HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Government Operations and Estimates

EVIDENCE

Monday, February 13, 2012

Chair

Mr. Pat Martin

Standing Committee on Government Operations and Estimates

Monday, February 13, 2012

● (1530)

[*English*]

The Chair (Mr. Pat Martin (Winnipeg Centre, NDP)): Ladies and gentlemen, we will call the meeting to order. This is the 26th meeting of the Standing Committee on Government Operations and Estimates. Just before we move to the orders of the day, I'd like to recognize the Liberal vice-chair, the Honourable John McCallum.

Hon. John McCallum (Markham—Unionville, Lib.): Thank you, Mr. Chair.

I'd like to introduce a notice of motion today for discussion at the next meeting, which states:

> That the Standing Committee on Government Operations and Estimates conduct a study into allegations by the Defence Employees Union regarding contracting practices at Defence Construction Canada, and that the Committee report its findings to the House.

The Chair: Very good.

Thank you, Mr. McCallum. The notice is served.

Therefore, we will move to our orders of the day. As part of our study on Shared Services Canada, we'd like to welcome the authors of the PricewaterhouseCoopers report that was, in fact, the genesis of the Shared Services Canada initiative. We welcome Mr. Ivan Milam, the director of PricewaterhouseCoopers, and Mr. John Chang, a partner.

Welcome to both of you, gentlemen. Thank you for being here. It's customary to give opening remarks, if you choose to do so, for five or 10 minutes, and then we will go to five-minute rounds of questioning about your landmark report.

Mr. John Chang (Partner, PricewaterhouseCoopers): Thank you very much, Mr. Chairman.

Thank you for having us. We're pleased to be here to answer any questions this committee may have.

By way of background for this report, the origin of this study was a Treasury Board Secretariat request to PWGSC to study the future of data centre services delivery within PWGSC, with an eye to extending the result of the study to the whole of government.

In January 2010 PwC was engaged by PWGSC and the Treasury Board to study the future of data centre service delivery. The scope of data centre services to be studied included facilities, servers, storage, and mainframes, but did not include networks or applications. The original scope of the study focused on PwC and included development of data centre requirements, future state delivery options, and options analysis, including case studies and recommendations for options and road map.

The scope of the study changed four months into the engagement and included all of government.

The study was undertaken in a very consultative manner and had inputs and participation from across departmental committees, from directors general of these departments, and from the CIOs of these departments. The study itself also had robust oversight. The cross-departmental committee of CIOs, which met monthly, provided project governance, and we also had two external expert advisers who reviewed all of our deliverables and provided reports directly to the crown.

That's the end of my opening remarks.

The Chair: Thank you, Mr. Chang.

We will go, then, to our first round of questioning.

On behalf of the NDP, the official opposition, we have Alexandre Boulerice.

You have five minutes, Alexandre.

● (1535)

[*Translation*]

Mr. Alexandre Boulerice (Rosemont—La Petite-Patrie, NDP): Good afternoon, gentlemen. Thank you for being here today. We're pleased that you could join us for our study on Shared Services Canada.

My first question is simple. How much did your study cost the government?

[*English*]

Mr. John Chang: Our fees to the government were just in excess of $2 million.

The Chair: I'm sorry, Mr. Chang. Could you say that again?

Mr. John Chang: Sure. PwC fees for this consulting engagement were in excess of $2 million.

The Chair: I see. Thank you.

[*Translation*]

Mr. Alexandre Boulerice: If the savings created by centralizing data and services were $45 million, that would mean that your study would have cost 5% of future savings. I think that's huge.

As for potential future savings, you estimated that the cost reductions would be between 6% and 36% of the amounts currently committed, or $45 million to $293 million, which is a fairly large margin. Why be so cautious? Why such a margin? Is it because it's difficult for you to really see how much we'll save?

[*English*]

Mr. John Chang: There are two parts to our report that contribute to forecasted savings.

First is transformation. Within our report, transformation refers to consolidation and rationalization of data centre facilities and to server rationalization, consolidation, and virtualization, as well as virtualization and rationalization of both mainframe and storage towers, as we call them. That's one area of savings potential.

The other is transitional savings, or a transition to what we call alternate service delivery, either to a shared services centralized internal delivery organization or to a private sector third party provider.

In both of those cases, we did a bottom-up analysis to determine what the potential savings may be. Within the transformational area, for example, the server consolidation benefits were estimated based on different assumptions we took on the current capacity of those servers for consolidation.

For example, if you had servers running at 20% in one department, and for a very similar application in another department it's 30%, and you put it into the same hardware platform or server, you can see that there are savings there. That's on one end of the spectrum of savings. If we took a range of consolidation savings of, say, 50% or 60%, the range was used because we did not have the opportunity to actually do very detailed data gathering or look at capacity utilization of servers, for example. That's why the utilization of the range was used.

In the transitional state, we determined benchmarking prices for external private sector prices for these services, which had a range—as you know, there's not an absolute out there for that—as well as looking at best-practice internal current service delivery. For example, the mainframe area within the Government of Canada is very well managed, in our opinion, and its price points are very, very attractive, so we use that number as one of the benchmarks to see what the benefits would be if we moved to that kind of delivery model.

In both of those cases, we were able to put a range both on a transformation and on a transition, which resulted in these kinds of conservative and optimistic forecasts.

[*Translation*]

Mr. Alexandre Boulerice: I'll be cautious in this case. I understand the challenges you were facing. Perhaps you didn't have all the data required. I know, however, that when I was in elementary school, my teacher wouldn't have been too happy if my answer was 293 million, but maybe 250 million less. That's quite the range.

You also said in your report that the private sector should be involved in Shared Services Canada at a rate of 54%. That's quite a big role for the private sector. How do you justify that?

[*English*]

Mr. John Chang: Again, our analysis had two aspects. There's a transformational part and a transitional part. In both cases, we believe that it's best practice to leverage the best expertise wherever it may be, whether in the private sector or in the public sector, to undertake those two transformational or transitional journeys.

With respect to the 54%, we actually looked at what we call towers or service bundles, and that's well documented in our report. They include things like mainframe operations or server operations, common infrastructure server operations, data centre facilities, and so forth. When we did the analysis of those requirements against the private sector capabilities, we found that the areas that the private sector can deliver well are being commoditized as a utility in the marketplace. When we did that analysis, we came to this 54% as being the amount of effort or the amount of work being done in this space that can be done by the private sector in the most efficient manner.

● (1540)

The Chair: Alexandre, that concludes your time. Perhaps you can return to that area in future questioning.

For the Conservatives, we have Bernard Trottier.

You have five minutes, Bernard.

Mr. Bernard Trottier (Etobicoke—Lakeshore, CPC): Thank you, Mr. Chair.

Thank you, guests, for coming in today.

I want to talk further about the data centre consolidation. Would you describe data centre consolidation as the low-hanging fruit in this overall systems transformation and IT transformation that the Government of Canada is undertaking?

Mr. John Chang: Absolutely. It is an area that is quite federated, if I can put it that way. As we documented, we have over 300 data centres and well over a thousand of what we call "points of presence", where servers that are delivering services or running applications for the Government of Canada are located. It is a logical conclusion to look at it. That kind of environment is very difficult and costly to manage and is easily identifiable to be consolidated from a facilities perspective.

Mr. Bernard Trottier: If it is fairly low-hanging fruit and fairly easy to get at, why wasn't it done sooner? What kind of organizational inertia would have prevented the government from doing it years ago?

Mr. John Chang: I think part of the reason, obviously, is in the structure itself, from what we observe.

One of the things I would also point out, though, is that when we talk about data centre services, facilities make up only about 6% of the total spent. Visually and intuitively it sounds like a big opportunity, but compared to the actual dollars that are being spent within data centre services, it's a relatively small expense. There's a trade-off there, for sure.

Mr. Bernard Trottier: What does data centre consolidation enable in terms of further savings in terms of applications, disaster recovery, data backup, and those kinds of things? Can you describe some of the follow-on benefits that happen once you consolidate data centres?

Mr. John Chang: Sure. When you're looking at data centre consolidation, it should not be looked at by itself. IT is a very integrated function, which includes, as you just mentioned, infrastructure services like servers, mainframe, storage, and all of that, as well as applications that run on it. If data centre consolidation is done properly, it will have a transformational impact on other areas. To get the full benefit of data centre consolidation, you must look at what's inside the data centre and you must look at what's inside those servers, which includes hardware, software, and applications.

Mr. Bernard Trottier: Would data centre consolidation be a necessary precondition for email consolidation or for standardizing certain applications that might be on different platforms, for example?

Mr. John Chang: From a program perspective, given that it is transformational in nature, you want to undertake initiatives in one area to fuel the success of the next stage, for sure. From a technical point of view, it's not necessarily that one is dependent on the other. You can in fact do an email consolidation that is independent of the floor space itself. From an overall program point of view, it's probably wise to look at this as a series of gates, as we described in our report, and make sure you're succeeding in one in order to fuel the next stage of the evolution. That means doing the data centre as one of the consolidation opportunities—as you call it, low-hanging fruit—which will then lead to the confidence and maturity for the Government of Canada to actually take on the next gate, as it were, which would be server consolidation, mainframe and storage consolidation, and ultimately—which is the real prize—potentially, application consolidation.

Mr. Bernard Trottier: Thank you.

How much time do I have, Mr. Chairman?

The Chair: You have ninety seconds, Bernard.

Mr. Bernard Trottier: I just want to talk briefly about what you're recommending in your study. You talked about a moderate outsourcing model. Could you describe the advantages of doing some level of outsourcing compared to doing this transformation entirely in-house?

Mr. John Chang: Sure. That's an excellent question.

Our analysis, as you saw from our report, took into consideration three factors. One was strategic fit to requirement: what is the requirement of the Government of Canada? That is well documented. As well, what are the risks to implementing this and to sustaining the future state, as well as the costs and benefits of doing it? We took all three of those into consideration when analyzing the different service delivery options, which included status quo, complete outsourcing, or doing it all in-house—moving it all into complete shared services—as well as a couple of options that are combinations of internal service delivery and external service delivery or private sector delivery.

The reasons we landed on what we call the centralized moderate scenario, and why we think that's better than a complete internal service delivery or complete external service delivery, are twofold. One is that there are many aspects of infrastructure delivery in the Government of Canada today that are best in class. We believe some functions are being run very well. An example—and it's a point-in-time analysis, but in the mainframe area—is that the Government of Canada is ranked very well against our benchmark data, so we believe this kind of function should remain in-house but should potentially be centralized, because if one department is doing that well, the actual knowledge and expertise should be spread to other departments that are potentially smaller and can reap the benefits of it.

Conversely, there are many functions the private sector does well, which are, as I mentioned earlier, functions that are being commoditized in the marketplace today. Doing so is becoming almost a utility. As a result, we think that blending of best-in-class internal capability with private sector external capabilities in a moderate fashion is a very sanguine approach to this process.

The other thing is that from a risk perspective, moving to a complete in-source or complete outsource scenario presents the highest risk to transition. I think a moderate approach—i.e., a blended approach—has a lower risk for implementation.

● (1545)

The Chair: Thank you, Bernard.

For the NDP, we have Denis Blanchette.

You have five minutes.

[*Translation*]

Mr. Denis Blanchette (Louis-Hébert, NDP): Thank you, Mr. Chair.

I'd also like to thank our witnesses.

I have a lot of questions to ask, but I probably won't ask all of them.

The report cost a little over $2.5 million. That's the amount that circulated. We have a lot of things to discuss if we consider that the future of government service delivery will be significant modified.

One of the things you spoke about was transformation. Did you consult the Government of Canada's Chief Information Officer about transformation? His mandate sets out that he must review that type of thing. Did you consult the Chief Information Officer?

[*English*]

Mr. John Chang: Could you clarify who that is?

[*Translation*]

Mr. Denis Blanchette: The Canadian government has a Chief Information Officer Branch. Its mandate is to review how electronic services are delivered within the Government of Canada. How do we manage that? Did you consult that office?

[*English*]

Mr. John Chang: Yes, if you're talking of the CIOB, when we were doing the study, it was Corinne Charette at the time, if that's who you were referring to. She was intimately involved in both governance and program management of our engagement.

Mr. Ivan Milam (Director, PricewaterhouseCoopers): Corinne Charette was one of two executive sponsors for this study. We had two executive sponsors. Those were Corinne Charette and Maurice Chénier at PWGSC. They were part of what John referenced at the beginning. We had a CIO-ADM advisory or oversight committee that met monthly for this project. They gave us input and reviewed our key deliverables, our key assumptions, and the work plan. It was basically the oversight function.

[*Translation*]

Mr. Denis Blanchette: Okay.

Mr. Chang, in your opening remarks, you said that the scope of the mandate changed after four months. Coincidentally, things that had been included were now things that were going to be sent to the private sector.

Who initiated the change in the mandate and why?

[*English*]

Mr. John Chang: Well, I don't know the reasons. I can't speculate on that, but I can tell you, as Ivan just said, that the two sponsors of our project informed us that this would occur.

[*Translation*]

Mr. Denis Blanchette: Okay.

Mr. Chang, you are responsible for outsourcing at PricewaterhouseCoopers. Can we rest assured that you were not biased toward outsourcing from the beginning, given your position? Would it not have been better for another group to do this study?

● (1550)

[*English*]

Mr. John Chang: Just as a point of clarity, I'm responsible for outsourcing advisory; it's one of the responsibilities I have with PricewaterhouseCoopers. We provide advice to clients on how to succeed in different sourcing strategies.

We are completely independent. We're not in the outsourcing business, and when we engage clients, it's safe for me to say, in fact, that half the time or more we advise clients that they should not outsource, because it's not easy to do. I have over 25 years of experience in the business of outsourcing on the IT side, both as a vendor as well as a client, and now as a consultant. It is not an easy journey. As you see, our report is full of implementation cautions that we've actually put into it. Part of that kind of advice is based on the experience we're providing.

As a point of clarity, then, we're not in the outsourcing business; we provide advice on how to mitigate risks and how to succeed in such a program. We provide truly independent advice.

[*Translation*]

Mr. Denis Blanchette: The Government of Ontario managed to transform its IT without touching human resources. Did you really thoroughly assess that model before recommending solutions where the savings came mainly through staffing cuts?

[*English*]

Mr. John Chang: Yes, one of our case studies was the Government of Ontario, as you note. We interviewed Dave Nicholl and his executive officer. As you know, when the Ontario government launched their transformational program in this area—

[*Translation*]

Mr. Denis Blanchette: Why did you reject that avenue?

[*English*]

Mr. John Chang: We didn't reject that avenue. The point I was going to make is that we understood the Government of Ontario committed not to lay off people who could potentially be affected for two years. They were able to achieve their target of $100 million in annual savings without doing that for the first couple of years. According to what Dave Nicholl said in our interviews, some of the labour savings were achieved through attrition, as an example.

One of the recommendations we make in our report is a gradual gated approach. We're not saying the Government of Canada should undertake a big-bang approach similar to what the State of Texas did. If you look at the case study we wrote, we do not recommend that you do that.

What does that mean? We're saying that there are a number of gates, a series of opportunities requiring detailed analysis. They include a human resources plan, which I think is critical to the success of this kind of program. If this is done in an evolutionary fashion, which is what we're recommending, you can potentially minimize the HR impact, as you've seen in the Government of Ontario.

The Chair: Thank you.

Thank you, Mr. Chang; you're well over time.

Thank you, Denis.

For the Conservatives, we have Ron Cannan.

Mr. Ron Cannan (Kelowna—Lake Country, CPC): Thank you, Mr. Chair.

Thank you, gentlemen, for being here this afternoon.

Just to clarify, your report took only data centres into account, and not the process of consolidating networks and email systems. Is that correct?

Mr. John Chang: That's correct.

Mr. Ron Cannan: It's a range of $45 million to $293 million just on that one sector of data centres.

I come from the Okanagan, in British Columbia, where we've got RackForce. British Columbia did the same thing as Ontario, and other provinces are moving that way. Do you have an idea of how much savings you think you could generate from consolidating email systems and networks? I think we've got over 100 different email systems within the federal government alone. Have you any blue-sky estimate of the cost savings potential there?

Mr. John Chang: It's hard to speculate. Just to clarify, the $45 million to $293 million we're talking about there concerns server consolidation and facilities consolidation opportunities, and when I say "consolidation", I also mean virtualization. There are virtualization and consolidation opportunities in that area. The server is actually 36% or 37% of your total cost, so it's a significant piece, and there are also what we call alternate service delivery opportunities, as I said earlier.

What is not included in that $45 million to $293 million is mainframe and storage, which are within the data centres, so even outside email consolidation—which we didn't include because that wasn't part of our mandate and we didn't gather the data—we think there are opportunities there for sure. In fact, in a lot of our case studies, as you saw in our report, the jurisdictions there in particular report savings as low-hanging fruit in the mainframe area. In our view, we recommend that the Government of Canada retain that mainframe area. We think there's an opportunity for the Government of Canada to retain mainframe services, but they should be consolidated across departments in best practices, as we observed.

I hope I answered that question.

●(1555)

Mr. Ron Cannan: What is your estimated timeline to implement this transition, your best guess?

Mr. John Chang: Again, we see this as an evolutionary series of gates and a journey. We truly believe this is the best way to mitigate risk and ensure success. In our report, we note that creating a capacity for change and getting a mandate for this kind of change would take a couple of years. When we tabled this report in May last year, we did not contemplate that the government would move so quickly. That's a bit unusual to us on the shared services side, to be honest. We were not part of that at all.

Mr. Ron Cannan: Well, it's good to know that we can get blamed for going too fast. There's a mandate, we need to get it done, and as my colleague Mr. Trottier said, it obviously should have been done a long time ago, so I'm glad we're moving forward.

You mentioned Mr. Nicholl, from the Province of Ontario. He did testify at our committee last week, and he said:

> We could not have undertaken that without private sector expertise or involvement. They are involved with all the steps. All the way through, they are involved.

Would you agree with this statement about the need for private sector involvement?

Mr. John Chang: Our recommendations are that you take the best of both private sector expertise and Government of Canada expertise and leverage it to your advantage, both on the transition and in the transformational part of your journey.

Mr. Ron Cannan: Ultimately, the taxpayers are our customers. We're in the business of serving Canadians, so we want to deliver the services as cost-efficiently and effectively as possible. Can you give us examples of how this consolidation would improve service delivery to Canadians?

Mr. John Chang: When you have the very federated structure that you have today, a symptom of this federated structure being relatively inefficient from a service delivery perspective, setting aside cost, is the presence of over 300 data centres and over a thousand points of presence, potentially. This means that underneath all of that, the service delivery is disjointed. It's not standardized.

As I mentioned earlier in regard to server and mainframe infrastructure and services being commoditized in the marketplace, I'm sure you've heard of service offerings like cloud. We very much see the evolution of these infrastructure services into a utility very similar to the hydro business in the 20th century. In the 20th century, some of the organizations used to have their own hydro departments. I think that over time you will see that these types of infrastructure services will become a ubiquitous utility. That means standardization, a high quality of service, and not having such a disjointed delivery model.

That's happening in the private sector. Through case studies and other examples, we see that in the public sector as well. That kind of standardization will enhance service delivery and quality of service, we believe, to your clients, who are the people of Canada.

Mr. Ron Cannan: I've toured a centre, and I know the—

The Chair: Excuse me, Ron; you're well over time already. You'll have to wait for the next round, please.

Mr. Ron Cannan: Okay. Thank you very much. I appreciate it.

The Chair: Next, for the Liberals, we have John McCallum.

John, you have five minutes.

Hon. John McCallum: Thank you, Mr. Chair.

Thanks to both of you for being here with us today.

My first question has to do with the timing of the costs as compared with the timing of the savings. I notice that on page 21 you have the timeframe going out as far as the year 2026. I would have thought that the costs would generally precede the benefits. In order to make the changes, one needs to spend money in the earlier years.

Would it be true that in the earlier years there's a net cost and that at some point the benefits exceed the costs? If so, how many years out do you go before the benefits start to exceed the costs?

●(1600)

Mr. John Chang: Yes, you are absolutely correct that both in transition and in transformation you need to invest to reap the benefits. On our page 21, it's highlighted by the red bars you see.

In transformation, where you're actually consolidating the server environment, for example, you need to set up a virtualized server infrastructure to take advantage of that. That's an example. When you're in transition to actually move some of the work to internal shared services or to a private sector provider, you need to incur transition expenses to do that. We've documented those one-time costs there, first of all.

Second, in terms of the timeline here, this is for illustrative purposes only. As I just mentioned, we view this as a series of gates, and for each decision.... For example, virtualizing the servers across the Government of Canada would need to have its own business case and would need to have its payback that has been approved by the Treasury Board and other stakeholders. For transition and for the different service bundles as well, each one of those is a separate business case as to when the payback and the returns will occur.

You're absolutely right: in any transformational program like this, you need to make some investments.

Hon. John McCallum: Based on what you know—I know you don't have the precise figures—can you tell us if it is on the order of two years, five years, or 10 years before there will be a net saving to the government?

Mr. John Chang: I think that's a decision the government has to make within the business case that it has built: what is the payback period of a specific bundle or specific subset of a program? That will be a decision point in the future. I can't really speculate on that.

Hon. John McCallum: Is it conceivable that the payoff time could be as little as three years, or would it necessarily be longer than that?

Mr. John Chang: I think it would definitely range. Again, I'd be speculating, but in the private sector I can tell you that a three-year payback would not be acceptable to most people. I don't anticipate that in the government, perhaps; I'm not sure. My experience in the private sector is that on a server consolidation opportunity, for example, a three-year payback would not really be acceptable.

Hon. John McCallum: It would not be acceptable.

Mr. John Chang: Yes, I think you need a faster payback than that. Based on the case studies we've done, and what we see organizations undertake, we anticipate that if it's implemented properly.... I mean, that's the critical part of all of this: it's all about execution. If you do it properly, we think those savings potentially can mirror what's happening with best-in-class organizations in the sector—

Hon. John McCallum: You're making that statement even though other witnesses have told us that with all of these departments, this is hugely more complex than the typical private sector case.

Mr. John Chang: Organizations like General Motors or Hewlett-Packard are very large organizations as well. Some of our case studies have revealed that there are some best-in-class timelines available for returns. Again, there are going to be examples across the board in different case studies that can illustrate either end of that, but—

Hon. John McCallum: Okay. I'm sorry to interrupt, but my time is quickly running out.

On page 90, you indicate savings in a range of $45 million to $293 million. That is a huge range. Can you explain why those savings are so imprecise or variable?

Mr. John Chang: I mentioned earlier that there are two sources and fundamental groupings of those savings. One is the transformational area and the other is the transitional.

In the transformational area, it's consolidation, virtualization, and rationalization of both facilities and servers, and potentially, as I mentioned earlier, the mainframes and storage and so forth. To do that analysis bottom-up—and I used servers as an example earlier—you need to understand what the capacity utilization of those servers is today.

There are over 25,000 servers in Canada. We didn't have time to actually do a point-in-time analysis of the capacity of those servers, so what we did, given our experience in other virtualization and consolidation engagements, was take an estimate of high and low, and that in essence provided the range.

It's the same with the transition. The actual benefits realized from that will be subject to implementation and the different timelines you have, so again, that's the range. I know it is a big range, but unfortunately that's the best we can up with.

As for our recommendation to you, as you go on this journey, these gates will come, and each one will have to have a very bulletproof business case, a detailed business case that includes, obviously, tighter estimates of what the actual savings are going to be, how soon they will be realized, and what kind of investment you need to make to have that happen.

As you saw at the end of our report, we actually make that point very, very clear. This is directional in nature, and you need to do a detailed analysis into the future of each of these streams or gates. That's just good, prudent management.

● (1605)

The Chair: Thank you, Mr. Chang.

Thank you, John.

Hon. John McCallum: Thank you, Mr. Chair.

The Chair: For the Conservatives, we have Peter Braid. You have five minutes, Mr. Braid.

Mr. Peter Braid (Kitchener—Waterloo, CPC): Thank you, Mr. Chair.

Thank you, Mr. Milam and Mr. Chang, for being here this afternoon.

Mr. Chang, I wonder if we can start at a high level and really boil it down. According to your report, what are the top three benefits of the government's initiative for data centre consolidation?

I'm actually going to ask you a three-part question. First, what are the top three benefits? Second, what are the top three risks? Third, do the benefits outweigh the risks? Let's start there.

Mr. John Chang: One of the key benefits is to actually deliver on the requirements that we gathered when we engaged in January 2010. We gathered these through interviews and surveys with many stakeholders in the Government of Canada and we came up with 65 requirements. We've categorized them into 11 categories, which you see in that report. We did the options analysis against those, so what we're recommending best addresses those strategic requirements.

I'll read some of the strategic requirements for you just to give you the context. Within the cost and funding area, to limit capital-intensive expenditures is one of the things we were told is a requirement of the Government of Canada. To support predictable and sustainable funding models is also one of your requirements. Also, within availability, provide redundant data centres, as we were told that disaster recovery and business continuity was a requirement.

We have 65 of these requirements and we did the analysis against them. What we're recommending best fits these requirements, if implemented and executed properly. That's the first thing I would say.

Second, as part of the same exercise, we gathered 26 risks associated with data centre delivery today. We categorized them into six categories: financial performance, quality, flexibility, implementation, risk, and business alignment.

Again, we applied each one of those risks or categories against the options and came up with what we recommended: that the centralized model option has to be the least risky in regard to avoiding these risks that were identified during the data-gathering phase.

Mr. Peter Braid: Okay.

The third part of my question is with respect to your recommendations in the report and your final conclusion. Do the benefits outweigh the risks?

Mr. John Chang: Well, the benefits are going to be realized when it's executed successfully. Let me put it that way. Our report is directional, and it's on paper. Our five case studies and many other examples all speak to realizing benefits through a successful execution and not repeating some of the mistakes that others have provided before.

Mr. Peter Braid: Very good.

I have a question on a different topic. Your report speaks to the opportunity to take advantage of what you call "green IT practices". Could you elaborate on that?

Mr. John Chang: Green practices is one of the requirements that the Government of Canada provided to us. Specifically, this requirement deals with hydro and the source of hydro: where is the power being drawn from?

For example, hydro power, perhaps from Quebec, is considered to be of much lower green impact than hydro created with fossil fuels, so one of the considerations as you design the actual data centre strategy is where the facilities should be located and where the power would be drawn from. That definitely will be an input as you consolidate these 300 data centres and the thousand points of presence.

Mr. Peter Braid: You're saying there's a clear opportunity to have a much better or much lower environmental footprint through this process.

Mr. John Chang: Sure, and that's one of your requirements, so as you design the actual architecture for a data centre and you enter into this journey of consolidating facilities, you will end up there, because that's one of the conditions you're using in doing it.

● (1610)

Mr. Peter Braid: Okay.

Mr. Chair, how much more time do I have?

The Vice-Chair (Mr. Mike Wallace (Burlington, CPC)): You have 30 seconds, sir.

Mr. Peter Braid: *Merci beaucoup.*

The Vice-Chair (Mr. Mike Wallace): You're done? Thank you very much.

Mathieu, you're next, for the NDP. Thank you very much.

[*Translation*]

Mr. Mathieu Ravignat (Pontiac, NDP): Thank you for being here.

From reading the report, it seems that you underestimated the skills and expertise of the public sector's IT professionals. What is your honest opinion of the skills of public servants working in IT in Canada?

[*English*]

Mr. John Chang: Our mandate was not to comment on the skills of the IT professionals within the Government of Canada. What we will say, though, is that the structure that is in place, this federated model that's in place, has resulted in performance ratios, and we do quote that in one of the pages here. It's what we call the "server-to-FTE ratio": how many servers does one FTE professional support? I think it's something like 16, or just below 16:1, in and across the Government of Canada. Performance ratios vary greatly across the departments, but we believe that the structural challenge is leading to some of this, rather than skills per se. We were not engaged to comment on the skills area.

[*Translation*]

Mr. Mathieu Ravignat: Mr. Chang, I really want to believe you, but your report stresses that one essential success factor stems from having an official plan that all parties would subscribe to in order to deal with human resources considerations. Were you consulted for the development of an official human resources plan?

[*English*]

Mr. John Chang: No.

One of our recommendations, and one of the critical success factors in this journey, is to have a human resources plan. We clearly recommend that as one the next steps.

[*Translation*]

Mr. Mathieu Ravignat: In your opinion, what does this mean, a human resources plan?

[*English*]

Mr. John Chang: To me, on the human resources, a significant portion of the IT spent.... Of the roughly $822 million spent on IT that we highlight there, almost half is human resources. Just under—

[*Translation*]

Mr. Mathieu Ravignat: Mr. Chang, how do you know that it isn't worth spending money on human resources?

[*English*]

Mr. John Chang: I don't understand your question.

[*Translation*]

Mr. Mathieu Ravignat: You said that a human resources plan is essential to ensure cost reductions. How do you know that these costs are not justified, that we don't have competent IT professionals in the public service?

[*English*]

Mr. John Chang: Again, we were not engaged to comment on the competency of IT professionals in the Government of Canada. We acknowledge that human resources are a critical component of IT service delivery, and that any time you make a transformational program or take up this type of journey, it's critical that you involve those folks who are affected by it. We strongly recommend in our report that you should have a human resources plan to address that requirement.

[*Translation*]

Mr. Mathieu Ravignat: Furthermore, you said that we could contract out, about 54%. When we outsource to a third party, don't you think there's also a risk that we'll see expertise that currently exists in the public service disappear?

[*English*]

Mr. John Chang: We were very careful to ensure that what you're describing as expertise, architecture, or key decision-making types of functions remain within the Government of Canada. That was one of the requirements given to us, so when we did the analysis, that 54%, as mentioned earlier, really includes the commoditization on utilities that is potentially available in the marketplace.

[*Translation*]

Mr. Mathieu Ravignat: Okay.

[*English*]

Mr. John Chang: The other thing that I just want to point out is that the 54% you're talking about is a potential end state somewhere into the future. You're going to get there very slowly. There are going to be some bundles that are 5% or 10%.

I think one of the members here mentioned email as a service that potentially they might want to look at. It wasn't part of our study, but these are all discrete service bundles that you can look at. I think it's very important to emphasize that this is not a big bang. It's a series of gates that—

[*Translation*]

Mr. Mathieu Ravignat: Mr. Chang, I need to interrupt you so I have time to ask my last question.

In this study, did you compare the average salary of private sector technicians with public sector technicians?

● (1615)

[*English*]

Mr. John Chang: No. That was not part of our mandate.

[*Translation*]

Mr. Mathieu Ravignat: Thank you.

[*English*]

The Vice-Chair (Mr. Mike Wallace): Thank you.

Next is the parliamentary secretary, Mr. Gourde.

[*Translation*]

Mr. Jacques Gourde (Lotbinière—Chutes-de-la-Chaudière, CPC): Thank you, Mr. Chair.

I'd also like to thank the witnesses for being here this afternoon.

I'd like to come back to the question asked by my colleague Mathieu Ravignat. This great exercise requires an enormous amount of skill and experience from information technology professionals from other sectors who have already gone through this kind of reorganization. But it's also important to work with federal public servants in the information technology sector because they are already on site.

If we want to gain time and save money, I personally don't see any other way than going and finding the best possible expertise outside and including it. The opposition parties might be looking for another way of doing it, but I think your study confirms fairly well that we don't need to reinvent the wheel. If it already exists in the private sector, then we should find the best example and use it within the federal government. The savings will be big, to use your words.

Is there another way of doing it or are you on the right track?

[*English*]

Mr. John Chang: We believe that a balanced approach is important. There are a lot of good examples of very competent delivery within the Government of Canada. Our recommendation is that you should leverage those areas. There is also a significant trend in the private sector in this space. I mentioned that earlier. I think it is important that you take advantage of that as well, so a right blend....

You know, the point here is that our recommendations are not asking you to make a decision today on everything. Again, this is a series of gates. As the industry evolves, you'll be able to take advantage of that in keeping options open as much as you can and not closing too many doors. That's one of the ways of mitigating risk. At the same time, leveraging what you do best internally, we believe, is a really good compromise to actually achieve what you want to do.

[*Translation*]

Mr. Jacques Gourde: I think the goal of all this work is to improve the efficiency of information technologies throughout the federal government.

When you prepared the forecasts you gave on the money we might be able to save, did you calculate the efficiency of all public servants?

Some technologies are outdated. In some departments, some of them are already 20 years old. Could our public servants work more quickly? When typing, will we still have to wait three or four seconds? Will it be quicker? Will there be a way to save time? Was that calculated?

[*English*]

Mr. John Chang: The indirect benefits of consolidation and standardization have not been included as one of the benefits in the report, but we anticipate that as you standardize across government, the service levels will be harmonized and you will be able to deliver a consistent quality, which will have spill-over impacts on the performance of other users of these systems.

I also want to mention that data centre services, as I said earlier, do not stand on their own. They are part of a networked set of applications and facilities that make up an overall IT service delivery. Those areas will also contribute not only to the success of this program but also to how the users of these systems improve their own productivity.

[*Translation*]

Mr. Jacques Gourde: I have another quick question.

Would it be going too far to say that, by improving the efficiency of all 300,000 public servants that work with information technologies, we might be able to save half an hour to an hour of work a day? In other words, 200,000 to 250,000 hours of work a day.

[*English*]

Mr. John Chang: Certainly that would be nice to have, but we have no data from that kind of analysis.

● (1620)

[*Translation*]

Mr. Jacques Gourde: Thank you.

[*English*]

The Vice-Chair (Mr. Mike Wallace): Go ahead, Mr. Boulerice, for five minutes.

[*Translation*]

Mr. Alexandre Boulerice: I'd like to come back to the comments you made about the private sector's contribution.

You said that 54% was an objective to attain. Last week, Mr. David Nicholl from the Government of Ontario told us that, based on his assessments, the private sector often cost more than the public sector. You just told my colleague that you didn't know whether private sector technicians cost more or less than public sector ones.

If we have to find private sector expertise to get the knowledge, that's fine. When services are being consolidated and centralized,

let's go and find private sector experts to train public servants and retain that expertise.

My objective would be that the public sector represent 75%, 80% or 85%, so that we have a strong public service that can take care of this service on its own, without depending on others.

Why aim to have 54% of the expertise come from the private sector? Why not 15% or 20%?

[*English*]

Mr. John Chang: As you've just described, 54% was a target that we arrived at through a very detailed analysis, taking into consideration strategic requirements, risks, and costs. It is an end state. It is a journey that you would undertake.

I will also say that the analysis included benchmarks for those specific areas that are to be considered for the 54%. We found significant data points in those areas to support our recommendation that it should be done in the private sector.

[*Translation*]

Mr. Alexandre Boulerice: I am concerned about keeping expertise internal because that's the best way to provide services. But that's our opinion.

We talked about potential savings of $45 million to $293 million. I'll be cautious and use the amount of $45 million. I don't tend to get enthusiastic when potential savings in major reforms like that are involved.

How many job losses in the federal public service does this represent? How many people risk losing their job?

[*English*]

Mr. John Chang: It was not our mandate to actually calculate that. As I mentioned earlier, detailed business cases are going to be considered for each of these tranches of work. I'm sure those detailed business cases will outline what the HR impacts would be.

[*Translation*]

Mr. Alexandre Boulerice: In the case of the cautious scenario of $45 million, could you tell us what part of those cost savings the workforce represents? Are we saving money because we're paying fewer people, or are we saving money because we made gains in technology or with the effect of volume?

[*English*]

Mr. John Chang: The current data centre services portfolio that we analyzed was about $822 million, and just below $400 million of that was labour. For the consolidation and virtualization, we believe —and we didn't do the analysis, so we can't say definitively what the HR impact would be—it would be reasonable to take a commensurate look at what the ratios would be.

[*Translation*]

Mr. Alexandre Boulerice: I'm asking you the following questions because, with the Conservative government, we've seen concentrations of expenses in certain constituencies for certain programs, take for example accessibility programs for people with disabilities. One of your main recommendations is to reduce the number of data centres from 300 to fewer than 20.

Do you have any recommendations for those centres? Do they already exist or will they have to be created? If we have to create new centres, where do you think they should be located?

[*English*]

Mr. John Chang: Studying the location of future data centres was not part of our mandate.

Mr. Ivan Milam: Let me add a clarification to that.

The data centre floor space analysis we did was in the aggregate level, meaning that we looked at the total amount of floor space the government has from the data centre perspective: the power being consumed in those data centres, the capacity in those data centres, the floor space being used in those data centres, and then the overall capacity of those data centres.

Then we looked at it and considered how much growth there was from a floor space perspective and a power perspective. John mentioned earlier that when we did the projections, it appeared there was five years of capacity left in the existing data centres. Again, that's for over 300 data centres, plus the over 1,000 points of presence.

Then we looked at it in the aggregate. We considered a situation in which the government would be able to shrink some of that floor space through virtualization and consolidation, and what that would mean. How much longer would the government get out of the existing floor space, in the aggregate? If you did the virtualization and consolidation, those would be the main factors.

We didn't then go and look at the individual data centres. I'm sure you would agree that 300 data centres is a fairly large number on which to do individual studies, so we did it at the aggregate level, and that's what you're looking at here. If you ask us questions about getting down to 20, I think those numbers are probably generated through Shared Services Canada or through a department, but we don't actually have a data centre consolidation number in this report.

● (1625)

[*Translation*]

Mr. Alexandre Boulerice: Thank you.

[*English*]

The Vice-Chair (Mr. Mike Wallace): Thank you.

Next is Ms. Block, from the Conservatives. You have five minutes, please.

Mrs. Kelly Block (Saskatoon—Rosetown—Biggar, CPC): Thank you very much, Mr. Chair.

I join my colleagues in welcoming you here today.

I want to follow up on a line of questioning that was being pursued by my colleague across the way. It has to do with human resources, although I think I'm going to take it in a different direction.

In your executive summary, you speak to human resources. I just want to quote from your summary. You say,

> There are various human resource considerations to this project that range from the staffing of the Program Management Office and individual projects and work streams to working with the staff who will be impacted by the implementation.

Would you mind elaborating on the elements of the human resource planning with regard to this project?

Mr. John Chang: That's an excellent question, and you've highlighted a couple there already. First and foremost, the ability to manage and the ability to execute are critical components for building the capacity for change, so getting seasoned, experienced professionals, either from within the Government of Canada or externally—people who have had experience undertaking this type of journey—is critical to success.

In fact, if we had to highlight the most important human resource or project consideration for the success of this program, it would be that you need to have the right leader in place, with the experience and capability and capacity to execute this program. That's the capacity for change. As well, it's not just having the leader, but having a group of people staffed to manage it at the program level and provide the proper governance. That's a critical component.

The second aspect, as you mentioned, is how people will be impacted. The reality is that when you create a program for consolidation and virtualization and standardization, there will be overlaps in the work being done by people, so there has to be a rational strategy that takes into consideration people's tenure and expertise, as well as timelines for implementation at a functional level as you go into the details. You need to have a bottom-up detailed analysis of the impact on people.

I think things like that are the inputs for the detailed business case that we strongly recommend you have before you actually engage in the tranches of transformation or transition.

Mrs. Kelly Block: Thank you. We know that besides the huge cost savings that will be achieved with this consolidation, there will also be the improvement in services to Canadians. We also know that the need to update our systems was identified, so I want to go back to the question my colleague asked with regard to weighing the benefits against the risks.

In your executive summary you stated that

> In summary, the GoC has a strong opportunity to move from a federated data centre environment to a highly coordinated, enterprise service delivery model.

I'm going to suggest that we have this strong opportunity, and the need has been identified that something has to be done with our systems, so why is it important for the Government of Canada to pursue this strong opportunity at this time and not wait any longer?

Mr. John Chang: There are a couple of comments there. The first is what's happening in the IT industry generally, and I include public sector as well as private sector in the comment I'm about to make on the infrastructure services industry.

Earlier I mentioned the maturity and the commoditization of these services. That's both internal and external. From an industry and technology perspective, I think the maturity is there to take advantage of this. You've all heard of cloud computing and you see it in the consumer space. The technology is available today that allows that kind of offering in the marketplace. That shows the maturity of the technology. From a timing perspective, we think that's correct.

The other thing for you to consider is the case studies we shared with you. They are mostly five or six years old. A lot of the other governments—specifically Texas, Ontario, and Alberta—have embarked on this transition. A lot of lessons have been learned that you can leverage. Subsequent to that, because of those initiatives, we also acknowledge that many other governments, such as those in Malaysia, Denmark, Spain, and Italy, are embarking on a similar journey to try to take leverage of the industry maturity, and I mean both public and private sector maturity. Some other jurisdictions have also taken this journey over the last five or six years.

I would also add that the governments of the United States and the United Kingdom have announced data centre services consolidation initiatives.

● (1630)

The Vice-Chair (Mr. Mike Wallace): Just so the committee knows, normally this would be the slot for Mr. McCallum, but he asked to be out for a few minutes, so we're going to go to Denis once, then to Scott, and then to John if he shows up. If he doesn't, we'll conclude with adjournment at that time.

Denis, you have five minutes.

[*Translation*]

Mr. Denis Blanchette: Thank you, Mr. Chair.

The longer I listen to you, the more questions I have. There are some things I don't understand.

In one of your previous answers, you said that you hadn't assessed the skills of internal employees. So you don't know what information technology skills public servants have. But you are quick to recommend that we outsource certain services because, you said, the people in the private sector have skills. Without even having a good idea of the skills of public service employees, how can you recommend outsourcing for one area and not another?

[*English*]

Mr. John Chang: The delivery of some of the infrastructure services that are being commoditized and are becoming a utility is really an output-based kind of analysis. To us, to come to a conclusion that says this could be done more effectively in the private sector from a service delivery perspective and more efficiently from a cost perspective is relatively independent of the actual skills analysis. We have benchmarks to show that's the case. We think you do not necessarily need to do a skills analysis in the specific areas—for example, server management—to be able to say that could be done more effectively or efficiently in one area or another. That's part of the benchmarking methodology we have in the appendix.

[*Translation*]

Mr. Denis Blanchette: For the benefit of all the committee members, could you provide these analyses that support your point of view? I think it would be helpful for us. Would you be willing to do that?

[*English*]

Mr. John Chang: Sure. I would be happy to do that.

[*Translation*]

Mr. Denis Blanchette: Excellent. Thank you very much.

My colleague Alexandre Boulerice just asked what part of the potential savings of $45 million, in a cautious scenario, represents staffing cuts. One of the tables in your report indicates that, if we aggregate the transformation phase with the transition phase, we could save up to $46 million in human resources. Given that there are gains in some areas and losses in others, can we safely say that, in a cautious scenario, 100% of the savings would relate to staffing cuts?

[*English*]

Mr. John Chang: What page are you referring to?

[*Translation*]

Mr. Denis Blanchette: I'm at figure 28, on page 104 of the French version. I know that the pagination doesn't exactly match the English version.

[*English*]

The Vice-Chair (Mr. Mike Wallace): I won't count this against your time.

Mr. Denis Blanchette: Okay, thank you.

Mr. John Chang: As I stated earlier, we didn't do the analysis on labour and non-labour components of those savings. We did it on an aggregate basis.

As I mentioned earlier, of that $822 million in that point in time, which was probably February or March 2010—because it was a point-in-time analysis of the data centre services' total spend—a little less than $400 million was labour, so we anticipate there'll be a commensurate type of impact to labour on that number.

● (1635)

[*Translation*]

Mr. Denis Blanchette: Now I'd like to move on to another topic. I'm coming back to the mandate.

You told us that you had a certain mandate initially and that, four months later, it had been changed. Then, at another point, you told us—and it's in the report—that there are some areas of activity that you did not study and that might be sources of savings for the Government of Canada.

Who decided that the networks could be considered, but not the consolidation of mainframes? Why keep the networks, but not the data storage? I think we're missing some logic here. As long as we're doing something, why not look at everything, thoroughly, in the context of this study?

Mr. Ivan Milam: The network was actually never included in the scope of the study, whether it was at the beginning of the study or four months in. I think that was part of the requirements that were generated by the crown.

It is also probably reflective of the way the crown manages IT assets. They manage from a data centre perspective, from a network perspective, and from a number of other tower perspectives, so first of all, that network wasn't included in the scope of the study originally.

With regard to the other consolidation opportunities, whether they were mainframe or storage, the mid-range was selected because it was the largest spend area in data centre services. There are potential opportunities, obviously, in mainframe and storage, but mid-range was chosen because it was the largest spend area. As well, there was a fairly extensive amount of data available on the mid-range area that allowed us to do a deep dive. There wasn't a commensurate amount of data and information available for storage or for mainframe.

The Vice-Chair (Mr. Mike Wallace): Okay. Thank you very much.

Our last questioner at this point is Mr. Armstrong, from the Conservatives.

Mr. Scott Armstrong (Cumberland—Colchester—Musquodo-boit Valley, CPC): Thank you very much for your presentation. I'm going to refer to some questions on the implementation road map. It's on page 21 in the English version, if you could you find that.

I'm first going to ask about progress. The implementation road map presented in the report shows that in 2011 and the first part of 2012, we're really at the cusp and just getting started.

Do you want to elaborate on what progress has been made and what we're going to see in the next 24 months?

Mr. John Chang: We can't speak to the next 24 months because I don't know what the future will hold, but certainly when we tabled our report the middle of 2011, we recommended implementing this road map as specified on page 21. We recommended that the government establish a mandate for a change, and you've done that. We recommended that government should build capacity for change, which means setting up a program office and putting the right leadership in place.

Our observation, without commenting on the capabilities of those individuals, is that you've put people in those jobs and created Shared Services Canada. We do observe that those two specific actions have been undertaken, based on our report.

Mr. Scott Armstrong: What would you see next? If we could follow the road map laid out in your plan, probably we'd be talking about confirming the requirements and scope of the Shared Services organization. I think we're already engaged in that. Then there's managing stakeholders and organizational change, and developing a human resources strategy. When they were here we actually discussed that aspect, so there was already some action on those things.

Looking at what you have laid out and what the department has done, would you say we're on track so far with the road map you presented in this report?

Mr. John Chang: Yes, I would definitely agree with that.

Mr. Scott Armstrong: Good. Thank you.

I want to refer to a couple of other questions. We talk a lot about cost savings and timelines. I want to talk about the services to actual Canadians. From my estimation, when these types of services are consolidated, we should see not only cost savings but also a better delivery of service; it would probably be faster and more streamlined.

Would you agree with that statement?

Mr. John Chang: Yes, and I think that was a question one of your colleagues asked earlier. We would agree. You currently offer many different services; in standardizing them, the experience in the marketplace is that you get a higher and better quality of service.

● (1640)

Mr. Scott Armstrong: Have Texas, British Columbia, and Ontario experienced that outcome? Have they actually seen some benchmarks they've achieved for services to people, and not just price points?

Mr. John Chang: They've had mixed results, particularly in Texas. As you know, they took a big-bang approach and outsourced all of the services. It was almost a legislative action that they took, as you saw in the case study.

We believe that based on some of those lessons learned there, the implementation recommendation we're making is more of an evolutionary one. They are in the second phase of the actual engagement, taking into consideration service delivery. They are adopting more of a multi-vendor standardization strategy, as we're recommending here.

Mr. Scott Armstrong: We've heard that one of the reasons to look at the data centres first for consolidation is that there will be a massive amount of energy savings. We talked about that. Do you agree with that estimate? Are the energy savings going to be significant? We've heard there's as much as a 50% saving in energy costs when you do the data centre consolidations.

Mr. John Chang: In data centre consolidation, there are potentially big savings in hydro when you do server consolidation and virtualization. I don't know about 50%, but it depends very much on the current utilization of those servers, as well as the type of environment they are in to allow for virtualization. I also want to remind you that the data centre is only 6%. Of that 6% of the total of $822 million spent on data centre services, one-third is actually non-labour; the rest is labour. The data centre itself is a highly visible type of asset that people want to consolidate, but in terms of actual dollars, it's a relatively small amount.

Mr. Scott Armstrong: We've also heard that there were questions about security. When things are spread out in several different departments, it is safer, because the whole system cannot be attacked at once. Some other witnesses who were questioned about that aspect said that since you have the best equipment and the best security possible when you do the consolidation, you're actually increasing the safety and security of the data.

Would you agree with that statement, from your research?

Mr. John Chang: Yes. One of the 65 requirements documented in our report was about security, compliance to security standards and policies, and so forth. We would agree that if you standardize those and centralize the monitoring and enforcement, the probability's higher that you would have better outcomes.

Mr. Scott Armstrong: Thank you. That's all I have.

The Chair: Thank you, Scott.

That concludes our five minutes. I believe that concludes the rounds of questioning as well.

Thanks to our witnesses, Mr. Chang and Mr. Milam from PricewaterhouseCoopers, for being here today to explain the study leading to Shared Services Canada. We found it very useful and beneficial.

Thank you, ladies and gentlemen.

The meeting is adjourned.

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