Wednesday, December 1, 2004, 9:30 A.M.
House Room D,
General Assembly Building
Richmond, Virginia

The Joint Commission on Technology and Science (JCOTS) held its final meeting of the 2004-2005 interim on December 1 to receive reports from the Secretary of Technology, the Chief Information Officer, and the President of the Center for Innovative Technology; receive reports from the advisory committees; adopt the final report for the 2004 interim; and finalize JCOTS's legislative agenda for the 2005 Session.

Secretary of Technology

Eugene Huang, Secretary of Technology, discussed his vision for the coming legislative session and the final year of the current administration. He explained that in his first two months as Secretary, he has been articulating a vision for technology in the Commonwealth, continuity of operations with initiatives that are well underway, and outreach to stakeholder groups such as the Commonwealth's technology councils. Recently, he delivered the keynote speech to the Southern Piedmont Technology Council in Danville at the new Institute for Advanced Learning and Research, and was proud to say that what he saw was awe inspiring in how the Commonwealth is positioning itself to meet the global challenges of the twenty-first century.

Secretary Huang discussed his office's annual report entitled "Technology and Strategy Development in the Commonwealth." This report outlines the vision and agenda for the Office of the Secretary of Technology. The report fulfills two requirements contained within the Code of Virginia. The first is a requirement to deliver a biennial report on technology strategy as related to research and development goals for industry, academia and government in the Commonwealth. The second is a requirement to deliver an annual report on broadband communications services, high-speed data services and Internet access throughout the Commonwealth and future deployment potential of these services.

The report articulates a picture of technology in the Commonwealth today, and the challenges it faces in a global 21st century information-age society driven by technology. It contains four key sections: (i) research and development priorities, focusing investment opportunities in biotechnology, nanotechnology and defense and homeland security; (ii) broadband communications services; (iii) return on innovation and the efforts of the Center for Innovative Technology; and (iv) information technology reform and the efforts of the Virginia Information Technologies Agency (VITA).

Secretary Huang recognized that much of the focus to date has been on IT reform efforts and the establishment of VITA. While he stressed his commitment to ensuring the success of the IT reform effort, he noted that the report focuses on positioning the Commonwealth as a continued leader in not only the application of technology to the business of government, but also in fostering the development of technology industries as well.

Chief Information Officer

Lemuel Stewart, CIO of the Commonwealth, reported on the use and application of information technology by state agencies and public institutions of higher education to increase economic efficiency, citizen convenience, and public access to state government, as required by § 2.2-2007 of the Code of Virginia. He began by highlighting the state of the Commonwealth without VITA.

Without VITA, he explained that the Commonwealth would spend at least $1.1 billion over the next decade in duplicative, stand-alone administrative systems. The Commonwealth would likely see major project failures in excess of $120 million over the next six years. Aging systems with minimal security would continue to deteriorate and require more people and dollars for support. Infrastructure costs would increase, resulting in fewer dollars for citizen services and applications. The Commonwealth would not be able to provide citizen-centric, event-oriented services. Finally, the Commonwealth would be at a severe competitive disadvantage to other states.

To highlight the state of the Commonwealth with VITA, he listed the agency's accomplishments to date. It has successfully transitioned 90 executive branch agencies. It improved governance and oversight of technology investments, by creating a Project Manager Development Program, instituting centralized procurement, and implementing an independent verification and validation program for all major projects. Through its procurement reforms, VITA has increased opportunities for small, women- and minority-owned (SWAM) businesses. It also has implemented standard compliance for security and software licensing. VITA has developed initiatives to self-fund cost of integration activities, expected to be approximately $6.7 million.

Mr. Stewart informed JCOTS that according to audited estimates, the Commonwealth with save more than $160.5 million over the next six years with $16.5 million and $26,125 million for the previous and current fiscal years, respectively. In addition, the agency completed a 26-item action plan created in response to the Auditor of Public Accounts' Special Report of December 15, 2003 and an employee classification study.

Looking forward, VITA has undertaken a number of major reengineering initiatives, including state-of-the-art data centers with disaster backup, an enterprise messaging and e-mail system, electronic government and associated business transformation, comprehensive statewide network services and replacement of the Commonwealth's central administrative systems. Priorities for the year ahead include exploring public-private partnerships to transform the Commonwealth's IT infrastructure, instilling collaboration among all levels of government, expanding services to accommodate a mobile citizen population, recapitalizing IT in government, and encouraging strategic IT investment management.

Mr. Stewart concluded by illustrating and reiterating VITA's value to the Commonwealth. For its executive and legislative leaders, VITA offers the ability to better understand and manage the Commonwealth's IT investments and generate savings to reinvest in future technology projects. For the Commonwealth's IT employees, VITA offers the opportunity to learn new technologies, gain new skills, and advance in their careers. For the IT users, VITA offers the commitment to

business continuity in the near term and better services over the long term. Finally, for the Commonwealth's citizens, VITA offers the opportunity to interact with government in new ways, and the knowledge that the Commonwealth is investing hard-earned tax dollars wisely.

Center for Innovative Technology (CIT)

Peter Jobse, President of the Center for Innovative Technology (CIT), reported on the Center's initiatives and projects, its work plan for the year and the expected results, and an overview of the results that it has achieved to date.

For 2004, CIT generated an economic impact of $230.2 million, nearly 25 percent more than its target of $185 million. This impact includes $49.9 million in small business in SBIR (Small Business Innovation Research), STTR (Small Business Technology Transfer) and ATP (Advanced Technology Program) awards and resulting sales and employment gains, $20.9 million in private capital raised and resulting sales and employment gains, $153.5 million in other revenue and employment growth, and $2.8 million in community broadband assistance.

Its 2005 operating plan includes four major goals. First, seeing a need to secure a nanotechnology specialization and an opportunity to define a biotechnology specialization, CIT plans to create new nanotechnology and biotechnology clusters. Second, observing an opportunity to increase defense related research, CIT and the Institute for Defense and Homeland Security will engage the public and private sectors to solve technological challenges through research and development. Third, to fill a significant void in angel and seed stage investment, reverse the reduction of technology start-ups in the pipeline, and meet a requirement to accelerate broadband deployment, CIT will undertake to make the Commonwealth a leader in entrepreneurial ventures. Fourth, to meet its legislative support requirements, CIT will continue to support the Commonwealth's technology commissions. According to Mr. Jobse, CIT expects to have an economic impact to the Commonwealth of $119.4 million in 2005. CIT's impact on the Commonwealth in the coming and future years, CIT is trying to reverse the phase-out of state funding and maintaining its modest budget.

Joint Legislative Task Force and Joint Advisory Committee on Computer Crimes

JCOTS and the Virginia State Crime Commission combined their studies of the Computer Crimes Act and created a Joint Legislative Task Force and a Joint Advisory Committee. The Joint Advisory Committee on Computer Crimes was charged with examining the statutory basis for computer crimes and related laws in the Code of Virginia, including a determination of the appropriate definitions and elements constituting offenses, and recommending any necessary amendments in light of modern activities and technologies. The Committee and Task Force received briefings on the history of computer crimes legislation in the Commonwealth and the structure of the Computer Crimes Act.

Computer crimes fall into one of three categories: the computer as a tool (e.g., used to commit fraud), the computer as the direct objective (e.g., theft of data), and the computer as the subject of the crime (e.g., spreading malicious code). While the offenses cover all categories, the vast

majority fall into the “computer as a tool” category. All offenses in the Computer Crimes Act afford civil remedies to aggrieved parties and jurisdiction for the Office of the Attorney General.

Concerned that defining the specific threats would lead to almost immediate obsolescence and would provide a road map to the bad actors, the Task Force and Advisory Committee agreed to focus on the "bad actors" with a "bad motive" that do a “bad action.” They decided to identify threats, determine if the Code of Virginia addresses them, and then define the action, if necessary. They identified nine specific threats: (i) phishing, spoofing, and disguising one’s identity; (ii) bots and zombies; (iii) spyware and adware; (iv) viruses and worms; (v) falsifying certifications, seals, or other credentials; (vi) spam; (vii) identity theft; (viii) hacking and defacing websites, networks, and databases; and (ix) denial of service attacks.

Comfortable that the Code covers roughly half of the threats, the Task Force and Advisory Committee focused on the remainder. Between them, they condensed and simplified the definitions, basing many of them on those of the Uniform Computer Information Transactions Act. To protect against using non-computer devices with computer chips becoming computers under the Act, they voted to limit the coverage to general purpose, programmable computers. Most notably, the proposed bill requires that a person actually know or have reason to know that he was without authority, as opposed to merely acting without permission or right. Mitigating the impact of this final change, the crimes of computer fraud and personal trespass by computer would no longer require that a person take the underlying actions without authority.

To handle bots and zombies, the bill adds a provision to the computer trespass statute that criminalizes installing software without authorization. The bill also adds a subsection to address viruses and worms that do not harm computers, but hinder their ability to operate peripheral devices (e.g., grocery scanners, security cameras, and environmental sensors). In addition, the bill adds directly using a computer to obtain computer information without authority. Finally, to avoid criminalizing innocent or innocuous activities, the Task Force added a requirement that for an act to be actionable as Computer Trespass, a person must act with malicious intent.

The Computer Crimes Act criminalizes invading another person’s computer, stealing information, and examining certain personal information without authority. However, in recent years, the phenomena of phishing and spoofing, or faking an identity to gather personal information, have tricked people into revealing the information themselves. In some cases, perpetrators trick computer users into downloading software that takes the information automatically. Therefore, the proposal criminalizes using a computer with fraudulent intent to obtain, access or record identifying information, as defined by the identity theft statute (excluding name and birth date). Just trying to trick someone into revealing identifying information would be a crime; actually tricking them is not necessary.

The proposal also specifically criminalizes using a computer to circumvent computer security measures. Finally, it clarifies that all property regardless of type can be stolen or embezzled.

Though JCOTS expressed concern over the number of new felonies created by the proposal, it adopted the proposal as drafted by a vote of four to one with one abstention.

Advisory Committee on Integrated Government

The Advisory Committee on Integrated Government was charged with exploring the issues created or enhanced by the transformation of government in the electronic age. The Committee continued focusing on the state of information technology (IT) procurement in the Commonwealth, and addressed competing provisions dictating electronic meetings requirements for public bodies.

The Committee received briefings on the implementation of VITA's Project Management Division, which assists agencies throughout the entire process of project proposal, planning and implementation. The Committee also received briefings on the state of IT procurement in the Commonwealth, including VITA's procurement reform efforts, and Virginia's spend analysis consulting services contract, proposals received under the Public-Private Education and Infrastructures Act (PPEA), and policy issues involved in outsourcing and offshoring.

VITA updated the terms and conditions for IT contracts and made mandatory only those that are legally required. Reforms include a limitation of liability clause, efforts to increase involvement of small woman and minority owned (SWAM) businesses, and revamping contracts to memorialize the deal within the "four corners" of the contract. Through VITA's participation in the Virginia Partners in Procurement project, a consultant analyzed purchasing patterns for IT spending and, for the last 11 months of fiscal year 2004, the Commonwealth has saved $15.4 million (or 127 percent of the target).

The Committee voted to recommend for consideration four proposals introduced by VITA. The first would eliminate a preference in the Virginia Public Procurement Act for competitive sealed bidding over competitive negotiation. The second would allow public bodies to purchase information technology and telecommunications goods and services from online public auctions and through cooperative procurement arrangements with approval of the Chief Information Officer. The third would authorize VITA to conduct an Alternative Dispute Resolution Pilot Project. The final would allow public bodies to hold closed meetings to discuss records already exempt from public disclosure relating to the Public-Private Education Facilities and Infrastructure Act (PPEA).

In addition to VITA, the Committee received briefings on and discussed certified electronic mail, electronics recycling, and the development of the Commonwealth's strategic plan for communications interoperability. The Commonwealth created the position of Interoperability Coordinator for the Office of the Secretary of Public Safety to establish interoperability as a high priority in the Commonwealth with common standards, a common approach to lifecycle planning and extensive training and information sharing. Being the first state in the nation to create a governance structure for interoperable communications, the Commonwealth serves as a model for the nation.

Finally, the Committee discussed JCOTS' Pilot Project, an exemption to the Virginia Freedom of Information Act that applies to meetings held via videoconference. The Pilot Project is due to sunset on July 1, 2005. Working with a FOIA Council subcommittee, the Committee proposed reconciling the provisions in the Freedom of Information Act and the Acts of Assembly to create

one set of requirements for electronic meetings. However, unlike the FOIA proposal, the Committee proposed retaining the current Acts of Assembly provisions that enable a quorum to be distributed across remote sites and do not require that remote sites be open to the public.

Believing that procurement reforms beyond technology were outside its mandate, JCOTS declined to adopt the Committee's first proposal that would eliminate the preference of competitive sealed bidding over competitive negotiation. JCOTS conformed the electronic communications meetings bill to the FOIA Council proposal by retaining the current FOIA requirements for a physical quorum and remote sites open to the public. JCOTS adopted the remaining recommendations without amendment.

Advisory Committee on Nanotechnology

The Advisory Committee on Nanotechnology was charged, pursuant to House Joint Resolution 120 (2004), to identify nanotechnology research and economic development opportunities for the Commonwealth and to consider the efficacy of creating a statewide, comprehensive and coordinated strategy to secure additional federal research and development funds and to boost commercial activity in this fast growing sector. The Committee received briefings on an overview of nanotechnology, on other states' and the federal government's approaches to promoting nanotechnology development, and on a proposed prototyping facility that could help to bridge the gap between basic research and the commercial market.

Nanotechnology involves the ability to engineer systems with components on length scales of one to 100 nanometer (1 nanometer = a billionth of a meter). It has the potential to make a major impact on the economy in the fields of electronics and optics, healthcare, the environment, energy, microspace, bio-threat detection, transportation, and national security. The federal government has enacted the 21st Century Nanotechnology Development Act, authorizing almost $3.7 billion in government funding for research and development. In Virginia, opportunities exist for partnerships in research, manufacturing, and education.

While the Committee made no formal legislative recommendations, it focused on three key areas: commercialization (bridging the gap between research and commercialization), education, and financing (including business development and incentives). The Committee agreed that the Commonwealth should establish a more permanent body to continue discussions about nanotechnology in the Commonwealth. Adopting this recommendation, JCOTS agreed to include nanotechnology in its 2005-2006 work plan.

Advisory Committee on Privacy

The Advisory Committee on Privacy was charged with (i) reviewing current privacy laws and practices as they pertain to information and (ii) proposing policies and guidelines for public bodies to evaluate the use of potentially invasive technologies when determining whether to support their use financially or to authorize or prohibit their use. To evaluate the use of potentially invasive technologies, the Committee received briefings on a number of technologies, including facial recognition, radio frequency identification, and event data recorders. The

Committee also received briefings on using biometrics to identify people and measures to protect the privacy of certain personal information in court records.

As part of its study, the Committee discussed several bills referred to JCOTS by the House Committee on Science and Technology during the 2004 Session. The Committee discussed House Bill No. 1304 (Patron – Lingamfelter) on balancing civil liberties and law enforcement's use of potentially invasive technologies; House Bill No. 697 (Patron – Morgan) on event data recorders; House Bill No. 753 (Patron - May) on the misuse of social security numbers; and House Bill No. 543 (Patron - May) on limiting the use of unique identifying numbers in public records. The Committee also discussed proposals to create a FOIA exemption for unique identifying numbers; eliminate social security numbers from new land records; restrict personal identification information that can be required as a condition of accepting a negotiable instrument; and require any state agency or business that owns or licenses a computerized database that includes personal information to disclose a breach of the security of that system to any resident of the Commonwealth whose unencrypted personal information may have been acquired by an unauthorized person.

The Committee adopted three recommendations. The first recommendation, based on HB 753, would amend the Personal Information Privacy Act by restricting the use of social security numbers. Among other things, the proposal would prohibit making the social security number available to the general public and printing the number on an identification card. The proposal also would (i) require that insurance plans for state employees assign an identification number that is not a covered employee's social security number and (ii) amend the Virginia Consumer Protection Act to prohibit a supplier from using a consumer's social security number when the consumer requests that his driver's license number be used.

The second recommendation adopts the court clerks' request to extend by two years the sunset on their posting restrictions as set out in § 2.2-3808.2. The third recommendation adopts DMV's request for a study on the use of biometrics for identification.

With little change, JCOTS adopted the first two recommendations. Because JCOTS does not need a resolution to conduct a study, it declined to adopt the third recommendation and instead, agreed to include a biometrics study its 2005-2006 work plan.

Finally, JCOTS discussed and adopted a legislative proposal that would require manufacturers and lessors of motor vehicles that contain devices that record performance or operation information to provide notice of such devices to purchasers and lessees.

Discharge of the Advisory Committee Members

As the final order of business, Chairman May thanked and discharged the members of the advisory committees. He thanked everyone for their hard work and dedication to the science and technology issues facing the Commonwealth and expressed his hope that they would continue to serve the Commonwealth next year.