really well justified. So we will, before we make a request. So I think that we are going to be in a better position to really talk about why we would need an appropriation for this as Mike's work proceeds on.

And we have a third source of funds to sustain this down the road. We're going to have to redevelop our existing building and relocate. It's just preposterous to continue in this one, and I think everybody's in agreement with that. We're spending roughly \$35 million a year on overhead that we would not have to spend in the right-sized building. We could ask Congress for lower appropriations in Congressional Printing and Binding. As the overhead is reduced in the sales and expense accounts, that would have the effect of creating more money to spend. We see this as a good source of future funds, too. As we work this out, and this is a matter of negotiating with our overseers in Congress, I can tell you that we see nothing but good will in this group. I'm sure we will find a solution to it today.

And while I can't tell you what will happen 3 or 4 or 5, 10, 20 or 100 years down the road, I can tell you that my experience, since I've been Public Printer, is that there are nearly 535 people sitting up in Capitol Hill absolutely devoted to the idea that our Government function is based on the knowledge of our citizens. And I cannot see that changing. Congress has been committed since 1813 for the funding of information for citizens, and I can't imagine that they would not do this in the future.

At this point, I feel pretty confident about where we're going. I think that our financial people understand, probably for the first time in many, many, years, exactly what the GPO finances are. Everything is as transparent as we can make it now, and we really truly understand where we are, with maybe a couple of exceptions. But by and large, we know where we are, and so we understand how to deal with the money that we have. We are not continuing to fund those functions that are no longer needed, and we're redirecting that money into our future requirements. That's a part of what the strategy -- what is that bill called, Mike? -- strategy --

MR. WASH: Planning and Strategy Board.

MR. JAMES: Planning and Strategy Board, thank you. That's chaired by Mike, and I did that very deliberately because I want Mike to have the big say in what goes on here. But the Strategy and Planning Board is the one that decides where we're going to be on investments of GPO. It's off to a very good start. I'm very pleased. They don't always come into the decisions that I like. Sometimes I feel like wading in there with both elbows and say, "What are you doing?" But I bite my tongue, I stand back, because these are all carefully considered decisions. More than anything else that we're doing here is building a team through the GPO that will sustain this in the future. You know, I'm not going to be the Public Printer forever, and who knows who's going to come in here behind me, and I want to make certain that this isn't just Bruce James, that we have rebuilt the systems of GPO and the executives at GPO -- executives down to the troops -- understand what this is about and understand how to think about the future, how to think about the operation, how to think about money, how to think about making investments. We don't put a dime into anything if we don't understand what the investment payoffs are going to be. This is a new concept to folks at GPO. The good news is they're taking to it, they understand it, they're working with it, they're enthusiastic about it, and I think people think it makes sense.

QUESTION 7: MS. MILLER: This is Ann Miller, Duke University. Mr. James, you said something during your presentation, which I think a lot of people in the audience took comfort in, which was that you still think that there should be Government information in paper and that we need to come to an agreement about what that needs to be. Now, you've always said that S&E budget would be at a steady state. Doesn't that create a problem in how you disseminate printed information in a program that has a steady state budget when you're trying to find money for another program? And how would you resolve that?

RESPONSE: MR. JAMES: I find this quite interesting, the way people interpret vocabulary differently. What I'm actually doing here is creating more money from the S&E program. While the appropriation will look like it's the same, a good portion of the appropriation today is spent for maintaining hundred-year-old elevators and trying to maintain a building that is no longer efficient. So when those costs go away, that creates more spendable money, real tangible money.

So instead of reducing the S&E appropriation by 30 percent, which we might be able to do, what we see is keeping that right where it is today, in terms of real dollars and dollars going forward, which will create more spendable money, a substantial amount of spendable money. It's a way of doing this that I think is in sync with what Congress is looking for. They're not looking to increase appropriations, but they're looking for agencies to be more efficient in how they use the existing appropriations. And, to me, this is sort of the ultimate efficiency. It doesn't hurt anyone, and it really, truly eliminates unnecessary costs and redirects money into things of value.

QUESTION 8: MS. MILLER: What guarantee do you have from Congress that that money from the redevelopment is going to go back to GPO, knowing as we do that members of Congress seeing a loose pot of money kind of go crazy, and we're at war, so that's another issue.

RESPONSE: MR. JAMES: Well, of course, there's nothing guaranteed about this at all. You know, this is a high-risk business that we're all engaged in here because it involves the Government. I think that the one thing we can take comfort in is that so many members in Congress believe in the importance of this. And, you know, at the end of the day, Congress could stop us from redeveloping the project, but they probably can't make us go forward. And I can't imagine why I would want to go forward if we can't see that money coming into our organization so that we can do a better job.

QUESTION 9: MR. WARNICK: Walt Warnick from the Department of Energy. One of the difficult things you have to balance is, you have a grand long-term vision, but more to sustain credibility as this vision is materializing. You also have a need for some near-term successes, like the LOCKSS program, for example, might be some cheap low-hanging fruit, near-term success. Perhaps there might be others like the harvesting project that you have pilots going out for. So my recommendation, my observation, would be that we sort of take every opportunity for some near-term cheap successes, if you can find them.

RESPONSE: MR. JAMES: I think that's really good advice, Walt. We've talked about this internally ourselves. Rather than just talk about one big, grand project, I think it's necessary that we run pilots, and I think you'll see us running more pilots. And we are certainly interested in ideas from the community of what would be suitable for piloting.

QUESTION 10: MR. SUDDUTH: Bill Sudduth, University of South Carolina. In the best case scenario, when do you see the burden of overhead possibly going away?

RESPONSE: MR. JAMES: Best case scenario would be we're in a new building at the end of '07. And that does, at that point, release those funds. I have other people at GPO that are looking at other processes in the same kind of fashion. And we employ some very sophisticated people in the financial arena who are looking at every possible scenario for this and almost going through a phase and gates approach as Mike is. You know, what if, what if, what if? And everything running on a timetable. And it's interesting, I've never done a project, a redevelopment project of this scope. Very few people have. As we rediscover more, we discover that we have lots of different financing opportunities. And we really can match those to what our true needs are at the end of the day. And again, we will do this in conjunction with Congress. And, you know, people always say to me I may have authority to do things other than the existing law. But, you know,

we feel, even though I may have the authority to do some things, we think it's in our best interest to do this in conjunction with Congress and in full support of Congress, too. I don't want them ever to feel that we've done something here, you know, behind their back, or that we've taken an action that they don't feel good about. I mean, we want them to feel good about what we're doing. We have very good communications with our professional oversight committees and JCP. I was glad to see Andy Sherman in the back of the room there. I think all of you know Andy Sherman. He's been with the GPO, I think, since James Madison's time. Andy is director of Congressional Relations. There is nothing going on at GPO that he isn't well aware of, and he's always looking at how to communicate in the best, most efficient possible way with Congress.

Now, you know, Andy and his folks, and some of our other executives, too, and Judy's up there also, tend to work with staffs. And when I go up to the Hill, I tend to be with the members. I don't even know, until our staffs are in agreement, what the outcome of that conversation's going to be. I feel comfortable where that process is now.

Now, as you know, we're changing from the House to the Senate in terms of management of JCP. I suppose I should have some apprehension about a new chairman taking over. Trent Lott, I think -- Andy, has he been elected or due to be elected?

MR. SHERMAN: He is to be named to the committee by the full Senate, and he will be elected to chairman when the committee organizes this month, toward the end.

MR. JAMES: Committee's due to reorganize this Thursday afternoon. Of course, Andy will be here for that. And we suspect that Senator Lott will take over as the chairman of JCP.

Now, one of the reasons I have some confidence in this is, as we go about our business, Andy is very thorough at briefing not just the majority but the minority, in the same fashion in briefing both the House and the Senate, and just spending enormous amount of time talking with them about the key issues that affect us. So there aren't going to be any surprises here, and we're not looking forward to any major changes here. Although, of course, Senator Lott will do things differently than Representative Ney did. You know, we'll have to adapt to that.

MR. SHERMAN: Yes. Bill, your question is about assurances and retaining funding. We have draft language before the House Administration Committee, which is our legislative oversight committee on the House side, and before the Senate Rules and Administration Committee, our legislative oversight committee on the Senate side, which would authorize us to go ahead with the building relocation and redevelopment project. A key portion of this language would authorize us to retain proceeds from the redevelopment. So when this project goes forward, we're going to seek not only statutory authority to relocate the building, but to retain the funds from redevelopment of the current structure. That's a key element of the project. The bill has not been introduced yet. We're still working with the staff on both the majority and minority sides of the Senate and the House to make sure that everybody is walking hand-in-hand on this project, and that we don't get out too far in front of anybody else in their ability to agree with what we are doing.

So far, everything is working fine. Now, this is an enormous project. Bruce knows that, and has communicated fully to the Hill what we want to do. And Congress is taking a very close look at this. As a matter of fact, the Senate Rules Committee has the Congressional Research Service staff doing a background check and working with our real estate attorney on this project. We're going to present the plan again this spring to the Appropriations Committees when we have our hearings before them. Our hearing on the Senate side is scheduled for May 11th, before the Senate Legislative Branch Appropriations Subcommittee. The House has abolished the Legislative Branch Appropriations Subcommittee. Our hearing will be before the full House Committee, led by Chairman and Ranking Member Mr. Lewis and Mr. Obey, sometime in the near future. That hasn't been scheduled yet. Everybody we work with on the Hill is fully aware of what this project is and how it's moving forward, and that the retention of funds is a key element of the authority that we're seeking. I can just say that without that capability, it will place the project in serious jeopardy. But the two purposes are interlinked. This will be an amendment to Title 44 that we're seeking. So I think that once we have the authority to move forward, you will see the assurance that we'll be able to retain funds as part of that project.

QUESTION 11: MS. TULIS: Susan Tulis, Southern Illinois University. Do you think those bills will be introduced this Congress, this year?

RESPONSE: MR. SHERMAN: We want this bill to be introduced in this Congress, and we'd like it to be introduced this year. We had, actually, first taken it to the staff towards the end of the last Congress, but because of the timing of the session and pending elections, they weren't able to devote their attention to it. But the Senate Rules Committee knows, with the switchover of the JCP leadership from the House to the Senate side, that the building project is the top priority that we have, the top legislative priority we have for this year.

QUESTION 12: MR. GRAHAM: John Graham, Cincinnati Public Library. The question I have is when the list of requirements, the 1,100 requirements for the new system, come out, where should we, as Depository Libraries look for ourselves in those requirements?

RESPONSE: MR. WASH: They aren't specifically identified by users. They're user classes as we outlined in the Concept of Operations. But what I'd like to suggest is that comments are provided back for these requirements, specifically, you know, from the community. And also Judy and I have talked about forming some working groups to actually focus on elements of the requirements and help provide us feedback, because we absolutely need it to understand how the community will fit into these and even help us adjust. Because, remember, we view these as preliminary requirements, knowing that they are likely to have some changes made to them. And it's critical to take the time and review them very carefully.

QUESTION 13: MS. MCKNELLY: Michele McKnelly. I'd like to follow up with that. One of the points that I heard is that you're decoupling the information from the system. And I think it's important to keep in mind in the process that the tangible distribution system may be going away, but the system providing services to the general public is critical in the preservation of democracy. Our public libraries are, in fact, places where those people who will not be taking advantage of the Internet2 in three-second movie downloads are going to seek their information.

And that we must carefully consider the needs of those who might be disenfranchised by too high a technical solution.

RESPONSE: MR. WASH: I completely agree. We need to make sure that there are systems in place to meet user needs, whatever those may be.

QUESTION 14: MR. ALDRICH: Duncan Aldrich, Reno, Nevada. What is the relationship between the ILS and the FDS?

RESPONSE: MR. WASH: There's a direct relationship. Part of the interoperability of systems that we spoke about earlier, the ILS is an element of the system that will be really integrated through open interfaces into the system, so it will be a part of it. And it's anticipated in the requirements.

QUESTION 15: MS. SELBY: Barbie Selby, University of Virginia. You had mentioned pilot projects that you were interested in continuing. One that I think was floated at one point, the print on demand, there is definitely interest in that. Not as the only delivery mechanism for tangible materials, but as a possible supplement to the tangible materials we're getting.

RESPONSE: MR. JAMES: I'm getting that feedback, too, from others in the community. I think we're going to have to find some ways to pilot this print on demand to get even more experience with it, so we can see where this will fit into the mix down the road. And I know we took a shot at that. We talked about this in terms of allowances for the depositories, but I think it's too early to try that. I think we need to get more experience to decide together how to make this work correctly. So I take your advice seriously on that part. We'll follow up on that.

QUESTION 16: MS. PROPHET: Mary Prophet, Denison University. Maybe the time is now to do a pilot with the depositories on print-on-demand. That issue came up in a number of the breakout sessions yesterday, and I actually came to this conference hoping for a pilot on print-on-demand. So I think you really need to think about that pilot with the Depositories again, maybe on a smaller scale than originally anticipated, but something. That needs to be moved forward and looked at.

RESPONSE: MR. JAMES: Okay. Got it.

QUESTION 17: MS. MCKNELLY: I was very struck by something that Mr. Wash said, that if you pick a solution and then define the needs, that you limit the choices, what is available. And I feel that we need to be very careful in the SuDocs, the ID, Information Dissemination, because I think that in many instances we have been picking the solution before clearly finding out what the needs are, not only of users, but of libraries who are a very important constituent for you politically. And I can't help but say that I think people feel that they've been trampled on a little bit. And that is not a good thing. We should carefully go out and look at the needs and then come back more slowly and cautiously, because not everything has to be done fast. The system here that has been laid out is over a two-year time line. It's not that it has to be done in six weeks. And the timeline is very carefully laid out. And as librarians we are interested in order, in the way things are progressing, and we need to see that so that we can trust you.

RESPONSE: MR. JAMES: Thanks, Michele.

QUESTION 18: MS. SAURS: I'd just like to elaborate on Michele's comment a little, because it seems like you made some of these proposals and sometimes you get bad reactions. It's not that we're so much against changing the system, but we do need to do it in an orderly way. For instance, proposing that everybody try the print-on-demand trial at the same time was shocking to a lot of people, because it will change their daily activities today, and it may leave them open to budget-cutting directors who will say, "Well, since you don't have all these boxes to open, you don't need all this staff," or whatever. I know we don't like to do operational things too much, but we do need to think of the daily life effects that these changes will have on people, and not throw them to the wolves.

RESPONSE: MR. JAMES: Thanks, Laura. I appreciate your comments.

QUESTION 19: MR. GRAHAM: I have a comment, also, Bruce. Kind of a general question related to what I asked Mike earlier. How do you see depository libraries fitting into the structure of the Future Digital System? It's actually something you'll discover at some point in the future, but what part of this do you see that we're playing through you, where we played in the past by hosting the Depository Collections at our libraries?

RESPONSE: MR. JAMES: I think that we will discover this as we go along. I think that there's always a question here whether GPO should define this or whether the Depository Library community should define this. But I think, at the end of the day, we will define it in working together. As I've looked at the way we have spent money in the Depository Library Program, I've just been struck by how much money we've spent over the years in what we broadly call education. In some years we spent as much on education as we have on print product distribution. So it's clear that, for a long time now, that the value of the Depository Library Program, at least from the bidding of GPO, has been in the librarians themselves and their knowledge of how the Government functions, how information is created in the various departments, how one department's information relates to another, and their ability to guide users in answering their questions.

Now, when I say that there's going to be many times more information than we have today in the future, and the National Library of Medicine can say a thousand times more in five years, we will all be in agreement to get a lot more. There is going to be more need, not less need, for people who are educated in how the Government operates to be able to help people interpret this information coming down the pike. I think that this is going to be, in my judgment, one of the largest challenges from the GPO, and that is, how do we help you do the job that you're going to be called upon to do in the future, when we have many times more information than we do today? This is a discussion that we have at GPO on a regular basis. Start thinking about this as Mike works on the development of the actual system. What is the education program going to be, so that you remain vital to your institutions, and that you also remain vital to the whole process of the dissemination of Government information and the use of that information. So that's the best I can tell you at this point.

QUESTION 20: MR. ECKMAN: Looking three to ten years out, I think it would be good if GPO's openness to input on the requirements list was made available very broadly in the community. Many digital libraries are building models that are similar to this. And I think the future potential for sharing of content that's in the Future Digital System with those digital libraries create interoperability issues, and the potential's there for collection migration.

RESPONSE: MR. JAMES: How do you think we best deal with it? Should we perhaps have a seminar in Washington or Chicago or someplace where we invite all these developers of digital library systems to come together and talk with us about what we're doing, talk about what the issues may be to make certain they communicate with each other?

QUESTION 21: MR. ECKMAN: That might be a good idea modeled on the previous ones that you've held in other areas. Include some of the technical people and maybe some of the people that are managing the content concepts as well.

RESPONSE: MR. JAMES: That could be a really good idea. We'll work on that and see how we might implement that. That's a very, very good point.

QUESTION 22: MS. MCKNELLY: I just have one other comment. Under security, I see that user privacy is there, and this is one of the points that we talked about when the ConOps document was discussed in the fall. I'm surprised to see user privacy only in security and not also in other parts of the document. Seeing that users' privacy is protected should be in multiple places, there should be redundancy for that. Because I think that's key in having people accept and work with this system.

RESPONSE: MR. WASH: Security and privacy is in systems administration and infrastructure, and that goes across the entire system. So when you look at the requirements within that section, you'll see that it reads on all of the other functional elements, so we tried to put those functions that were broad systems prospective in that category of infrastructure and systems administration. So I think it's covered, but we need to check.

QUESTIONS FROM THE AUDIENCE

QUESTION 1: MR. STEVENSON: John Stevenson from the University of Delaware. One of the things that I thought was interesting in Mike's talk was the analogy to plumbing, and I thought it was really apt because we tend to notice when plumbing goes wrong. There's a concern about the currency in our program. The emphasis is being placed currently on retrospective digitization and related projects. I think it is not a bad idea to protect, preserve, and make more readily accessible those things which have gone before, but what I'm really concerned about are the things that are being produced right now, which are not getting into the program. As the Essential Title's list poll showed, when the data went up, many, many people observed that there are numerous titles listed as being available in print or other tangible formats in the list of classes which have not been distributed for many years, yet we know they exist, they are online, and they are not being selected or cataloged, so far as we can see, by the Government Printing Office. So I wondered if there might be some statement as to whether GPO will make a greater effort to capture current titles so that our program can remain vital and

accurate for current information and we can build on that so that we have a future. As these things become older, we won't just be programming the archives well.

RESPONSE: MS. RUSSELL: And that absolutely is the reason for the reorganization of the Acquisition Section under Lillian Gassie, which is just being completed now. And as we talked about earlier in the meeting, for our working more closely with the agencies, the Web harvesting project, those are all part of the efforts we're making to strengthen that. You saw a very strong commitment in the strategic plan to be sure that we were as comprehensive as possible in the present and the future, as well as filling in gaps retrospectively as we come across things that we missed at the time that they were issued. But I agree with you that it's very, very important that we be as comprehensive as possible.

QUESTION 2: MS. KASIANOVITZ: Kris Kasianovitz from UCLA. Given the current pilot projects, like the Web harvesting and the LOCKSS, that are underway, has GPO given any thought or planning to a system of distributing or pushing documents, objects, and metadata to the Depository Libraries? Many of us in the community would be interested in tapping into the repository and adding this to our local collections, which would continue to enable us to act in the spirit of the Distributed Federal Depository Library System. Does your system planning provide for this, and if so, are you interested in any pilots to do so?

RESPONSE: MR. WASH: The system requirements that we put in place absolutely support that function. We have an element called "digital media." And the definition of digital media is much broader than just a CD or a disk. It's actually the capability to support delivery in digital media in a push model. So the system functionality, as defined, will support that capability. Whether we pilot that as we go through the implementation planning and concept phase is where we really anticipate selecting the things we need to pilot for testing from a technical perspective of how well it meets the needs, but then also from a business perspective, if you will, of addressing the need from the market side. Judy can take that one.

MS. RUSSELL: The current systems we have don't really support doing that, and that is why we're looking to Future Digital System to provide that capability. However, there are some intermediate things. You mentioned the LOCKSS pilot, and that's certainly one of them. We also believe that, with the Integrated Library System, that we will have the ability to push out records to you with embedded links which will make it very easy for you to harvest those things that you want to harvest. That's probably our best intermediate step, to continue cataloging materials and putting those links in them so that you can systematically, and fairly easily, capture the things that you want to capture. And, of course, we are making more and more of our content crawlable, both to expose its Google and Yahoo and the other services, but also potentially to crawlers that might come from our own Depository Libraries. So while I don't think we're ready yet to push in the way that you mean it, there's certainly opportunities for libraries to build their own collections of those materials.

MR. JAMES: We are beginning to look at whether it's necessary for each of the 53 regionals to maintain all of the documents they do, or if they could combine in some different fashion that would reduce their expense and better serve their communities. And we think this will happen with this system, too. We think that it may be that various libraries get together and say, "Well,

we'd like to have an absolute duplicate of what you're running." And I can't even tell you why that might be. But it might be the case at some point. Maybe it's faster distribution. Maybe it's protection of documents. And this system that is receiving it would allow us to push that information to you. And, on the other hand, you will be able to pull it, too, so that, if there's a particular class of documents that you want to maintain on your own servers, that you will be able to do that. We're trying to make this flexible enough so that you can decide what you want to do down the road, either on your own or in partnership with other libraries, too. So I think we're trying to keep that in mind. My guess is, in the next couple of years, we're going to have some awfully smart people out in the audience, and in the broader community, cook up some schemes here that we can't even dream up today. We just want to be prepared to answer what your requirements will be coming down the road.

QUESTION 3: MR. HAYES: Steve Hayes, University of Notre Dame. Can you, with your now larger group membership of 80 that are articulating or reviewing the plan, can you give us, the community, some idea of who those people are, so that we have an idea of how our views and positions might be finding their way into the review process, since we don't know who the 80 people are? I don't want you to name all 80, but you might know the ones that reflect probably some of our concerns and issues.

RESPONSE: MS. RUSSELL: Well, let me tell you some of the people whose names will be very well recognized: Gil Baldwin; George Barnum; Selene Delecky and Lisa LaPlant, who are both here; Ric Davis, who's been very heavily involved in it. I suspect we've had more people from Information Dissemination than from any other area, and there have been other people who have come in and out of the team for specific expertise, but the ones I mentioned have been among those who have been there day in and day out and very heavily involved in this. They are people who traditionally come out to these meetings and, in some cases, have many years of contacts with the community. And as Mike said earlier, these are the preliminary requirements, and so this was an attempt to gather something that people could then react to and help us see what might be missing and refine it, and that's why it was done first in this internal team.

MR. WASH: The character of the team also changed as we grew from 10 to 80, where more almost subject-matter experts, if you will, could get engaged. For example, in the IT area, those working on infrastructure and storage technologies focused specifically on storage technologies and backup systems and things like that. So, as we went from Concept of Operations to the requirements, we needed to broaden and gather skills that would be very finely tuned to be able to deliver a robust list of requirements.

QUESTION 4: MS. COWELL: Elizabeth Cowell from Stanford University. I wanted to follow up on Kris's question and just say that it sounds terrific to be able to either pull down or be pushed to digital collections of Government information. My question is, will this end the spirit of the Depository Program, and seeing that it will be a Depository Library collecting this information, would this still be free in the future?

RESPONSE: MR. JAMES: That's the deal. The deal is that you give your time and service and currently your real estate, and we give you this information for free. Every time we talk about how we're going to handle the future, we always say that anything that we do must go to the

Depository Libraries without cost for their further using that with the general public. That's our commitment to you.

QUESTION 5: MS. BEEZLEY: Jo Anne Beezley, Pittsburg State University. This is not something we've talked about today, but I was wondering where we are on the mirror site for GPO Access? We talk about preservation and all this stuff, but we're talking about it two or three years down the road. Where are we -- I know we talked about this in the fall -- where are we on developing those mirror sites?

RESPONSE: MS. RUSSELL: And I gave an update on that on Sunday. You may not have been here during my presentation. They're going to be talking about it more at the GPO Access Open Forum this afternoon. As we announced in the fall, we have selected the EdgeSuite Service for AKAMAI to provide our disaster recovery, and we're still in the testing and implementation stage before we throw the switch.

In the meantime, since Reynold Schweickhardt has become the GPO CIO, we have vastly improved the other things that we're doing to back up the material so that we have much more redundancy and security than we previously had, even without having fully implemented the disaster recovery. But they will be talking about that in the open forum, and we will be posting information out to the usual lists and things, as soon as we have some things that you can actually kick the tire and see.

QUESTION 6: MR. IMHOLTZ: August Imholtz, Readex Digital. One of the best things I've heard over the past two days -- I'd like to commend Mr. James for saying it -- was his summary of his conversation with the Superintendent of Documents, in which he said, if I wrote it down correctly, "Let's not confuse a limit of 50 with the set of Essential Titles." That's very, very important I think. And it reminds me of the debate in America and Britain and France at the end of the 19th century about the hundred greatest books. Everyone had his or her list. The Dean of Canterbury, Frederic William Farrar, produced a list in the Sunday Magazine; Sir John Lubbock answered with yet another list; and Ruskin stepped in and crossed out most of the entries in both of them, because he thought things like Gibbon had no place in great books. There's no place, in his words, for "putrefaction and decline." But the point, I think, that we should draw from this, and I hope the Depository Library community will agree, is that any kind of list like this is a cultural construct subject to change over time, and in the electronic world, it will be possible to respond to changing views of what is or what is not essential, without any canonical position.

RESPONSE: MR. JAMES: Thank you.

QUESTION 7: MR. CHAPMAN: Bert Chapman, Purdue University. In planning for the Future Digital System, has any effort been made to consult foreign government publishing agencies, such as Britain's Stationery Office or Canada's Public Works and Government Services Canada that determine what experience they may have had in developing comparable systems?

RESPONSE: MR. JAMES: I was in Europe last year, last spring, for a show that occurs every five years called DRUPA. That's a big printing show. I sent a team of our people to scout it for me first before I went over so I could spend two days meeting with the people that I really

needed to that really had a nurturing technology, novel ways of doing things that were applicable to some of the issues that we had, particularly in the security and intelligence area. But while I was there, I had Bob Tapella, who's my chief of staff, and Reynold Schweickhardt, who's our CIO, make a visit with the Governments of a number of different countries, to talk about where they are on these issues. We also went to the European Union, and we visited their publishing operations in Luxembourg, and I was particularly curious to see how an operation starting from scratch would come up, and one that had to deal in 19 languages, because I do believe at the end of the day the United States Government will have public information in more than one language, at least some information. So I was very curious how they did this, how they went about it. I think we learned a great deal from that experience, and they learned some things, too, about us and our needs. And the last we visited was Austria, and we met in Vienna with the members of Government that deal with this and learned that on July 1st of last year that they switched to electronic from paper documents, as being the official documents of government, which are no longer being referred to as paper documents. It's only the electronic document in any legal action. And that was breathtaking to us as we looked at the same issues we're dealing with here. And they were willing to leap forward faster than I'm willing to leap forward, and we are studying what their results are. And so the answer is, yes, while our problems are different, you know, we'll go anywhere for the best solution. If there is anything that any of you know or hear about that you think is worthwhile having us look at, I would appreciate knowing about it, and we will follow up on it.

MR. WASH: One follow-up to that. This last week the Dutch Parliament paid us a brief visit in continuing to understand what other countries are doing and what other systems are being enabled for. So we continue to talk to other countries and understand what they have been doing.

QUESTION 8: MR. FALKOWSKI: Hi, Dave Falkowski, Eastern New Mexico University. I'm curious as to what our system requirements are going to be when you get all of this working. What would we have to do to make it work on our end?

RESPONSE: MR. WASH: I don't have a specific answer. I think what we need to be able to do is support as much technology as is available out there, and not lose sight of some of the legacy types of systems that may be out there. I talked about the velocity of technology. There are a number of systems that continue to need to be supported. I'm not talking about, you know, 1980s vintage-type systems, necessarily. But I don't necessarily believe that there's going to be a wholesale need for update of technology in libraries to be able to interface with this system. If that were the case, we would have missed the mark in being able to support the customer set that's out there. And as a part of requirements and review of requirements and specifications, we have to be very sensitive to the technical challenges that everybody has. Much like the comment earlier about end-users and their ability to be able to adapt and use technology, the same is true for the infrastructures in libraries. We have to be very sensitive to that as well. We can't expect everybody to go out and buy the latest and greatest to be able to interface with new systems.

QUESTION 9: MS. WOLFF: Cindi Wolff, University of California, Berkeley. I was excited to hear about the monies that will be flowing back into S&E, in terms of the cost savings. I'm curious if there will be an IEEE approach in terms of looking at the financial structure of the S&E fundings. S&E is sort of a catchall in terms of having FDLP within it. I'm just curious if

there will be a look at perhaps pulling FDLP out of S&E and having that funding base set up to protect some of the things like cataloging and indexing, et cetera.

RESPONSE: MS. RUSSELL: The consolidation of the four programs that we currently manage under the S&E is a construct of the appropriations process. But in the budget proposal that we put forward each year in the Appropriations Committee, we do define what amount of that resource will be used for which program, and we manage to do what they authorize for those programs. So our financial system does distinguish program by program with the expenditures that we make, so that even an employee whose time is divided among activities that affect different programs is charged on a pro rata basis against those programs. I don't see the Congress doing a separate appropriation for the Depository Program from the other salaries and expense appropriations.

In every agency there are program funds and salaries and expense funds, so things like IMLS grants come out of program funds, but the operation of the agency comes out of salaries and expenses. That's a very standard part of the appropriations process. But we do continue to distinguish each program and what its specific financial requirements are.

We're very careful to not commingle the appropriated funds with any of the funding from the cost recovery activities. And that's true in the relationship of CP&B, with the other printing and printing procurement things, and it's true with the S&E funding in relation to the sales program and other cost recovery programs. There is a very strong statutory prohibition against letting one subsidize the other. And we're very careful about it.

QUESTION 10: MS. WALLACE: Julie Wallace from the University of Minnesota. I, too, want to ask some questions about the budget and the setting of priorities, because we haven't yet seen the budget proposal, and we're hearing so many really incredibly wonderful ideas and proposals here, which have different sorts of time lines, therefore, putting them in different budget years. And we have concern about the old house with the old plumbing, at the same time that we look forward to the new house with the new plumbing -- and having just been through some new-house stuff myself, I definitely understand that. So we are looking at both the things that relate to the preserving and capturing of the new currently born digital stuff, which is what makes us really, really nervous, at the same time that we're looking at things that relate to, for example, digitizing the old stuff -- if I'm going to continue to use the term "stuff" -- where that, while it's an exciting idea, is, at least in my own opinion, not as essential because we already have that stuff. It's not in danger of being lost now. It's a dream and an attractive proposal. But I would like to understand how we see, or perhaps have a little input, into the priority setting, assuming there isn't enough money to do all of those things now. Maybe there will be if you can capture the funding from the building, and I hope you can. Knowing Congress, I'm like you, not going to hold my breath. So in terms of doing things now, not in the wonderful things that will happen in '07, how are you setting the priorities about what is really essential? And I guess I don't represent anybody but myself, but I would like to say what I see as really essential is, number one, capturing and preserving the born digital stuff that is not otherwise being captured. And I hear you working on that, but I'd like to be sure that's top priority.

And the second priority is creating not necessarily a total retrospective collection, but a total retrospective inventory of what has been distributed to Depositories and things. In other words, a total retrospective catalog so we have something to identify when we do digitize things. And when we put them in dark archives and light archives, and to identify who has what sorts of things. So I'm hoping those are bubbling to the top as priorities currently, and that we'll see that when we see your budget proposal.

RESPONSE: MR. JAMES: Well, I think those are some very intelligent observations, and I wish I could roll out all of the executives of GPO for you to see, and have them make presentations similar to what Mike did this morning. The important focus in GPO, that's the focus on the Future Digital System.

When I walked in the door, we did not have a chief financial officer. We had several financial people involved in different aspects of the organization, and we just didn't understand how we were spending money and understand what the important points were. So one of the people I went and saw was the chief financial officer. We now have a real chief financial officer -- I guess he's been there for nearly two years, too -- and have a whole different way of looking at the GPO money. And, you know, we discovered we were spending money in ways that we didn't need to, and we freed those funds up to spend on ways that we now need to. So the good news is, we're capable of doing multiple things at the same time, both because of the technical talent we have, and because of the fact that we've identified how to better spend our money. And what I always say to our folks is, "Don't spend it on the 19th century. Spend it on the 21st century." And they have the message and they are doing it.

We certainly can't go forward with any kind of retrospective digitization project without having a plan, without knowing where we're going. So we're working on that catalog right now.

Let me share with you one of the management issues that I have at GPO, and that is, as we transition the GPO from basically a print-centric organization to a digital organization, we are freeing up a lot of people that once did other things. Now, we have someplace between 3 and 5 hundred people that work for us that have the capacity to do other things. Now, they come to work every day, they come to work on time, and they work hard every day, but a lot of it is passing paperwork back and forth to each other, because we have not yet embraced technology for doing some things. Well, given, there's no reason to embrace it until we have something else for these folks to do. And what I've said is, we can do this whole digitization project probably in Sri Lanka, or the equivalent, for 10 percent of what it costs the Government to do it. And under normal circumstances I'm always driven to do things in the most cost-efficient way. This is a special circumstance we have. And that is we, you and I, all taxpayers, are paying for 3 to 5 hundred people with GPO. Congress doesn't have an appetite to fire people. So it's really our responsibility to retrain them in the digital skills that they'll need in the next generation. So this large-scale digitization project that will digitize the retrospective collection is, in fact, a training exercise for us, too. And we're setting it up that way; we will manage it that way. And, you know, they're skills required from being able to operate a vacuum frame -- which probably a forklift driver can do -- to dealing with complex metadata, which requires a good education and a lot of experience.

And what we're doing right now is taking an inventory of the education and skills of our people, so we can begin to see how we're going to put them into this large training production program. And we also have our business people looking at the possibility of developing some unique capabilities of what I'm calling the digital media work that other Government agencies might find useful. We have teams of people assigned to each agency, and their job is to make phone calls and visit customers. And we're out there talking with other Government agencies about what they would find helpful in the future in terms of digital media progress, so we make certain of what we're doing in retraining these folks. I think all of this will come together. It sounds complicated; in fact, it is complicated; but I feel confident that we have the people to manage such a program, and if we do this right, we are going to be able to do it within the existing GPO resources.

Now, I have asked Congress, in the next budget year, for \$5 million for retraining. And that will be applied against the Digital Media Project as we retrain these folks, as I've described to you. Any good words you can talk to Congress about, about why you think this is important, we would appreciate it. But I think, at the end of the day, we'll do well with that portion of it.

I think it's really important to understand that we have to do more than one thing at a time. And we have to find the resources to do those things. We can't rely always on running to Congress for those resources. We've got to do it by being better stewards of what we have right now. And we're getting better and better at it every day.

And it's not just a matter of deciding what you're going to do. You've got to find the funds for it. And in many cases, you're competing against other priorities in the agency. And people in the agency come together and determine what those priorities for funding will be, based on the overall needs of GPO. Of course, our mission is to support Government agencies and their communications programs, and provide information to the public. And, you know, we're looking at this, and we're weighing these things every day.

QUESTION 11: MR. BROWN: Chris Brown, University of Denver. Thanks to Mike Wash's excellent presentation, I think I have a lot clearer idea of the harvesting capabilities, the output capabilities, also responses to questions that have just come. I'm still a bit fuzzy as to the ingest system and how that might relate to things. For example, I'm unclear how things that are currently living at the <permanent.gpoaccess.gov> are the things that catalogers permanently maintain. So my first question is, will that be part of this new system? Secondly, when things are harvested from Web sites, will catalogers go to that and catalog things? Will that be the place where they permanently live? If you can give us some insight as to what this ingest system will do, and how it relates to the cataloging operation, that would help me see where we're going with that.

RESPONSE: MR. WASH: The information within GPO Access today would get rolled into, or transformed into, the new system. We see that as part of the collection. So that's the answer to the first part of your question.

Relative to harvesting, we see cataloging activity associated with that as well. The thing about harvesting is that you go out and you find it in the state that it's in, and you have to apply

cataloging rules to that to be able to add the metadata so that it's compliant with the system. So we see that as part of the ingest function and the early stages of that content processing function as we go through those threads of ingest for harvesting.

MR. JAMES: There's also step two there, and that's authentication. You know, just because our Web crawler finds it, and it says "U.S. Government" on it, we still have to authenticate that as actually being the document by the author, so there's a process to go through, too, before we incorporate it in the collection. We're still working on how that's going to work.

QUESTION 12: MR. MEYER: Larry Meyer, San Bernardino County Law Library. First, your comment about visiting EU and their special circumstances with the multiple languages got me to think of a possible suggestion, and maybe it's something that can be incorporated into the distribution of digital primary authority, which would be either translated into some of the other languages our citizens feel more comfortable with using, or, at a minimum, providing a translation tool as part of that distribution.

RESPONSE: MR. JAMES: I've given this some thought, and engaged in some conversations with folks about this. This may end up being a contentious issue with Congress. I don't know. It may just roll forward smooth as a whistle, but it can also become contentious, as you know, any time you become involved in languages. So I've put that on the back burner right now. There are a couple more issues I want to get under our belt first, and then we'll come back and take a look at that. But Mike knows that we've got to think about the requirement of having information in more than one language. And it may be that automatic translators are not going to be good enough for the purpose, I don't know. But we will be tackling that down the road. Before we announce any kind of capability, clearly we have to have a dialogue with Congress about that.

QUESTION 13: MR. HAYES: Steve Hayes, Notre Dame. I've always appreciated your talking with other entities as to how they handle their information, particularly informing their own people. Many of the countries that you're visiting we're familiar with, and what I want to concentrate on is not so much their technology for electronics but their depository distribution system, and many of them do not have what we consider a favorable method of operating. Can you think of some things that you've learned that are finding their way into the plan, or do you also see, in sharing your experience with these countries, whether you're making any headway as to modifying how they altered their dissemination?

RESPONSE: MR. JAMES: In each case, you know, what I do is a little introduction of the Government Printing Office, because they think they know what we're about until I go talk to them about it. And then you can just see them, their mouths are open, over this Federal Depository Library Program. It's unique. Nobody else has it. And as we talk about it, they all say, "Boy, we wish we were inspired to do that in the beginning." And I think immediately they start asking questions about how we're going to protect this as we move forward so we don't lose it. What we have here in this Federal Depository Library Program is unique. But I think it's unique because of how our Government is made and how the country was put together, and the genuine fear of the power of Federal Government 200 years ago and how in many ways that fear of 200 years ago is continued forward today.

Now, I think we all value what the Federal Government does. I was giving a speech in California the other day. In answer to a question, I said, "Well, you have to understand the Federal Government's very efficient." And I went on to give an example after example of how efficient it is. That's the good news. In general, we want to be informed about what our Government's doing, we want to voice what our Government's doing, and we do not want our Government to control us. And I'm not sure that same feeling is shared throughout the rest of the western world. Certainly not the way that we do. And so, you know, I think you're right in saying that their programs are completely different than our programs.

In terms of what have we brought back specifically, it's how they're approaching this whole area of the transition from print to digital. One of the things I saw was, almost every country has given up the idea of a centralized printing office, just as being too expensive. Well, we frankly learned that during the Second World War, and that's the reason we contract all of this printing out to the private sector. If we tried to do this in the Government's own plant, we'd have you all broke. So we really, in many ways, are in front of this trend.

But what no Government was willing to give up was the Government's control of its own official journals. And in our case the official journals can be defined as the Congressional Record and the Federal Register, and all of it goes into those products. I've changed some of our wording on this, which makes our position line up more with the rest of the world. I think that the GPO should be responsible for this, and I've been talking about this with Congress and others, and I think we're all in agreement: This is an inherently Governmental function that we just do not want to turn over to the private sector.

The other area that I was interested in seeing, and learned a great deal about, is the area of security and intelligent documents. And it's in essence documents that look like paper documents but contain electronics. And the first major example we did of that were the tickets for the Inauguration. For the first time in 60 years we changed the technology there, and there's lots of electronics in these tickets. The new passports -- you've probably been reading about these in the paper -- are loaded with electronics. We used to charge the states \$2 for each passport. It's now \$10. The difference is the electronics that are going into them. And there again, I think that we've come to the conclusion that, because of the importance of that area, that we want to keep that as an inherent Government project, too. And that's a good part of why you've heard me talk about the necessity to build a second plant in a different part of the world, so that we are producing in both locations. And I found every other Government feels the same way about it, too. So those are the kinds of big picture things I was particularly interested in understanding.

While I'm always interested in people thinking we ought to stand by ourselves, in fact, in this global world that we're moving into, no nation stands completely by itself. So I think you have to at least know what other people are doing, and that's one of the reasons we spend our time doing that.

QUESTION 14: MS. WEIBLE: Arlene Weible from University of North Texas. The GPO Access was talked about a little bit before, and how it will be a part of the content of the new digital system. I know that Congress had appropriated monies specifically for the upgrade of GPO Access databases to a more robust platform, hopefully a more user-friendly platform. So

I'm wondering about the time frame for the planning to improve access to the GPO Access databases, and for planning the new Digital Content System. Is the money that was appropriated for GPO Access being used to fund some of the initiatives with the Digital Content System?

RESPONSE: MS. RUSSELL: That money is being used specifically for improvements to the current GPO Access System, but we are making the decisions about those improvements in the context of, for instance, migrating the data, which we know we have to do. We have some data that's been up there since 1994, and it's tagged differently than data that went up in later years. We want to be sure that it will be ready to move seamlessly into the Future Digital System. And there's been a lot of discussion here about the fact that we didn't have a CIO, and now we do, so there's been a much more rigorous process about trying to determine what are the right investments as the intermediate steps to GPO Access so that those investments are, to the best of our ability, investments that then help us as we move forward and not just a one-time money that would cost us to have to redo something. So it's been a slower process to spend that than we envisioned when we first asked for the loan, but we have allocated some of it now in terms of additional storage and, again, as Mike mentioned, looking at one of the different kinds of storage technologies. We've been looking at how to migrate the data forward. We've been tying that to the AKAMAI disaster recovery issue, because there are some things that, in terms of refreshing the data, will give us greater functionality through AKAMAI. So it's all very integrated, but it's not that the money is being redirected, but rather that we're making a decision to the context of knowing where we're going.

QUESTION 15: MS. WEIBLE: So in terms of a time frame for when the user community will see a new interface to GPO Access, will it be within a year?

RESPONSE: MS. RUSSELL: We've been examining a number of different options, and there are a couple that could come into play relatively quickly, and there are some others that are longer term, and we haven't made a decision yet. It's really hard at this point to tell you a specific date, but as soon as we do have some decisions, we'll certainly be sharing that. We're still evaluating some technology.

QUESTION 16: MS. WEIBLE: I guess I'll put the plug in, the sooner the better. The databases are quickly deteriorating to the point that they are not used. And I think most of the Depository Libraries and people in this audience would back me up on that.

RESPONSE: MS. RUSSELL: And we're very much aware of that. Some of the solutions require more re-manipulation of the data than others, and therefore will take longer. So we're looking at all those things to try to make the right trade-offs.

QUESTION 17: MR. JACOBS: James Jacobs, University of California, San Diego. Government information is in the public domain, and I want to be reassured that it will continue to remain in the public domain.

RESPONSE: MR. JAMES: I have to discuss that with Congress. That's Congress's decision. You know, I think that they believe -- and this goes back, again, to the beginnings of our country, and goes back to 1813 when we decided that all Government information is the property of the

people, and we decided it can't be copyrighted, and it's for the use of everyone. It works to the advantage of all of our citizens to have that. As you know, Congress is looking right now at that whole field when it comes to the intellectual property being created under federal grants. Right now we seek private publishers to be the beneficiaries of a lot of that. I think Congress is looking at acquiring people that provide research under Government grants to make that information available to the public without charge. I think the direction of Congress is more openness and more availability of information. I don't see that changing. And, of course, GPO's an instrument of Congress, and we will do what Congress tells us to do in that regard. But I can't see that they're going to limit access to Government information. And I've never once heard any member of Congress even suggest such a thing. Again, I think they're always looking for ways of creating openness. Not closing these things. I don't think you need to have much concern in this regard.

QUESTION 18: MR. VEATCH: Jim Veatch from the Branigan Library in Las Cruces. As agencies are putting up documents on their Web sites, we're seeing lots of things that we think should have gone into the Depository Library Program that never did. And we're glad to see those are being picked up. But there are still lots of things being produced in regional offices, agency offices. I've got one in my briefcase from EPA Region 6 about things in Las Cruces. And we're not sure if these agencies are going to get the stuff to D.C. to be scanned, or if they're being required to have the scanning to be able to send to their agencies to be put on the agency's main Web sites. I don't quite understand how all this is being worked through.

RESPONSE: MR. JAMES: Well, we live in a confusing age, don't we? You raise, I think, a really good point. I've been asked that question by members of Congress: do we need a public law to direct agencies to do this? And I've also had serious discussions with OMB, the management of OMB, on the subject, and the good news is that when Mitch Daniels was there, he understood what I was talking about. Now that Josh Bolten is there, he understands what I'm talking about, and certainly Clay Johnson does. I think they're prepared to support us by issuing circular letters when we know exactly what we want to say in this regard. And I think we can get lots of support in direction for the agencies. But, you know, as I've traveled around the country and talked with folks at agencies, what they always point out to me is their mission isn't creating information. You know, they all have a mission to do something else, and documentation is oftentimes a second thought, and they don't remember or don't even think about some of their responsibilities.

Well, as I've told our people, we've got to do a better job. We, at GPO, have to do a better job at this. We have an opportunity to do a better job, because, remember, I have salespeople calling every single agency. And because they never, in the past, have worn a hat associated with the Depository Library Program, they never brought this up. But we're looking now how to retrain our 350, 400 people involved in that on how it is a part of their regular communication to agencies to reinforce their responsibilities under Title 44. And I think we need to show that first. I think that OMB will support us in what we've asked to do. Two years ago, Judy and I talked about the importance of developing our own capability, what we're calling today "harvesting," our own capability to go out and find those documents. Because I think that we can't just sit back and wring our hands. I think we have to be proactive, GPO has to be proactive, in finding those documents and bringing them into the system.

You know, we're also going to have to retrain GPO people that have been used to dealing with paper publications, and many of them are now, of course, used to dealing with electronic publications. But there's going to be a lot more stuff coming at us, and we're going to have to continue to look at how we determine whether or not it should be included in the FDLP catalog. So we're learning every day as we go along.

QUESTION 19: MS. MILLER: I have a follow-up question. Are you meeting on a regular basis with the Chief Information Officers in executive agencies?

RESPONSE: MR. JAMES: Yes. And, again, the GPO no longer hides in the legislative branch. In every function where there is an executive branch group, including Chief Administration Officers and Information Officers, we have our person participating. We deal with our IG. And, you know, our IG is very helpful to us in this regard in reminding people of their responsibilities under Title 44. So we're out there, and I've initiated this in the time I've been here, and it's working.

Now, we're bringing these groups into the GPO for meetings, and when they come in, then I'll get up and give a little talk about the whole business of the FDLP and what else we do. I mean, their eyes are open. They never understand this until we explain it to them. That's a good way of doing it.

Question 20: MS. MILLER: Well, I think Jim's example might well be one of those cases where, you know, a regional agency has run out to Kinko's and popped something in the copier, and stuck it in a spiral-bound thing, and it's never seen the light of day. EPA, of course, is notorious for this. So I'm glad you're meeting with them, because it needs to filter down, in particular to those agencies that have a lot of regional offices across the country.

RESPONSE: MR. JAMES: You know we've got a request for proposal out there that we're now evaluating. It's a program I don't believe you know. In essence, it is a request for a proposal on what we're calling convenience printing, and it's going to be an opportunity for projects under \$2,500 -- we think that's probably the number we'll wind up with -- of any agency being able to go to whoever that supplier might be, Company X, any place in the United States, and they have to have multiple locations. And the good part of this is, we pay the bill. The agencies can go there and just order it at will under certain guidelines. But in order for that vendor to get paid they have to purchase an electronic version of the product. Now this is, again, a direct attempt to to see more of these documents, and we have several programs running like this throughout the agency. Again, information dissemination is no longer only the responsibility of SuDocs. It's the responsibility of every one of the agencies. Every time we make a move, we're looking at incorporating all of the components of the GPO requirement. Not just one. And it's actually starting to work pretty well. I'm really proud of it. Not that we're perfect, and not that we can't do better, and not that we're not open to your ideas. I mean that sincerely.

Question 21: MS. PARTRIDGE: I'm Sharon Partridge with the Jefferson County Public Library in Colorado. In the lobby I picked up this nice flyer for "Cambridge's Update of the Historic Statistics of the United States." And it's going to be very impressive in our updating it from the 1970s, and I went and asked the census people why they weren't producing this, and they don't

have the money. The taxpayers paid to gather the information, census paid to put it up on their Web site, a private printer is taking that information and putting it into a marketable package. They're going to sell it in paper format and electronic format, and I see this as a real wave of what's to come.

RESPONSE: MR. JAMES: I'll tell you a cute little story. You'll get a kick out of this. You know, guys like me come to Washington, and we all have important positions in our hometowns and home states, which means that, in general, our spouses did, too. And we come to Washington and half of us work 12- and 14-hour days, six and seven days a week, and our spouses are really left there not knowing anybody and their whole system is disrupted. And Congress addressed that some time ago. The spouses of presidential appointees have been put together in their own little group. My wife's a part of that group, and she's enjoyed it very much, enjoyed the camaraderie and meeting new people, and having the opportunity to go to see things that she wouldn't otherwise. She asked me how I would feel about bringing that group to GPO, and it took me about two seconds to realize I might be able to get their husbands at GPO, but it might be more effective to have their spouses there. So I said, "You bet. We'll figure out what to do."

And one of the people sitting next to my wife was the wife of the Director of the U.S. Census Bureau, and she came up to me afterwards and said, "You know, you guys are doing things that the Census Bureau ought to be doing. I'm going to go home and shake my husband up on this." And, by golly, last week the four of us had dinner together, and we were talking about what else the Census Bureau could be doing with data. And what I've offered to do is send some of my really bright, young publishing people over to talk with them about other opportunities, and it doesn't necessarily have to be at the expense of the agency. You know, isn't that just the most interesting coincidence?

No question Census is interested in this. And there's no question I've got people that can help them get that done. We'll just see where that goes. But that's just an example of one agency. And we're trying to do this at all agencies. The days of having to respond to somebody's phone call saying, "5,000 copies of an eight-page brochure" are gone. And what I say to our people is, again, we've redeveloped our teams to where a team is assigned to the Department of Agriculture -- it might be four, five, six people -- and their job is to be knowledgeable about everything going on there, every project we have running, and to read the same publications as the people at the Department of Agriculture, understand what they're trying to get done. And then any time a new program is announced at the Department of Agriculture, they're in their meeting with that program manager, talk about what they're going to need in communications material to support their mission. It's actually starting to work; it's starting to pay off. We had some awfully skeptical people at GPO to begin with, but it's beginning to pay off. I think you'll see this really, really work. And the idea here is to really, truly help agencies to make better use of their information. And so we're re-educating our folks at GPO along these lines, too. We'll just see how it all works.

Good morning and welcome everyone, particularly Council members. Nice to see you here, nice to be with you again. This is the second anniversary of my first appearance in front of this group. I knew I didn't know much, but I have been surprised in the last two years to find out how little I really did know. It's been a terrific experience. I want to talk a little bit about the last two years and then move on to the future. Before I do, though, I want to make some comments about one of my colleagues and friends, Judy Russell.

You know, I've known Judy, I guess, for more than 15 years. I first met her in San Francisco -- I met her at dinner in San Francisco arranged by a mutual friend -- and I was struck by her at that meeting, a person who grew up in the world of libraries and who had educated herself in technology and was a technologist. But most interestingly, I was really captivated by her dedication to the principals of the Federal Depository Library System. I think she probably laid them out for me that evening. Probably the first time I'd ever heard about it. And when it came time for me to select a Superintendent of Documents, I went back to my old friend -- Judy and I had many occasions to be together over the years -- and I asked her to sketch out for me what it was she thought we needed to do with the Superintendent of Documents Program and the Federal Depository Library Program. And she gave me a sketch of the future that I thought sounded like it just might work, so I asked her to join me. And, Judy, I want to publicly thank you for two great years. This country has no more dedicated public servant than Judy Russell. And I say that because you don't see it, and sometimes I don't, but Judy works night and day. And when I say, "night and day," if I send her an e-mail at 11:00 at night, she responds to it at 11:05, and has traveled and clocked more miles than I have probably by double in the last two years, and has just been selfless in her devotion to helping guide us through this period of interesting times.

Well, when I came in two years ago, I told you that I had a program, and the program consisted of spending my first year really understanding what the facts were and trying to get a handle on where we were. Not just from a Federal Depository Library standpoint, but where GPO was from a printing standpoint, where we were from a technology standpoint. And I wanted to understand the arena that we were working in, I

wanted to get a better understanding of where the world was going in terms of the use of computers and dealing with information. And I clocked a lot of miles, visited a lot of libraries, met with a lot of librarians, met with our printers throughout the United States, met with the heads of many Government agencies, met with the printing procurement people, agencies, had an opportunity to visit with probably 500 of our employees. And out of it – with all the help I had in doing this we came to some conclusion. And perhaps the most important conclusion was that we were facing one of the most disruptive technologies that man has ever seen in the introduction of the Internet. And I want you to think about that word "disruptive." It disrupted everything. It disrupted all of the patterns that we had always taken for granted. It opened up new business. And my guess is that in 100 more years from now, when people look back at this time, that they truly will equate it Gutenberg's development of movable type and modern printing press. Because if you think about it, that was a disruptive technology, too. It took out of the hands of a limited number of people who were literate and who kept the record, and all of a sudden it moved into the masses and created the greatest growth in literacy throughout Europe this world has ever seen. And it led to a change in the form of Government, because as people became knowledgeable about their governments and about the work of their governments, they decided they needed new systems, and those systems became the forerunner of this country.

And so I think it is no surprise that when our forefathers came together to form this nation that they believed sincerely in their hearts that the success of the enterprise depended upon an informed citizenry. And so they made provisions, and those of us in this room, both from the library side and the Government side, are the standard-bearers today, the partners in carrying out what our forefathers believed was so important to the preservation of our democracy. And I know that several of you in this room were at my swearing-in ceremony when Anthony Kennedy charged me with the protection of the democracy, not making our printing presses run faster. And it just took my breath away. And I understand the responsibility associated with this; and believe me, it is the most important part of my job at the GPO.

So after one year of coming to an understanding of this disruptive technology, we then had to do what I told you we would do, and that is put together a scheme, a strategic scheme, of how we would deal with it. I don't know how many meetings I was in in the second year I was on the job -- 100, 200 meetings, probably more -- with people that talked strategic direction based on this revolutionary change in technology. And out of it you have the strategic document that we issued in December of last year. And what I told our people when I issued this document was, this is not the operating plan. This is the music, not the words. And I want everybody to understand where we're going as an organization, and then for everyone to look at how this affects their part of the enterprise, and that goes for you, too. And to truly, truly understand how these parts fit together, and then to figure out how to put the words to the music.

And I will tell you as I stand here in front of you today, that the GPO does not have all the answers. We continue to listen; we continue to learn every day. We're committed to a direction, and we're committed to a direction not so much for today, but for tomorrow. I think it's very important that we all understand that. It isn't today that we're making these moves for; it's tomorrow. And it's the impact that computers will continue to make on information.

Now, I have, as you know, been out and visited with my colleagues throughout Government. I have spent a considerable amount of time with Dr. Billington, and with John Carlin the archivist; prior to the time the new archivist was sworn in. I also visited with him. My wife and I took him and his wife out to dinner, and we began to form a relationship because I think this relationship is important.

Another early relationship I formed was with Dr. Lindberg, who is, as you know, head of the National Library of Medicine. It is one of the nation's true treasures and great resources. And Congress in its wisdom commits about \$330 million a year to the National Medical Library. And, of course, this is the underpinning of the practice of medicine, not just in this country, but, frankly, throughout the world. They have just completed an enormous undertaking. They've moved almost everything into an electronic format, and it's retrievable through the Internet. And they, just last week, began the process of developing their next tenure plan.

I was delighted when Dr. Lindberg asked me to join the group in planning the future of the National Library of Medicine. We did this in Washington. There were 25 of the most prominent physicians in the country together with about 15 people representing various parts of the information industry. And while I thought I understood what I was going to hear going into it, I was actually, frankly, amazed at some of the things that I did hear. For instance, one of the directors of one of the largest schools of medicine in the country declared that 80 percent of the curriculum taught in medical schools is now obsolete. And they talked about how within five years there will be 1,000 times more information made available through the National Library of Medicine than is made available today. They talked about the fact that they're going to be moving healthcare down to the individual consumer level, that the greatest impact in the next ten years will be our receipt of this information to understand more about ourselves and to take more responsibility for our own health. It was pretty dramatic to hear this.

And when you think about all of that additional information, you think about, how on earth could they possibly manage it? How could they deliver it? And, of course, many of those questions came up. We heard from technologists and their views of what was going to happen. The preceding week I was in San Diego to do a number of different things, including delivering speeches to the printing industry I visited the National Arts – the Supercomputer Center in San Diego, met with the librarian there at University of California in San Diego, and I also attended a meeting of trustees of America's colleges and universities. Jack Valenti was one of the speakers.

I thought it was kind of amusing because Jack has been known to represent the movie industry forever, and he was there talking about the downloading of music and how trustees, by golly, better stop this. And I thought, you know, all listened, sort of amazed at all of this, as he charged us to move forward with getting the administration to understand that stealing music was not a good thing to be teaching kids -- Afterwards I visited with Jack for a few minutes, and I said, "Jack, why are you interested in music? I thought you were in the movie business." He said, "Bruce, last week I was in my office in Washington and a colleague from Spain sent me a two-hour, ten-minute movie over Internet2 in four seconds." He went on to say that Internet2, as we

all know, runs about 20,000 times the speed of today's Internet. But what he told me that really surprised me was that, within a year and a half, or two years, the Internet2 will be the new standard in homes in America. Now, that's pretty staggering, because it opens up a pipeline unlike we've ever seen before, and we can deliver a lot more information down these pipelines.

And so you could begin to see that, as information multiplies greatly -- and I don't think medicine's going to be the only field where information multiplies greatly -- you can begin to see that it will be impossible to deal with all of this information on paper. So we're going to have to develop the tools to make all of this information accessible to us in our personal lives, business lives, and our professional lives. And I think that's what we're about here, and it's certainly the charge I gave Mike Wash when I brought him into the Government Printing Office. I told Mike, "The next generation system -- what we're calling the Future Digital System -- had to be prepared to handle video and voice, as well as text". And you all have heard me talk about that in the past. Because I think we're facing, ladies and gentlemen, a revolution in the way information is created, the way it's processed, and the way it's delivered.

I think in my lifetime, your lifetime, our children's lifetime, and our grandchildren's lifetime, there will still be print, and there will still be a necessity to have some Government documents in print form. I can't imagine trying to use the statistical abstract of the United States only on computer. You know, I think there are dozens of publications that we're going to want to keep in print for the foreseeable future. And what I've said is, I think it is important that we, who together protect this, come to an agreement on what those titles are. What do we not want to lose? What are we not ready to lose at this point from the print inventory? And we just take those off the table because they're going to be there, and we can discuss other things other than those.

Now, I know we've had this 50 Essentials Titles list for some time. And at the very beginning, when I looked at that with Judy, I said, "Well, what's magic about 50?" And she said, "Nothing, to my knowledge. I mean, I think this is just what it added up to the last time we did this." And I said, "Well, let's not confuse 50 with Essential Titles." And I think that's important to understand; I do not want to confuse the two together. I

want to make an agreement on what we consider today, in 2005, to be the essential titles we want to keep in print.

I also had a meeting with Judy and with the directors of some of the largest private university libraries in the country -- a group of about 20 people altogether -- and to listen to what they had to say. This was part of the fact-finding that we went through, to listen to what they had to say, and basically, you know, obtain their vision of the future since so much of this will be electronic. We discussed the fact that we think it's probably important the Government go backwards, and recapture all the documents we've previously issued and put them into electronic form so that we have a fully functional electronic database. We talked about the importance of these print products. And what I said to them and what I say to you is this: That I think, at some point in the future, you may elect to stop using some of the print documents in your library. But I'd much prefer you to make that decision on the Essential Titles than have the Government make that decision. And so we want to create that flexibility as we move forward. Again, I think that we've got to keep our eye on the ball here, and that we're not working for the folks today. We're working for the folks tomorrow to make sure that, together; we have prepared ourselves to be able to answer the needs that the users of libraries tomorrow and the users of Government information tomorrow will feel that we did our job today in preparing for the future. That's what we're trying to do.

Now, I realize a lot of the conversations that we talk about at this meeting, and other meetings we do, is conversation about the development of the Future Digital System. It is extremely important that we develop this Future Digital System. And, as you know, one of the first moves I made when I came into the GPO was to set up an Office of Innovation and Technology, which I talked about two years ago, and I gave you my vision for it.

My vision was that it would be composed of people within the GPO, and people from outside the GPO, who had specialized technical knowledge that we needed at this time. And I envisioned having co-directors of that office. Again, a person from inside GPO and a technologist from outside. And, as you know, I selected Scott Stovall early in the game, a long-time 15-year GPO employee in his late 30s, and one of the true technologists that GPO has, and he did a marvelous job of getting that going. And I

charged him with getting out of the office and getting out and understanding what universities were doing with technology, what other Government agencies were doing with technology, and what was in the laboratories of big companies -- big technology companies in the country, and to also take a look at some of the smaller companies and understand what some of the amazing technology that was coming along our way. Scott put together a team of people, and they proceeded to do that.

Thank goodness I was on a number of visits -- you were, too, Judy -- as were all of our executives -- I think usually in groups of about eight or ten -- and we educated ourselves. And meanwhile, I was looking, and I looked for -- more than six months, almost nine months -- I looked for exactly the right person to come in from the outside. And it's -- you know, not just a matter of having somebody that has the brain power, but who also has the experience of building a large-scale digital system. Someone who would fit into the culture of GPO, and into the culture of our clients and of the libraries. And so we spent a long time looking for the right person, and I am particularly grateful that Mike Wash accepted this position. Mike was in a perfect position to do this. He's had a great and glorious career, and I think you've heard me say before that amongst the many accolades he's had, he was named U.S. Inventor of the Year in 1996. He holds patents himself; he's a technologist. And I don't hold it against him: He wasn't able to go to RIT for his undergraduate work. He went to Purdue, he's a Purdue engineer, and he has had the opportunity to build large-scale systems. He walked into the Government Printing Office not having answers -- but developing a methodology of going forward to find the answers and to develop the technology and the right way of doing things.

Early on we discussed the fact that we had to decouple the information from the delivery systems, and I think that's just absolutely fundamental. How we do that, how we go about doing that, I think we are still discovering-- -- we are still finding information as we go along. Now, we're pretty far down the road here. Much farther down the road that you might imagine, because we're going forward with a much disciplined process. And I asked Mike to join Judy and me this morning, to walk you through where we are at this point, and I think it's probably going to form the basis certainly for a good dialogue with Council.

And once again I say to you that while some decisions have been made – obviously we had to make some decisions -- there are still a lot of decisions to be made just around the road. I will tell you that there is still some fuzziness out there. I wish I could tell you we can see clearly 20 years down the road; we can't. We are going to have to make some assumptions. We want to make sure those assumptions are supported by you and by others and the Government as we move down the road. Before I turn this over to Mike, I'm just going to talk a little bit about this badge I'm wearing.

I think most of you have been at the GPO and you know there's a pretty serious group of people there; they take their work very, very seriously. And, you know, I take my work seriously, too. Maybe too seriously some days. Of course, we're well on our way into PKI. I think with authentication, we now have a pretty clear picture how we're going to get that done. It's very important to press forward. We've been discussing the watermark to go onto the page. And they come up with designs and shown them to me, and I've said, "Well, that looks like something that was created yesterday. You know, this has to go back; this has to reflect what would have been done 200 years ago, and it has to reflect what will be done 200 years from now. This can't be some tricky glossy logo. This has to be really solid. This has to be the Government. This has to be forever." And I'd keep sending their designs back, until finally they got it right. On April Fools' Day they presented me this badge with my picture on it with the words under it, "Trust me." So with that, I'd like to introduce the Chief Technical Officer (CTO) and the Co-Director of the Office of Innovation and New Technology of the Government Printing Office, Mike Wash.

Good morning, everyone. Back in October I gave you a preview of where we were with the Future Digital System. At that point we were completing what we called the Concept of Operations, which was a high-level document that was really very conceptual that talked about what it is we really needed to do. It didn't describe in specifics how we were going to accomplish it, or even the detailed specifications for the system. And as Bruce said, we're going through a very methodical process in developing this system. And where we are right now is what I'm about to help you all understand. We've really completed -- nearly completed the next phase of this project which has allowed us to put much more specificity in the expectations for this system.

Back in October I think I described that the process we're working through is one where we created a cross-functional team at the Government Printing Office. Those that had very close contact with Congress and our agency customers that provide content to the GPO, as well as those that were a part of the Information Dissemination Operation that are responsible for disseminating information out. In addition, we had folks from our IT staff, so that they could look at the foundational work that would have to be done to support a new system. And this small cross functional team helped create the Concept of Operations in a very outward-focused fashion of what it is the system needed to do. And that team was comprised of about ten people with interactions as needed with other folks within the Government Printing Office and outside.

As we moved into the next phase, what we call the Requirements Phase, that circle grew to almost 80 people. And it wasn't 80 people full-time, but the lives that we were touching on an almost daily basis, grew from 10 to about 80, where there were much more people involved within GPO and development of requirements. So now what was a small focus group has grown to a much larger group, where many, many people at GPO are working on this system and helping us understand what the needs are.

This is a slide that I showed at the introduction back in October. It really is the basis of what this system needs to do. It needs to be a world-class system for managing the information. We view it as one that needs to be rules-based, policy-neutral, and very modular-adaptable and flexible. As Bruce indicated, we need to be developing the solution for the future, and we don't know exactly what the future holds. We have expectations. We know that it's going to be much more information, much more content involved in what it is we're going to have to manage, but we don't have all the answers. So if we designed a solution that was perfect for today, in another couple of years it will be obsolete. We need to make sure that the system that we develop for the Government Printing Office will not be obsolete in the time frame that we're developing it. So it needs to be flexible, extensible, and modular.

So from the last review in October, we introduced the Concept of Operations, and that Concept of Operations has been posted up on our Web site since the meeting back in October. It's a comprehensive document of 100-plus pages that details the basic functionality of the system. And then there's also the presentation from last October that's up on our Web site.

Also in October I briefly mentioned the methodology that we're working through, and that's one of phases and gates. And I can now reflect back on where we are and where we've been and where we're going relative to the phases and gates. We're implementing a phases and gates approach to keep us on track. Many times, in very complex systems or even in very simple systems, there's a tendency to select a solution before you've really defined that the needs are, and when that happens, you typically have a problem. Many times you can guess right. But if you don't do a good job with defining what it is you need and what those systems need to do, it makes it very difficult to pick a solution. So if you pick the solution and then define the needs, typically you find that you have a less than optimum system. So a phases and gates approach really keeps us on track of making sure that we define the concept, define the requirements, develop a plan, design the system, and demonstrate that it works and meets those needs.

So this chart now shows basically what the six primary phases are that we are working through. The first phase is the vision, and that was something that Bruce developed early on with the senior team at the GPO when he first came to the Government Printing Office. What is it about this system that really needs to be done? It was really a vision document. The second phase is one of developing a high-level concept, or what we call the Concept of Operations, and that's what we reviewed back in October.

The third phase is Preliminary Requirements. Preliminary Requirements are those that get to that next level of specificity: Just what is it that this system needs to do so that we can start to go through concept selection and implementation planning to deliver that functionality in a system.

Phase 4 is that implementation planning activity, where a detailed plan of how we would roll out a system with evolutionary phases of functionality. That's where that is developed.

And Phase 5 is actual design implementation and beta testing to make sure that the system meets the requirements that are developed.

And then, finally, Phase 6 is roll-out, so that the capability is turned on in a very robust fashion.

Now, beyond this, as we get further down the road, we will actually talk about a few more phases within the system, and those are phases that are typically in the sustainment roll. Once you have a system in place, how do you maintain that system so that it stays functional and continues to meet the needs? And in a digital system as complex as this, or as digital systems are today, you have to continuously look at what the market requirements are to best meet the needs of the market that you're trying to serve. And that sustainment phase is very critical to holdback and continue to learn about what the next phases have to be, so you can again go through the delivery of those functionalities rather than being caught without a solution when the need is in place.

We were in the Requirements Phase, and what I'd like to do is help you understand just what a requirement is. Also, I mentioned in October what we're using is a very disciplined process developed by the IEEE, which has been developed specifically for developing very complex software and information systems. The definitions that I talk about here come out of the IEEE definition for requirements. A "requirement" is a structured collection of information that embodies the requirements of the complex system. The requirement serves to reflect back on what the customers need. So, in this case, our customers of agencies and Congress, what their needs are, as well as the information dissemination community, what their needs and expectations are. A requirement needs to reflect back on that customer's need. But it also serves -- and this is very critical -- it also serves to communicate to the development community. So this document that we've been working on of developing our requirements is a very pivotal document. It reflects back what the needs are and to the customers and end-users, and it reflects forward to the development community that will ultimately create the capability that it put in place.

The preliminary requirements have been developed under our Phase 3, this circle of nearly 80 employees now of GPO that have been participating in a cross-functional way in developing these requirements. These requirements are going to serve to benchmark the system. And what that means is that a requirement needs to be one where there's something measurable about it. A requirement, since it reflects back to the customer and user needs, and reflects forward to the development community, needs to be tested. So once you have developed the functionality to deliver a capability, it needs to be a test. So the benchmark is really important. These requirements will help us serve to test to make sure we're doing what it is we intend to do.

And the requirements are typically updated. This phase is specifically called a Preliminary Requirement, because it reflects very heavily on what's needed. And in many cases we know -- as Bruce indicated -- we don't have all the answers. So we need to be flexible even in our design methodology for this system to be able to react to changes in needs, changes in technology. So as we move through the remaining phases of this initial deployment, there will likely be changes to the requirements that need to be incorporated. So, again, we have to be flexible in understanding how to develop the system to meet the needs at the time that it's deployed.

So where are we? Through the efforts in developing the requirements, we've identified over a thousand specific requirements for the system. And they're now line-itemed out based on a structure. In the information you'll be able to pick up at the break, you'll see how it's structured. It's structured based off of functionality that we've developed for the system based on a functional reference model, and each of those functions have specific requirements at a line-item level, and there's over a thousand of them.

The final documentation going into an IEEE format is being developed now. A list of requirements is a great starting point, but getting the rest of the documentation to support those requirements is a task that takes a couple of weeks to get in place. We're in the process of finishing that right now.

So if you look back to our phases and gates chart, where we are is just right at the end of Phase 3, so that we will be at a point, shortly, to publish our requirements document with the context of what the requirements are, why they were developed as they were, what is a good requirement and the purpose of that, and then about a thousand or 1,100 specific line items that tells specifically what the expectations of functionality of the system will be.

This is a reference model that I showed in October. And a reference model is particularly, for engineers like me, a simple way of looking at a very complex system. You need to continue to bring it to a point where you can understand it and then deep-dive into areas to get further detail. So our basic functional reference model back in October consisted of content ingest activity to the left, where we talk about converted content, so the scanned or digitized tangibles that are in the population today, harvested content, and we introduced a term called the positive content. So more in digital-going-forward information that will come to GPO.

The center section there is the Content Management piece, which is the complexity of this system, the version control, preservation authentication and access. And then on the right is the delivery piece: Hard copy, electronic presentation, et cetera. Bruce mentioned in his comments earlier that, early on in this activity, we really develop the need to be able to focus on the content and make sure that we will be able to serve out digital delivery in whatever form required. And it's really embodied in this simple functional reference model.

The model has changed slightly. It now has four elements. And actually those four elements were in the first reference model, but we, through our development of the requirements, realized that that piece along the bottom of Systems Administration and Infrastructure is critical and really deserves its own box. So the top elements are very similar: Submission, content processing, and dissemination. We're using words that are more common in the industry. The system administration and infrastructure level really point to the activities associated with managing a very complex digital system, as well as putting focus or shining the light on the infrastructure needs that we're going to have to have in place to support this.

And then the elements associated with each of those. And actually these sub-elements that are coming along in each of these major boxes actually start to form the Table of Contents or the structured form of our requirements. So in the material you will get at the end of the -- at the break here, you'll see essentially the Table of Contents for our requirements document that will highlight each of these areas that are on this slide. And there is probably about 10 to 20 detailed requirements under each one of these items.

Content processing is where, you know, access, authentication, version control, et cetera, takes place. Then dissemination again is the hard copy, electronic presentation, et cetera.

And then Systems Administration is where we talk about our storage needs. We talk about work flow. And work flow in a digital system is really the glue that holds a lot of things together. It's the process for describing how a job or a process of work would be managed throughout the system, all the way from the submission of information, the processing of information, and eventually the access and retrieval and delivery of that content or information. Work flow is the element that pulls it all together. And we also have sections devoted to security. There's a privacy section in there as well.

So as we now start to look at Phase 4, and we're in the Phase 4 planning stage right now, it becomes a very, very critical phase. Just like the requirements document is what I view as a pivotal document, because it reflects back on the needs and reflects forward on how to develop it, or at least to the developers to figure out how to develop it. Phase 4 is where we do the detailed planning of, how long is it going to take to do these things? How are we going to orchestrate the delivery of this functionality in a complex system at the same time that we continue to maintain operations at GPO? Reflect back on the comment about infrastructure. We have infrastructure today at GPO that needs to continue to produce work at GPO and maintain processes at GPO. As we build the new system, those processes need to be supported as the new system comes in. It's like replumbing your house without moving out. You're pulling out the old plumbing and putting in new plumbing, and typically you still need your plumbing. Although I've lived in houses -- well, that's another story. But Congress expects us to keep the plumbing live and functioning as well as the users of the information at GPO. So the plumbing has to stay functioning and working as we bring in the new plumbing to be able to maintain the system. So extremely close collaboration between this implementation planning phase and the Information Technology Organization with the CIO at the Governmentmain office: We talk daily.

The key deliverables of Phase 4, I'll just kind of go through these. And each of these are very complex tasks that we need to start to work on now -- or, actually, have already started working on. The first is the detailed implementation plan. Imagine 1,100 requirements, each of which having some sort of development and implementation plan of its own. Put all of those together and talk about the interdependences of those functions to be able to get delivered, and remember that we can't disrupt operations at GPO. It's not a trivial task. It will take us a couple of days to get this one figured out.

Design Specifications. We went through the requirements line by line and then developed a checklist of which of those require a detailed specification. And a detailed specification typically is another document that supports our requirement to allow a practitioner in the industry to be able to deliver the specific functionality directly to the spec. So there's specifications that will have to be written for those requirements in many cases as well.

Concept Selection. This is another one that gets very, very interesting. When you have a specification for what you want and you have it well understood and an understanding of how you can now get this delivered, typically there's more than one way to deliver that. So a concept selection process is where you identify all the possible ways of doing it,

develop the attributes that you will use to evaluate that concept, and then go through the process of selecting how you're going to actually deliver that functionality. And, again, as Bruce said, we don't have all the answers, and we certainly have not selected all the concepts that we're going to use. In many cases there are multiple concepts to choose from, which is the good news. In some cases there are concepts that still have to be developed so that we can actually work to select those. But this process of specification and then concept selection is one to help us work to make the best choices possible.

Updated Project Plan. You know, every phase and every gate, there's an update. So where are we? Where are we relative to where we need to be? What are the detailed plans? And an updated project plan is really an update of this type of level of where we expect different phases to start to occur.

Project Cost is another one. We monitor that and try to understand and estimate what we think it's going to cost for us to develop aspects of this system.

And then Design Validation Testing, D.V.T. Another acronym for everyone. We've got to have those three-letter acronyms. But D.V.T. is a system design activity, or even a product design activity is a test plan, that allows you to evaluate the requirements and see if you've met them. Remember back to the discussion of, what is a good requirement? A good requirement will actually specify what it is you want to be able to deliver. The D.V.T., or Design Validation Test, is the test to prove that you, indeed, delivered that. So key deliverable out of the Phase 5 are the D.V.T. results. A deliverable out of Phase 4 is, how do you really plan to do that test? What that does is force you to focus on what that specification and what the requirement is, because if you can't write a test plan, you probably don't have it specified right. So it's a very critical phase.

And then another thing that we do on every phase and at every project level within GPO on this system is, we constantly monitor our risks and mitigation plan. Every system needs to have a list of risks. If it was risk-free, it wouldn't be terribly interesting. But we all have risks, and those risks could either be: Can we get this done in time? Will it meet the functionality? Do we have the resources to do it? There's multiple candidates for risk. But risks are managed on a list with mitigation plans, which always gives you option B, and those are key ways to keep us focused and driving to close those issues so that we can stay on track. So risk management is a key part of the entire program.

Phase 5 and Phase 6, real quickly. The bullets here describe the key deliverables that come out of Phase 5 and Phase 6. I covered some of those as we were going through them before. Phase 5 is really where you design and then validate the design works. Phase 6 is where you do a beta test and demonstrate that you can robustly put that functionality in the system and deliver that so that it can actually work as the system needs to work.

So in summary, hopefully I gave you a snapshot of where we are, where we've been in the past six months in developing the requirements. Again, our system needs to be a robust, world-class information content management system. We are now in the process

of transitioning into Phase 4, Implementation Planning. What you will be able to see soon is the published document of those detailed line-by-line requirements, but what we have for you to today is a rundown of this presentation of where we are as well as the high-level Table of Contents associated with what the elements and requirements are when you see the entire document.

Thank you.