Remarks as Prepared for Delivery to the

Joint Commission on Technology and Science

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18 June 2002

Introduction

Chairman May, Chairman Newmann, and members of the committee. Good morning. My name is Eugene Huang and I'm the Deputy Secretary of Technology for the Commonwealth of Virginia. It's a pleasure to be here today, and I thank you for the opportunity to present to you an overview of the initiatives in technology underway in Governor Warner's administration. Secretary of Technology George Newstrom sends his regrets to JCOTS that he is unable to attend today's committee meeting due to a prior commitment overseas.

Before beginning this presentation, I'd like to take this opportunity to introduce key members of our leadership team. I'd like to ask each of them to stand as I introduce them.

- Cheryl Clark was recently appointed as the Director of the Department of Information Technology. Prior to her appointment, Cheryl was with the Department of Motor Vehicles, where she served most recently as Acting Deputy Commissioner and Chief Information Officer. Under her leadership, DMV has been recognized nationally and internationally for the innovative and effective use of technology to achieve excellence in customer service. In her

remarks, Cheryl will be discussing her vision for DIT, including a focus on customer service and efforts to reform procurement.

- Jerry Simonoff was reappointed as the Director of the Department of Technology Planning. Many of you know Jerry and his work in state government that dates back to the Council on Information Management. Jerry will be discussing strategic planning and the enterprise wide focus to information technology that Governor Warner's administration has embraced.

- Anne Armstrong is the President of the Center for Innovative Technology. Anne will be discussing our efforts to bolster technology-based economic development throughout the Commonwealth.

In addition to these three individuals, I'd like to take a brief moment to introduce the three Governor's Fellows who are working in the Secretariat of Technology this summer. These individuals are:

- Quynn Nguyen, a recent graduate of Virginia Commonwealth University,

- Andrew Rowdon, a recent graduate of Virginia Tech, and

- James Toscano, a recent graduate of Old Dominion University.

In the three weeks that they have been here, Quynn, Andrew and James have contributed enormously to our work, and we look forward to the continued contributions that they will make throughout the course of the summer.

The First Five Months

Today marks the 157th day of Governor Warner's administration, and if you'll indulge me for just a moment, I'd like to provide a recap of some of the accomplishments that we have been able to achieve in the Secretariat of Technology.

I begin with Governor Warner's commitment to "Put Virginia First" by building a leadership team composed of some of the most highly qualified professionals both in Virginia and in the world. In Technology, we have been able to assemble a leadership team that brings together, in aggregate, over 50 years worth of

experience in information technology and technology-based economic leadership. Beginning with Secretary Newstrom and his twenty-eight career with EDS, our leadership team is confident that we are able to confront the challenges that the twenty-first century brings in technology to Virginia.

Governor Warner has also focused on restoring accountability to the Commonwealth's finances, led with the help of many of you in passing the state budget and overcoming a $3.8 billion dollar deficit. For these efforts, on behalf of the Administration, I thank you. These efforts permeate into technology, beginning with the simple question "How much does the Commonwealth spend on information technology annually?" When Governor Warner took office, there was not a sufficient answer to this question. We have come a long way since then, and I will provide further detail on these efforts later in my presentation.

With his strong background in technology, Governor Warner is also committed to using innovative technology-based solutions to bring about improved service delivery and reduced costs, a theme also present in the work of the Governor's Commission on Efficiency and Effectiveness (otherwise known as the Wilder Commission). Some of the early innovations that we can point to include the live on-line help service launched on the state's web portal and the launch of the online research request service with the State Library of Virginia. These early successes open a small window into the larger and longer-term innovations that we hope to provide in coming months. These future innovations will serve as examples of Governor Warner's continued commitment to the potential for technology to transform government.

These efforts and more are detailed in Governor Warner's report on the First 100 Days of his Administration. If you haven't done so already, I urge you to download a copy from our website to read about the Administration's initiatives not only in technology, but initiatives that have been launched throughout the Administration.

Strategic Planning in Technology: A Preview

It is against this background that I turn next to my presentation, entitled "Strategic Planning in Technology: A Preview". As many of you may know, we are currently engaged in a strategic planning process within the Secretariat of Technology. This process is not yet complete, but I am pleased today to present a first look at some of the early results of our strategic planning efforts.

I begin with an articulation of the vision for the Secretary of Technology within Governor Warner's administration. Put simply, the mission of the Secretary of Technology is to advise the Governor on the growth of technology in our global economy and the effective use of information technology in state government.

We have further distilled this vision into three strategic imperatives -- imperatives that have guided us throughout our strategic planning process. These imperatives are as follows:

First, develop Virginia as a major entity in the global economic marketplace. With this imperative, it is important to recognize that our economy is going through enormous transformation, shaped by technology. Today, our competition is not local or national, but international. We must recognize this transformation and the enormous changes occurring around us by developing and implementing policies that allow for globally competitive products and services in technology to flourish.

Second, we must ensure that all of Virginia shares in the growth and success of our participation in the global economic marketplace. All of us in this room recognize the enormous success that Northern Virginia has had in information technology, but a recent statistic that I came across emphasizes this point: Northern Virginia is home to 85% of all information technology jobs in the Commonwealth. As technology continues to sweep our society, transforming our society into an information society, we cannot and must not allow the rest of Virginia to be left behind.

Third, we are committed to fulfilling the role of Chief Information Officer of Virginia, ensuring that Virginia's technology resources are used most effectively and efficiently and meet the needs of our customers -- the citizens of the Commonwealth of Virginia. Technology has the power to radically transform government, making government more efficient and effective.

I begin with our first two strategic imperatives.

In spite of the downturn in Virginia's overall economy and the bursting of the dot-com bubble, Virginia's technology sector continues to play an important contributing role in the overall competitiveness of Virginia's economy. As demonstrated by this snapshot of Virginia's technology sector, Virginia fairs quite

well in varying comparative metrics including high tech employment and venture capital investment.

This relative picture of strength is emphasized by the technology centers of excellence located throughout Virginia. In our first five months, Secretary Newstrom and I have had the privilege of visiting with technology councils, institutions of higher education, and technology companies both large and small throughout the Commonwealth. These experiences have provided evidence to us that our technology sector is strong: whether it is in biotechnology, nanotechnology, wireless telecommunications or information technology, the technology sector is well positioned to take advantage of future innovations that will directly impact Virginia's economic competitiveness for many years to come. Shown on this map are the areas of excellence that will provide for Virginia the innovations of the future.

Our strengths of today, however, hide some worrying trends that unchecked would have negative impacts upon the future competitiveness of the Commonwealth. It goes without saying that technological innovations come from sustained investments in basic research and development, especially in our colleges and universities. Unfortunately, in this area, we are lagging.

Rankings provided by the National Science Foundation demonstrate that Virginia has no schools ranked in the top fifty by research and development expenditures. It is no secret that research in the sciences and in engineering disciplines costs money, and lots of it. But it's not just about money – top quality institutions require top quality research programs, research programs that draw top flight professors and students. It is a vicious circle: excellence begets excellence, while mediocrity begets further mediocrity. Some of Virginia's best public universities, such as Virginia Tech, the University of Virginia, and VCU, are on the brink of making the jump from being good schools to truly outstanding institutions. However, statistics such as those provided by the National Science Foundation indicate that our work is still cut out for us.

Licensing and patent data indicate a similarly grim picture. The comparative data that we present here demonstrates that Virginia's universities are competitive with world-class institutions such as Johns Hopkins University, Stanford University and MIT when aggregated together. It is worrying that our collective efforts match up only favorably to the individual efforts of these institutions.

In response to these findings, our strategic planning efforts are focused on a number of concrete goals. Although these goals are still preliminary and in draft form, three that deserve mention today are:

- Enhancing Federal research funding to Virginia's colleges and universities,
- Increasing the commercialization of intellectual property from universities and laboratories and growing entrepreneurial companies, and
- Promoting technology-based economic development.

For each of these goals, we will be developing metrics and timelines to gauge and benchmark the success or failure of our efforts.

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The third strategic imperative that guides our strategic planning process is development of the role of Chief Information Officer of state government. And in this capacity, we are focused on the effective and efficient deployment of state government's technology resources.

We begin with a simple question that I alluded to very early on in my remarks: "How much does state government in the Commonwealth of Virginia spend on information technology products and services?" At minimum, any CIO should know how much he or she spends on information technology. Surprisingly, at the start of Governor Warner's administration, we were unable to give an honest answer. The best that we could do was guess, citing various estimates ranging from $800 million on the low end to $1.2 billion on the high end.

Against this backdrop, we got to work. And over time, a picture evolved that placed the Commonwealth's total quantifiable expenditures on information technology at $902.5 million for fiscal year 2001, or 3.69% of all fiscal year 2001 Commonwealth expenditures, including both general and non-general funds. The chart shown provides an approximate breakdown of IT expenditures in fiscal year 2001 by Secretariat.

These efforts did not end with an examination of spending. Instead, we brought best practices to bear on our examination of information technology throughout state government. And unfortunately, much like the initial question that was asked about how much is spent on information technology, the results weren't promising. We quickly determined that industry best practices were not being utilized,

resulting in unnecessary duplication of effort, the inefficient allocation of information technology resources, the inability to promote and adopt best practices in information technology, and millions unnecessarily spent on information technology projects and resources. However, we view this as presenting the Commonwealth with enormous opportunities to achieve efficiencies and cost savings in information technology.

Some anecdotal data is illustrative here of the enormous opportunities that we are presented with:

- In the area of administrative management systems, JLARC determined that over $500 million was spent during the past five years on various incompatible financial management systems. Past practices contained within IT strategic plans for the upcoming biennium demonstrate the perpetuation of these inefficiencies. These proposals alone revealed thirteen different financial management systems, three different payroll systems and three different human resource systems.

- In the area of computing resources, 65% of servers are due for replacement in the next five years, and 60% of computers, peripherals and network devices are due for replacement in the next three years. Additionally, approximately 1,400 local area networks are administered by 54 different agencies.

- In the area of our information technology workforce, our biggest concern is aging: the average length of tenure at DIT is 17.6 years, while the average length of tenure for all IT staff in state government is 10.6 years. And most surprisingly, the largest IT staff isn't in DIT, but is instead at VDOT, whose IT staff is nearly double the size of the staff at DIT. It is important to note here that we have committed to ensuring that not a single state employee will lose his or her job as a result of the efforts we plan on undertaking.

At this point, I'd like to digress for a brief moment to mention an article published in the July 2002 issue of Wired Magazine entitled "The New Economy Was a Myth, Right? Wrong". The article, analyzing the impact of information technology on productivity in the American economy, compares the fortunes of two American companies with household names: Wal-Mart and Kmart. As you may know, 2002 brought about very different fortunes for these companies: Wal-Mart continues to return record financial results, while Kmart filed for bankruptcy protection in late January.

The two companies were essentially in the same business and roughly had access to the same technology. Yet what explains their radical difference in fortunes? The article argues that Kmart has "failed to use technology to improve its business in any meaningful way."

Strong parallels can be drawn between the use of technology in Kmart and Virginia. For both, there has been a blind belief that new technology is the solution to all existing problems. However, what Wal-Mart's experience demonstrates is that this is not the case – instead, only through the efficient allocation and deployment of information technology resources can we begin to reap the benefits that information technology can offer.

Bringing this back to our strategic planning effort, we have focused on the adoption of an enterprise-wide approach to information technology to bring out business efficiencies and cost savings. Although preliminary, initial areas of focus include:

- The development of core technologies leading to savings of $100 million annually across executive branch agencies, institutions of higher education, and local governments.
- The development of a strategic plan for the overhaul of state administrative systems.
- The implementation of a plan for statewide IT security.
- The development and implementation of a capital planning process for information technology and a collaborative business process improvement program to integrate technology into the business of government and reap the productivity savings that can be gained as a result of information technology.
- The development and deployment of Web-enabled solutions for government business processes.
- And overhauling the procurement of information technology goods and services.

Conclusion

Where does all of this lead us? We plan to complete our strategic planning efforts this summer, leading to the publication of a strategic plan for the Secretary of Technology on or before September 15, 2002. We consider this to be a watershed

event, especially in light of requirements in the Code of Virginia to publish various forms of a strategic plan. Additionally, a strategic plan has never been produced for the Secretary of Technology, and we believe that by doing so, we fulfill not only our statutory duties, but offer a vision for where we would like to take the Commonwealth in the area of technology during Governor Warner's administration.

In addition to the requirements set forth in the Code of Virginia, we recognize the direction and initiatives of the legislature stemming from the 2002 General Assembly session. We believe that these bills and studies, in addition to others not listed here, parallel closely the efforts that we have outlined in this presentation. In the weeks and months ahead, Governor Warner, Secretary Newstrom, myself, and the rest of the leadership team within the Secretariat of Technology look forward to working closely with JCOTS and the rest of the legislative body on efforts to advance the technology initiatives of the Commonwealth of Virginia.

Thank you.