REPORT OF THE
JOINT COMMISSION ON TECHNOLOGY AND SCIENCE ON

SPACE TECHNOLOGY, INFRASTRUCTURE, PRIVACY, ELECTRONIC GOVERNMENT AND CRITICAL INFRASTRUCTURE

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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TABLE OF CONTENTS

REPORT OF THE JOINT COMMISSION ON TECHNOLOGY AND SCIENCE
to
The Governor and
The General Assembly of Virginia
Richmond, Virginia
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I. THE JOINT COMMISSION ON TECHNOLOGY AND SCIENCE (JCOTS)

To continue the work begun by the Task Force on Science and Technology established under House Joint Resolution 390 (1993), the 1996 General Assembly adopted House Joint Resolution 195, which created a joint legislative subcommittee to study science and technology. The subcommittee reported to the Governor and the 1997 General Assembly in House Document No. 81 (1997). The creation of the Joint Commission on Technology and Science ("JCOTS" or "Commission") was included among the recommendations of the subcommittee. Created by the 1997 General Assembly through House Bill 2138, JCOTS is a permanent legislative commission charged to study all aspects of technology and science, to promote the development of technology and science in the Commonwealth of Virginia through sound public policies, and to report its findings annually to the Governor and the General Assembly. (*See* Chapter 11 of Title 30 of the Code of Virginia, § 30-85 et seq.) JCOTS, which consists of twelve legislators (seven Delegates and five Senators), submitted its first report to the Governor and the 1998 General Assembly in House Document No. 89 (1998) and submits its fifth report today. JCOTS maintains a website at http://jcots.state.va.us/.

At its meeting on June 21, 2001, JCOTS adopted its 2001-2002 work plan. (*See* Appendix 1). The workplan identified six issues for study through the establishment and work of advisory committees, co-chaired by JCOTS members: Infrastructure (Senator Newman and Delegate Plum, co-chairs); Privacy (Senator Ticer and Delegate May, co-chairs); Electronic Government (Senator Howell and Delegate Nixon, co-chairs); Critical Infrastructure (Senator Bolling and Delegate Bennett, co-chairs); Intellectual Property (Senator Wampler and Delegate Christian, co-chairs); and Emerging Technologies (Delegates O'Brien and Purkey, co-chairs).

JCOTS' workplan also identified new issues to be introduced at full commission meetings through testimony and presentations, possible field trips, and other issues to be monitored throughout the year. To accomplish these objectives and establish its legislative agenda, JCOTS met as a full commission three times from June 2001 to December 2002. During the period from August to December 2001, advisory committees held 11 meetings. (*See* Appendix 2) Approximately 75 people participated in JCOTS' work through membership on advisory committees. (*See* Appendix 3) JCOTS received and adopted advisory committee reports and finalized its legislative recommendations for the 2002 Session at a meeting of the full Commission on December 18, 2001.

II. COMMISSION MEETINGS AND ACTIVITIES

A. YEAR IN REVIEW: FINAL MEETING

The Joint Commission on Technology and Science met on December 18, 2001, in Richmond to receive the final reports of all advisory committees and vote on its legislative agenda for the 2002 Session of the General Assembly.

Before receiving the advisory committees' final reports, the Commission unanimously recommended resolutions to honor two individuals for their contributions and dedication to the development of science and technology in the Commonwealth. The first resolution celebrates the life and mourns the loss of the late Dr. Robert Michael "Bob" Schwartz, whose work at Virginia's Center for Innovative Technology ("CIT") contributed significantly to the biotechnology industry and research efforts at Virginia's universities. The second resolution commends The Honorable Donald W. Upson, the Commonwealth's first Secretary of Technology, for his service, accomplishments and dedication to the Commonwealth.

Finally, Delegate Brink asked the Commission for its support of a resolution that encourages all state and local government agencies and individuals to incorporate machine-readable privacy policies and the Platform for Privacy Preferences Project ("P3P") specification into all agency and personal government websites. In a letter to the Commission, Delegate Brink wrote:

> I'm certain you are aware that a major inhibition to the growth of e-commerce is consumers' justifiable concern about control over personal information that they submit to websites. JCOTS has been briefed on the Platform for Privacy Preferences Project (P3P), a machine-readable specification developed by the World Wide Web Consortium, which will allow users to set their individual privacy preferences and warn users or block websites whose privacy policies do not comply with those preferences. This voluntary approach is a means of addressing legitimate privacy concerns without government intervention or regulation.
>
> In order for P3P to be successful, two things must happen: P3P must be adopted by individual Internet users, and more websites must become P3P-compliant. My resolution (which is attached as a Word document) would promote the expansion of P3P by encouraging state and local government agencies and individuals to make their websites P3P-compliant, and would encourage the Virginia Information Providers Network (VIPNET) to deploy P3P-compliant policies on websites using their portal.
>
> My resolution parallels similar legislation at the Federal level, where HJRes 159 has been introduced in the U.S. House of Representatives and a similar resolution will be introduced early

next year in the U.S. Senate. If my resolution passes, Virginia will once again show its technology leadership as the first state to advance Internet privacy in this manner.

The Commission voted unanimously to endorse the resolution.

Infrastructure Advisory Committee

The Infrastructure Advisory Committee, which was co-chaired by Senator Newman and Delegate Plum and composed of 26 citizen members, was charged with exploring the current technology infrastructure in the Commonwealth, the current and expected demands on that infrastructure (on a regional and a statewide level) and the means of meeting those demands across the Commonwealth, including whether localities should be able to provide infrastructure services.

Before beginning its work, the Committee listened to presentations on some of the public and private networks in the Commonwealth including VIPNET, COVANET, Net.Work.Virginia, VirginiaLink and BEVNet. The members discussed the experience of various localities trying to improve their advanced communications infrastructure, including Front Royal, Warren County, Lynchburg, Abingdon and Bristol. The Virginia Economic Development Partnership discussed the telecommunications infrastructure needed in order to become a competitive locality. Understanding that educational needs differ from private and business needs, the Committee also discussed the infrastructure needs of public schools and institutions of higher education throughout the Commonwealth.

After discussing the potential uses of an advanced communications network, the Committee reviewed the different methods of accessing that network and their availability throughout the Commonwealth. The Committee began to compile such information as broadband penetration and availability of access to the Internet and advanced communications networks through plain old telephone service, cable, ISDN, DSL, T1, fiber optics, satellite and wireless devices. (*See* Appendix 4). The Commission will continue to gather more of this information and compile it throughout the next year. The Committee also reviewed the recommendations of the Rural Virginia Prosperity Commission to bring access to broadband services to the rural and underserved areas of the Commonwealth. In addition, the JCOTS staff met with and will continue to meet with the staffs of the Rural Virginia Prosperity Commission, the Center for Innovative Technology, the Tobacco Indemnification and Community Revitalization Commission and the Office of the Secretary of Technology to coordinate efforts and share information.

Pending the Fourth Circuit's decision in *City of Bristol, VA v. Beales*, the Committee did not recommend any legislative action for this legislative session, but instead chose to continue to study the issues and monitor the case. In this case, the court must decide whether the judge in the District Court in the Western District of Virginia correctly ruled that the prohibitions in the federal Telecommunications Act of 1996 (invalidating state and local laws that prohibit or have the effect of prohibiting any entity from providing any interstate or intrastate telecommunications service) preempt the Commonwealth's statute that prohibits its localities from providing such a

service. Most of the solutions discussed and posed to date partially or totally prohibit localities from providing telecommunications services, potentially conflicting with the District Court judge's decision. Therefore, Senator Newman and Delegate Plum invoked the tradition of the General Assembly to refrain from taking action in matters affected by of ongoing litigation.

Senator Wampler indicated that he would like to see the General Assembly take action in this area during this legislative session. Otherwise, the City of Bristol may "hang in limbo" while the current case is potentially appealed all the way to the United States Supreme Court. He also indicated that he would like to see more competition in areas of the Commonwealth that are currently underserved in their infrastructure needs and whose residents are unable to receive high-speed Internet access, thereby hurting their ability to compete in the "New Economy". Senator Wampler said that he is going to propose a bill that would permit localities to apply to the State Corporation Commission for a permit enabling them to offer communications services in their area and possibly even statewide. The municipalities would be regulated in the same manner as other vendors of communications services. Senator Wampler explained that he wants underserved areas to receive access to the highest quality advanced communications services at the cheapest price.

At the request of Chairman May, Jim Bowie, General Counsel, Bristol Virginia Utilities Board, spoke about the current situation in Bristol. Many of Bristol's residents do not currently have access to advanced communications services. The City prevailed in federal district court, arguing that provisions of the Federal Telecommunications Act of 1996 preempt the prohibitions stated in § 15.2-1500 of the Code of Virginia. Bristol has developed a network consisting of approximately 120 miles of fiber-optic cable to serve the City and some of its neighboring localities. This network, which is municipally owned and operated, could be used to provide the general public access to advanced communications services. However, the law recently invalidated by the federal district court prevents it from doing so. Bristol wants to offer open access to both the public and private sectors so that they may use the fiber-optic network at an affordable price. The City is not concerned with its networks being regulated, as it would like to see competition develop. City officials are currently in the process of applying to the State Corporation Commission for certification as a CLEC (competitive local exchange carrier); however, without legislation, the State Corporation Commission has no power to regulate localities (*See* Va. Const., Art. IX, § 7). When asked how this project would be financed, Mr. Bowie explained that the electric system in the City has offered a $5 million loan and the City plans a $15 million bond issue. The City would also finance it with franchise rights.

Senator Newman commented that the "Lynchburg Model" would be a good one for localities to follow. Lynchburg entered the infrastructure business but was required to sell its network as quickly as possible once competition came to the area. He cautioned that localities should not be able to use their governmental power in competition, nor should a government entity be able to remain in the business and compete with the private sector. He also mentioned that the Committee was concerned about school pipelines, noting that there is currently no capability to videoconference talented teachers from Southwest Virginia into Northern Virginia classrooms, or vice versa.

Delegate Plum stated that there is a reasonable role for government to ensure that access is available for many reasons. When companies are studying sites to relocate, they have a checklist that includes broadband access. If access to broadband is not currently available at a given location, it is not considered. He noted that the discussion should still continue.

Privacy Advisory Committee

The Privacy Advisory Committee, which was co-chaired by Senator Ticer and Chairman May and composed of 23 citizens members, was charged with reviewing the issues and concerns magnified by the wider dissemination and third-party aggregation of personal data and determining what steps, if any, the Commonwealth should take with regard to legislation or changes in policy.

The Committee listened to presentations from industry organizations, non-profit organizations, civil rights organizations and corporations regarding their positions, technological or market-based solutions, resolutions and rationale. They also heard a presentation and discussion of P3P, a technological means for lay people to understand privacy policies, compare those policies with their preferences, and avoid websites that do not meet their preferences. As part of its study of privacy issues, the Committee discussed House Bill No. 2382 (2001 Session; Patron -- Rhodes), "Virginia Internet Privacy Protection Act," and House Bill No. 2803 (2001 Session; Patron - Jones, J.C.), "Personal Information Privacy Act." The Committee also discussed privacy in the workplace, including the model Notice of Electronic Monitoring Act.

The Committee focused on several themes throughout the course of its discussions. These themes included treating online and offline personal information with parity; focusing on the information, as opposed to the methods of gathering it; controlling information, especially when transferring it to third parties; defining personal information and who owns it; determining whether consumers have the obligation to opt out to protect personal information or whether companies have the obligation to get consumers to opt in; and determining whether personal information should be protected by legislation or market self-regulation. The Committee generally agreed that the concern was less with the collection and sharing of the personal information and more with what is then done with that information (e.g., SPAM, telemarketer calls).

The Committee did not recommend any legislation, nor did it reach consensus except to continue to review, analyze and monitor these and related issues. Senator Ticer recommended that the work of the advisory committee on privacy continue and include discussions on identity theft. Chairman May said that a uniform privacy law establishing the reasonable expectations of employers and employees was important.

Electronic Government Advisory Committee

The Electronic Government Advisory Committee, which was co-chaired by Senator Howell and Delegate Nixon and composed of 23 citizen members, was charged with exploring the issues that governments and citizens face as more of their interaction occurs through computer networks.

The Committee listened to presentations on Trends in Electronic Government by the Center for Digital Government, Internet Transactions and Sales Taxes (*See* Appendix 5), the Security of the Commonwealth's Systems, the Council on Technology Services, and Using Credit Cards in Government Transactions. The Committee also discussed the need for an enterprise-wide approach to information technology, standardization among such technologies and ensuring that the technology used is driven by the business needs. Finally, the Committee studied Project Dashboard, a database of high-dollar technology projects around the Commonwealth that enables quick presentation, review and accountability.

As the result of its discussions, a number of legislative recommendations arose. The Committee limited debate to a few of them and made a number of recommendations. The Committee recommended:

- A bill that amends the duties and powers of the Secretary of Technology to promote an enterprise-wide approach to information technology. The bill also removes the one-million-dollar minimum on the technology projects that the Secretary must periodically review. While these powers are implied in the current statute, their exercise represents a paradigm shift from the current decentralized approach to technology in the Commonwealth. The Commission voted unanimously to adopt this recommendation.

- A bill that adds the directors of JCOTS and COTS as ex officio, nonvoting members of the other body. Secretary Upson wrote a letter to the members of JCOTS encouraging their support for this bill because "both groups [COTS and JCOTS] stand to gain tremendously from a formal association, particularly in terms of knowledge and experience." Delegate Nixon commented that this bill was the only one to pass the Electronic Government Advisory Committee without unanimous support. Both he and Senator Howell voted against it because they believed the current practices of sharing information between JCOTS and COTS are working well. Delegate Nixon also expressed his concern that he was hesitant to place legislative staff permanently with the executive branch. The Commission voted by a narrow margin not to recommend this bill.

- A bill that assigns the task of conducting security audits on Commonwealth-owned databases to the Secretary of Technology. This bill would repeal provisions in the Code that previously assigned the responsibility to the Governor. The Committee and the Commission unanimously agreed to recommend this bill.

- A bill that extends the sunset for electronic meetings two years, to July 1, 2004. The current law, which expires on July 1, 2002, exempts from the Freedom of Information Act's ("FOIA") electronic communication meeting restrictions public bodies that are part of the legislative branch of state government or that are responsible to or under the supervision, direction, or control of the Secretary of Commerce and Trade, the Secretary of Technology or the State Board of

Community Colleges. The bill also extends from April 15, 2001, to April 15, 2003, the filing date for submitting reports detailing the affected public bodies' experiences with electronic meetings. Senator Newman commented that he believes there is a provision missing in the bill, as there is not a single entity anywhere in Virginia that controls the system of electronic meetings. The Commonwealth needs an entity that is prepared to link all the sites together when a meeting is scheduled at a particular time. He would also like to see the meetings placed on the Internet for everyone to see. In response to Senator Newman's amendment removing the sunset date, the Commission unanimously agreed and adopted this recommendation.

The Committee discussed but did not reach a decision on a bill that deletes a provision in the Lobbying Reporting statute (§ 2.2-426) made redundant by the Uniform Electronic Transactions Act ("UETA"). This bill recognizes the provision in UETA that prohibits a signature from being denied legal effect or enforceability solely because it is in electronic form. Present law requires original or electronic signatures by principals and lobbyists on the lobbyist annual disclosure statement. This amendment removes the words "or electronic" because UETA already treats electronic signatures as originals. The Secretary of the Commonwealth, however, must still specify the format of the electronic signature. Delegate Nixon suggested that JCOTS request an opinion from the Attorney General's Office to clear up any confusion with UETA. Chairman May said such an opinion would be requested at a later time. The Commission voted unanimously to adopt this recommendation.

The Electronic Government Advisory Committee also recommended that the Commission study two specific issues during the coming year. One issue involves the efficacy of the FOIA provisions for electronic meetings for certain public bodies with a goal of expanding, maintaining, modifying, or discontinuing the provisions. The other issue involves the procurement of technology hardware, software and services, including a review of case studies, prior recommendations and current processes and procedures. Chairman May added that Commission members and members of the public should notify either him or the Director if issues arise that the Commission should include in its work plan for the new year.

Critical Infrastructure Advisory Committee

The Critical Infrastructure Advisory Committee, which was co-chaired by Senator Bolling and Delegate Bennett and composed of 13 citizen members, was charged with analyzing the risks and necessary security measures for protecting the critical infrastructure of the Commonwealth (including government functions and industry sectors) with the goal of developing an applicable statutory and policy scheme.

The Critical Infrastructure Assurance Office ("CIAO") explained Project Matrix to the Committee, updating its presentation from a Commission meeting earlier in the year. Project Matrix identifies critical assets owned by the government; identifies associated dependencies and interdependencies; and satisfies requirements that help the U.S. government fulfill its responsibilities for national security, national economic security and critical public health and

safety. The Committee discussed the Commonwealth's participation in Project Matrix and the possibility of its serving as a pilot for applying the project to the analysis of state critical infrastructure assets. JCOTS staff along with the Office of the Attorney General, Department of Information Technology, Department of Technology Planning and the Office of the Secretary of Technology met with the Project Matrix team several times in Washington, D.C., and Richmond to discuss the issues that the federal government has discovered when conducting this project.

The Committee decided to forward to the full Commission two bills for further consideration, but without recommendation. The Committee did not feel that it had enough time to adequately review the recommendations. The first recommendation that the Committee considered was a resolution requesting the Secretary of Technology and the Secretary of Public Safety to proceed with participation in Project Matrix. It encourages both Secretaries to develop policies, procedures and standards for the analysis of the Commonwealth's critical infrastructure and coordinate this analysis with the federal government and the private sector. The Commission unanimously adopted this recommendation unanimously.

The second bill addressed an issue that the federal government faces and that the Commonwealth could face: protecting critical infrastructure information from disclosure under the Freedom of Information Act. The bill would protect from disclosure to the public critical infrastructure information that is voluntarily submitted to a public body by another public body or by a private entity. Private entities that wish to protect their information from disclosure without their consent would have to submit an express statement so indicating. The proposal was based on companion bills introduced in the U.S. Congress. Senator Bolling commented that the issues embodied in this bill are very important. However, because the Committee did not have an adequate amount of time to receive public comment on the bill, it would not recommend it. Senator Bolling also noted that absent a protection of the nature contained in this bill, no business is going to voluntarily share critical infrastructure information to the government. The Commission decided to take no action on this bill because it is not in a position to recommend the bill at this time.

Discharge of the Advisory Committee Members

As the final order of business, Chairman May thanked and discharged the members of the advisory committees. He noted the overwhelming response to the call to serve on the committees and the difficulty of making selections from such a qualified group of applicants. He further noted that those selected dutifully served on the committees, many without compensation, because of their interest in the science and technology issues facing the Commonwealth.

B. ORGANIZATIONAL MEETING

The Joint Commission on Technology and Science held its first meeting of the 2001-2002 interim on June 21. Mitchell Goldstein, Director of JCOTS, made introductory remarks and then presented the proposed 2001-2002 Workplan. The workplan identifies six topics for advisory committees to study: Infrastructure, Electronic Government, Privacy, Intellectual Property, Emerging Technologies, and The Commonwealth's Critical Infrastructure. JCOTS unanimously adopted the workplan. Delegate Joe May, Chairman of JCOTS, announced the co-chairs of the advisory committees. Senator Stephen Newman and Delegate Ken Plum will co-chair the Infrastructure Committee. Senator Janet Howell and Delegate Sam Nixon will co-chair the Electronic Government Committee. Senator Patricia Ticer and Delegate Joe May will co-chair the Privacy Committee. Senator William Wampler and Delegate Mary Christian will co-chair the Intellectual Property Committee. Delegates Jay O'Brien and Harry Purkey will co-chair the Emerging Technologies Committee. Senator Bill Bolling and Delegate Ted Bennett will co-chair the Critical Infrastructure Committee.

JCOTS also voted unanimously to re-elect the current Chairman, Delegate May, and Vice-Chairman, Senator Newman.

1. For Inspiration and Recognition of Science and Technology

For Inspiration and Recognition of Science and Technology ("FIRST") hosts an annual robotics competition for high school competitors from around the world. Patricia Cook, Regional Director, NASA Langley/VCU FIRST Robotics Competition, spoke about the annual event and its goal to encourage young people to consider careers in math and science. This past year, there were 13 regional competition sites around the country with more than 500 teams participating. FIRST also awarded $1.26 million in college scholarships last year. Virginia is the tenth regional competition. Though many teams from Virginia participated, FIRST is trying to increase participation from high schools in southwest and Southside Virginia. The teams are diverse, composed of students from inner city and rural schools as well as public and private schools. Each high school team has a mentor who is a member of the science and technology community. Team 510 from the High Tech Academy in Highland Springs, VA, brought their winning robot to the Commission meeting to display. Ms. Cook emphasized that FIRST will need more funding, sponsors, and mentors to continue its success and growth in the future.

Jeff Seaton, Manager, NASA Langley Learning Technologies, spoke about the benefits of FIRST. He pointed out that FIRST encourages students to admire scientists, engineers, educators, and technicians. FIRST combines inspiration and education, and fosters mentoring, inventing, thinking, and competition within a community. Dean Kamen, the inventor of the first portable drug-infusion pump and many other devices, founded FIRST. FIRST combines athletics and engineering with a new "game" every year. Each team is given the same problem to solve with the same materials, time, cost and size. The problems are open-ended, with no obvious solution to encourage a diversity of ideas and inventions. While encouraging competition, FIRST also inspires cooperation. For example, when one team's robot arrived at the national

competition severely damaged from shipping, other teams offered parts and support so they could quickly rebuild their robot and compete.

Ron Hedlund, Executive Director, Virginia Business Education Partnership ("VBEP"), spoke about Virginia's commitment to FIRST. Mr. Hedlund said that FIRST is the best example of the business-education partnership in Virginia, and that VBEP will sponsor any Virginia team who wishes to participate in the competition.

Roy Reynolds, Virginia Manufacturer's Association ("VMA"), spoke about his experience as a volunteer at the competition. He saw that FIRST enables high school students to experience rapid prototyping, and to learn about cooperation. Almost all VMA members employ technology to make their products, and Virginia needs high school graduates who understand robotics and technology.

Don Owen, Human Resources Director, Infineon Technologies, spoke about his role as a sponsor for a FIRST team. Infineon sponsors FIRST teams from different parts of Virginia. FIRST helps students understand the different technology jobs available to them. Mr. Owen has seen firsthand how FIRST teams impact the whole community. He urged the Commonwealth and other regional companies to support this program.

2. Critical Infrastructure Assurance Office

Glenn Price, Project Manager, Project Matrix, informed JCOTS about the federal government's efforts to protect the nation's critical infrastructure. With society's current dependence on information systems and technologies, hackers could easily affect many elements of the country's critical infrastructure and cause massive disruptions. The result could be cyber warfare, where hackers cause damage to the United States from anywhere in the world. The Project Matrix team, part of the Critical Infrastructure Assurance Office (CIAO), identifies federal computer and agency resources that if affected would cause major damage to the United States. To succeed, the team needs the cooperation of federal departments and agencies and the private sector. CIAO is trying to secure the most important responsibilities of the federal government to the American people. Critical infrastructure assets are defined as responsibilities, assets, nodes, and networks, which, if incapacitated or destroyed, would jeopardize the nation's survival or adversely affect large portions of the nation's populace.

The Project Matrix team reviews everything within a specific governmental organization. It conducts the review using a three-step process. First, it identifies the critical assets in that organization. Then, it captures the major nodes and networks upon which these assets depend. Finally, it ties these assets and their supporting nodes and networks to underlying infrastructures. Project Matrix has reviewed more than 4,000 government assets to date, and less than 50 require priority attention. The project provides specific information needed for the implementation of critical infrastructure protection measures. It also encourages constructive public/private sector discussions on critical infrastructure and troubleshooting.

Mr. Price stated that in order to achieve security among the nation's critical infrastructures, state and local governments must also be included. Project Matrix would do the same for Virginia's assets as it has done for those of the federal government. Because of Virginia's close proximity to the nation's capitol and its leadership on technology issues, Mr. Price suggested that Virginia might want to be the first state to participate in Project Matrix. Project Matrix has several security procedures to ensure that the information CIAO collects is protected. All employees and contractors involved with Project Matrix require a top-level security clearance, and the project places safeguard measures on the technology storing their sensitive information.

3. Office of the Secretary of Technology

Bette Dillehay, Deputy Secretary of Technology, spoke about Virginia's progress in protecting our critical infrastructures. The Virginia Information Coordination Center ("VICC") tracked public and private efforts during the Y2K rollover. VICC has sustained this effort, which can be maintained as a continuous watch on Virginia's critical infrastructure systems. VICC has already been used to notify government entities of computer viruses. Ms. Dillehay expressed a concern that Virginia's assets could be at risk if members of Project Matrix were given access. According to Ms. Dillehay, the Secretary of Technology plans to decide in the next couple of weeks whether Virginia should participate in Project Matrix.

Ms. Dillehay then spoke about the Administration's progress in the field of technology. She reviewed the progress of the governor's E-communities and Main Street to E-Street Task Forces, which are working to help create e-villages and to re-establish community centers through the electronic process. Ms. Dillehay explained that Virginia's Virtual Opportunity Center recently received a national award for its work toward eliminating the digital divide and the Department of Information Technology ("DIT") is one of the largest data centers on the east coast. She described a process called Project Delivery through which a state agency chooses the right process to conduct the right project on time and at low cost. In this process, business people make the decisions, not technology people. This project will be linked to the budget process in the future. She praised JCOTS for including these items in its workplan.

4. Center for Innovative Technology

Anne Armstrong, President of Virginia's Center for Innovative Technology ("CIT"), spoke about CIT's mission and accomplishments. CIT's current mission is to improve Virginia's economy by growing technology companies and improving technology in existing companies. The Center concentrates its efforts on specific industries in which it determines that Virginia has the best opportunity for growth. CIT helps traditional economy companies develop e-commerce capabilities through partners such as VECTEC at Christopher Newport University.

Over the last two years, CIT awarded grants from the Advanced Communications Assistance Fund to the localities of Amherst, Augusta, Big Stone Gap, Chase City, the City of Franklin, Halifax, Highland, Martinsville, Nelson, South Boston, and Staunton. These grants permit underserved communities to develop a telecommunications infrastructure. CIT has also awarded grants to Accomack and the Eastern Shore.

CIT is currently trying to get a U.S. Department of Agriculture grant to establish a virtual farmer's market. CIT will also focus on biotechnology development this year. The new Howard Hughes Medical Institute campus in Loudoun County will help Virginia establish itself as a leader in this field. This institute spends more than $600 million per year on medical and life science research. In the near future, CIT plans to focus on access to advanced telecommunications through such programs as VirginiaLink, and the Main Street to E-Street and E-Communities Task Forces. Furthermore, CIT is promoting modification of current intellectual property policies to encourage companies to conduct research in Virginia universities and to encourage faculty members to commercialize their own inventions. Finally, CIT would eventually like to fund research centers on nanotechnology, remote sensing, forensic science, and modeling/simulation.

C. SPACE TECHNOLOGY

On October 16, 2001, the Commission held a meeting to discuss how advances in space technology affect the economy and citizens of the Commonwealth. The presentations included discussion on the uses of the Commonwealth's money

National Aeronautics and Space Administration (NASA)

Dr. Robert Norwood, Director, Commercial Technology, NASA Headquarters, provided the Commission with a background on NASA's approach to commercial technology research, which he described as proactive joint-technology development. This approach focuses on technology partnerships with industry that complement NASA's core capabilities and technology investments. Although technology developed as part of NASA's partnership with industry will serve the space administration's mission objectives, some of that same technology could lead to a business product that will benefit NASA's technology development industry partners and industry as a whole.

Preston Carraway, Deputy Director, Technology Commercialization Program Office, NASA Langley Research Center, briefed the Commission on research conducted at his installation in Hampton. After explaining the economic impact that Langley's research activities have on the Commonwealth's economy, Mr. Carraway stated that the research is focused on the transfer of technology to both aerospace and non-aerospace industries. The medical and environmental industries are two non-aerospace sectors that benefited from research that originated from or was supported by Langley.

Through its research, Langley has developed a remote fetal heart monitor, digital mammography, and cranial pressure measurement. Attaching the remote fetal heart monitor to a telephone line enables a patient to help her doctor monitor her unborn child. Digital mammography provides a novel approach to the early detection of breast cancer. NASA-developed image detectors arranged in a checkerboard array, capture a complete image while exposing the breast tissue to lower doses of radiation only once and without a significant decrease in image resolution. The

result is a mammography unit that produces a full-breast x-ray image in an electronic format, eliminating the need for x-ray film. In addition, digital data software facilitates image storage and retrieval, allows for automated image analysis to help doctors locate tumors and enable the transmission of digital images to remote specialists. Using sensors that were originally designed to measure variations in pressure on the wings of an aircraft, Langley developed a system that could measure minor variations in pressure in a trauma victim's head, variations that, if left untreated, could lead to permanent damage or even death. The original devices required drilling a hole into the wing of aircraft or into the victim's head. Mr. Carraway explained that the plates in a person's head move slightly with the blood flow caused by each beat of the heart.

Mr. Carraway summarized Langley's research approach, saying, "Langley takes on economically high-risk research then passes on validated ideas to other bodies for further research." One such body with which NASA installations have worked in the past is Virginia's Center for Innovative Technology. One particular program that Mr. Carraway highlighted for the Commission, the Small Aircraft Transportation System ("SATS"), illustrates Langley's partnerships with industry. SATS explores practical, personal travel by air. Promising technologies could make flying in small planes safe, affordable and as easy as driving a car or hailing a taxi. NASA is currently researching methods to decrease actual door-to-door travel time by integrating all modes of transportation for more efficient, all-weather travel.

LC Technologies, Inc.

Joe Lahoud and Dixon Cleveland of LC Technologies, Inc., in Fairfax, demonstrated their company's Eyegaze video eye-tracking system. The eyetracker uses a video camera that remotely observes a person's eye to measure where he is looking. By looking at control keys displayed on a computer screen, Eyegaze users with complex disabilities (e.g., cerebral palsy, spinal cord injury, brain injury, ALS, multiple sclerosis, brainstem stroke (Locked-In syndrome), muscular dystrophy, and Werdnig-Hoffman syndrome) can synthesize speech, control his environment (lights, appliances, etc.), type, operate a telephone, run computer software, operate a computer mouse, and access the Internet and e-mail. Eyegaze can also be used to determine the most effective location for monitors and instruments used to fly planes or drive cars. It can even be programmed to activate an alarm if a person's focuses on one point too long, indicating perhaps that the person has fallen asleep or "spaced out."

Developed in part as a collaborative arrangement with Langley, Eyegaze also can be used in a research environment to track a person's eye movements. Determining where a person is looking or focusing on a computer display, computer programs can analyze visual activity and interact with people in ways not possible with the traditional keyboard and mouse.

DynSpace and the Virginia Space Flight Center

General Robert Parker, President, DynSpace Corporation, informed the Commission about the Virginia Space Flight Center ("VSFC"), an initiative of the Virginia Commercial Space Flight Authority. The Authority was established in 1995 to stimulate economic growth and education through commercial aerospace activities. The VSFC is a licensed commercial spaceport created

by a partnership between the Commonwealth of Virginia, NASA, Virginia's Center for Innovative Technology, Old Dominion University and DynSpace, a subsidiary of Virginia-based DynCorp.

Located at Wallops Island on the eastern shore, the VSFC enjoys a long association with space flight, tracing its first rocket launch to 1945 and counting more than 15,000 orbital and sub-orbital launches to date. The facility offers two launch pads with service towers, which accommodate multiple launch operations. It also possesses complete storage, processing and launch facilities for vehicles and payloads, including clean rooms and fueling, and a full complement of launch range services, including safety, telemetry, radar, command, control and communications, and data retrieval and processing. The VSFC can accommodate solid, liquid and hybrid fuel vehicles with lift capacity of up to about 10,000 pounds to low Earth orbit.

Despite its history and up-to-date launch amenities, General Parker reported that the center is underutilized. He explained that DynSpace, the company that manages and operates the space facility, is attempting to attract more launches from the commercial, military, scientific academic sectors to this facility. While the VSFC possesses all of the amenities of larger launch ranges, General Parker mentioned that it would be more competitive if the facility were upgraded to include a fuel farm, launch integration and processing facility. One possible funding source for such upgrades is the Commonwealth of Virginia, which spends a fraction on maintaining the necessary infrastructure in comparison to other states with significant launch facilities, such as Florida and Alaska.

SpaceQuest

Dr. Dino Lorenzini, President, SpaceQuest, briefed the Commission on his company's microsatellite business. Headquartered in Fairfax, SpaceQuest provides research organizations, universities, space agencies, amateur satellite operators and other users with advanced wireless communication hardware, software and technical services. It develops and builds its products and components, such as satellites measuring ten kilograms and twenty-five centimeters, at its own facilities in Fairfax. These miniaturized ground and space components, which form the center of a data relay network for remote and mobile commercial assets, reduce the size, cost, power consumption and complexity of satellite development. The company uses low-power satellite components, which lead to smaller, lighter spacecraft able to operate with fewer solar cells, thereby reducing overall launch mass and cost. Its low-cost satellite ground stations use commercial antennas, equipment and software for quick installation and cost-effective operation.

Data relayed over SpaceQuest's network includes the location of industrial containers in transit and the readings of the integrity of pipelines in remote locations. SpaceQuest is able to reduce its launch costs by piggybacking the launch of its satellites on larger commercial space launches, and placing its satellites into low-earth orbit. Its satellites provide cost-effective service by reusing its bandwidth to relay small amounts of data related to several million assets at once. Dr. Lorenzini noted that SpaceQuest often has had greater success finding affordable launch space aboard Russian space launches as opposed to U.S. launches, and said that more frequent launches at Virginia's Space Flight Center would make more launches available to his company.

Virginia's Aerospace Industry

John Sternlicht, Director of Community Relations, Policy and Legislation, Virginia Economic Development Partnership, provided a brief overview of the aerospace industry's economic impact on the Commonwealth. According to 2001 estimates, Virginia has approximately 40,000 aerospace industry jobs in more than 240 firms, giving it five percent of total U.S. aerospace employment in an industry that generated more than $144 billion in 2001. In 2000, aerospace firms invested $42.7 million, created 1,445 new jobs and generated three new and four expanded companies in the Commonwealth.

Mr. Sternlicht highlighted several advantages that Virginia enjoys in the aerospace industry, including the aerospace sales and use tax exemption, the presence of the Virginia Space Flight Center and NASA Langley Research Center, a high concentration of communication- and Internet-based companies, and its institutions of higher education. In addition, Virginia is in close proximity to Washington, DC, and federal government procurement centers and has 11 commercial and 59 general aviation airports with direct service internationally through Dulles airport and over 25 military bases representing all branches of the service, including the Coast Guard.

Mr. Sternlicht cautioned that industry trends include consolidation, cost reductions and outsourcing and a geographic shift in launch activity to countries such as Russia and France. He told the Commission that in order to maintain and improve its position in this industry, Virginia should work to maintain a strong base of technical service, communications and computer support management companies, and expand its share of space systems, avionics/electronics and business aircraft manufacturers.

Raytheon

Guy DuBois, Vice President and General Manager, Information Management and Dissemination Systems, Raytheon. Although Raytheon is based in Lexington, Massachusetts, the company has several applications based in its Virginia offices, including GIS information systems, disaster management systems, legacy system migration, high performance computing and secure identification solutions. Raytheon employs 3,273 people in Virginia and another 590 employees live in Virginia. Its core expertise is the design, development and production of technically advanced systems for transforming electronic information into decision-making intelligence. Raytheon's GIS systems can be used for transportation and utility infrastructure, zoning, land use assessment, natural resource management, marine research and coastal mapping. Its disaster management systems can assist police and fire response in the event of flooding, forest fires, hurricanes, plane crashes and mass casualty incidents. Raytheon's secure identification systems include a device that measures blood flow in a person's face. Blood flow is unique to each person, is better than biometrics and can be mapped with infrared cameras.

Current systems already have the information needed to take action; now, they need actionable, real-time information. For example, during Hurricane Andrew, Raytheon's systems revealed

major damage in concentric circles around trailer parks. With this information, city planners developed and tested the hypothesis that building code violations led to the damage. They later learned that trailers become projectiles in high winds causing extensive damage to surrounding areas. City planners were able to use this information to locate and design trailer parks to avoid or minimize this situation. Raytheon is bringing what researchers learn in space to commercial uses on the ground.

Orbital Sciences Corporation

Following the meeting, the Commission took a tour of the Dulles headquarters of Orbital Sciences Corporation. Orbital Chairman and CEO David Thompson provided a brief overview of the company's business as a leading developer and manufacturer of smaller, more affordable space systems. Since its founding in 1982, Orbital has been involved with 250 space missions with 96 percent reliability of those missions. The company develops satellites and spacecraft systems, space and suborbital launch vehicles and advanced space systems, including 129 launch vehicles, 91 satellites and 30 other space systems, as well as offering technical services. The company focuses on small space technology and market segments in the commercial, space and military spheres. It builds satellite and rocket systems ranging from 100 pounds to over two tons compared to larger systems weighing tens of tons. Orbital uses the VSFC to supply small cargo to the international space station (food, parts, etc.).

Currently, Orbital has approximately 600 active satellites in space with another 110 built or on order. To put this into perspective, Mr. Thompson told the Commission that since the late 1950's, approximately 4,000 satellites have been launched lasting from six months to over 15 years. Current projects also include the X-34 reusable rocket, which can travel up to Mach 8 (eight times the speed of sound).

D. JCOTS STAFF's LONGWOOD INSTITUTE FIELD TRIP

Longwood College Institute for Teaching Through Technology and Innovative Practices

On August 15, 2001, JCOTS staff attended an informational meeting and tour at the Cyber Center of the Longwood College Institute for Teaching Through Technology and Innovative Practices (the "Institute"), which is located in South Boston, Virginia. The Institute's main function is to help schools in underserved areas of Southside Virginia; it is part of the Halifax-South Boston Continuing Education Center. The Institute assists teachers by providing them with classroom appropriate, innovative technology that is reasonably priced.

The Institute aims to achieve Educational Best Practices by combining content/pedagogy, instructional technology, and policy/leadership goals. According to the Institute's Director, Carole Inge, the CyberCenter has several equipment loan programs for community outreach. Technology equipment that can be loaned out includes a portable planetarium, telescopes, palms and probes, laptops, projectors, digital cameras, and e-books. The CyberCenter is also currently

testing out several mobile multimedia production and development carts that have projection and recording capabilities to make distance learning easier.

For teachers who cannot reach the CyberCenter, the Institute is developing a Mobile Learning Unit equipped with everything the CyberCenter has to offer, including wireless Internet access on laptops. With the help of the Institute, students can get first-hand experience with technology in the classroom by using automated telescopes, digital equipment, assistive technologies, and virtual reality.

Ms. Inge reported that the Institute had already held a well-attended Administrator Leadership Training Program with over 240 administrators in attendance. The training was delivered in cooperation with Virginia Tech's Institute for Connecting Science Research to the Classroom and the Southside Virginia Regional Technology Consortium ("SVRTC"). She explained that for the Institute to assist the schools in bridging the digital divide, the school administrator must support new technology programs.

The Institute is a partner with the ~~SVRTC ,~~SVRTC, whose membership is composed of 22 public school divisions located within Southside Virginia. The Institute and SVRTC have established the Advanced Communications Project ("ACP"). The ACP is designed to encourage a standardized, compatible, and maintainable infrastructure that will support data, packet-based compressed video, and other packet-based communications mediums. The primary focus of the project is to eliminate as many obstacles as possible that would impede or prevent successful advanced communications among members of the SVRTC and to facilitate services for the SVRTC. The Institute is the only research and development organization in the state that is funded by the General Assembly to analyze technology and its effects in the classroom.

III. ADVISORY COMMITTEE REPORTS

A. INFRASTRUCTURE ADVISORY COMMITTEE
Senator Newman and Delegate Plum, Co-Chairs

Charge: To explore the current technology infrastructure in the Commonwealth, the current and expected demands on that infrastructure (on a regional and a statewide level) and the means of meeting those demands across the Commonwealth, including whether localities should be able to provide infrastructure services.

1. Summary

The Infrastructure Advisory Committee met four times during the 2001 interim: on August 23, October 17, November 20 and December 10. During its meetings, the Committee received briefings on access circuit types, on some of the networks in the Commonwealth, from the provider community and from end users. In addition, the Committee also received a briefing on the *Bristol* case and an update on the Telecommunications Summit, which was recommended by

the Commission last year and held on July 10, 2001 in Charlottesville. At its October 17 meeting, the co-chairs attended via videoconference and teleconference.

Internet Access Methods

Wes Burton, of the Society of Cable & Telecommunications Engineers and AT&T Broadband, explained the various methods through which residences can access the Internet using phone, electric and cable lines, as well as wireless and satellite. Hybrid Fiber Coax offers faster speeds than traditional phone lines, but it is a shared medium and requires upgrading the cable lines and systems. Asymmetric Digital Subscriber Line ("ADSL"), the technology that the incumbent local phone companies are using, requires additional equipment in the home and the central office and can carry voice and data. A lesser (and slower) version of ADSL is available, requiring a card in the computer and a phone jack that is connected to a high-speed phone line. Multichannel Multipoint Distribution System (MMDS) is one example of fixed wireless and requires an antenna about the size of a barbecue grill attached to the building. The voice and data travel over the airwaves to the antenna and down coax into a cable modem. Another method is DirecPC, which offers a slower broadband speed through that same small dish as DirecTV attached to the side of a house. However, it requires a telephone line to upload. Electric companies are forming partnerships to put fiber over their rights-of-way and use the fiber for monitoring, alarm systems, voice and Internet services. However, too much interference currently exists to run voice and data the electrical lines.

COVANET (covanet.state.va.us)

Jim Nystrom, Senior Manager, Government and University Markets, MCIWorldcom, presented COVANET to the Committee. Through this contract, the Virginia Department of Information Technology (DIT) and WorldCom joined forces to provide a comprehensive array of communications services - voice, data, Internet, and enhanced solutions - to local and county governments, state agencies, universities, and quasi-government agencies, all in one vehicle, the COVANET contract. At the heart of this effort lies the Commonwealth of Virginia Network, a robust private ATM/frame relay network that will serve as the backbone infrastructure that helps keep Virginia at the forefront of e-government technology. The goals of the COVANET contract are to combine five state networks into one and to offer services statewide at simple, flat rate, statewide pricing with no term commitment from customers.

Net.Work.Virginia (NWV) (www.networkvirginia.net)

Mike MacDowell, Sprint Major Account Manager, gave the presentation on Net.Work.Virginia. NWV is an advanced, broadband network delivering Internet and intranet services statewide. It is the result of a project led by Virginia Tech in association with Old Dominion University and the Virginia Community College System to develop universal access to competitive, advanced digital communications services for all of Virginia. With nearly a thousand sites, NWV offers access to an array of educational and information resources. Participants include four-year colleges and universities, the Virginia Community College System, private schools, and K-12

school systems. Also, many state agencies are taking advantage of the network. The same infrastructure is open to everyone including commercial customers at low cost.

The network has very high capacity and can deliver simultaneous transmission of fully interactive voice, data, and video services. An Internet gateway is included which is open to all participants. A single connection to the network can be used to support different types of multimedia connections simultaneously. The bandwidth can be flexibly allocated and reallocated as needed. Virtually any type of application or communication service can be transported across NWV.

With the implementation of NWVng (next generation) during the first half of 2001, NWV will offer greatly increased capacity and enhanced support for new Internet-based applications like IP videoconferencing, high definition video, and improved reliability and performance for Internet access. NWVng will also support upgraded access to Internet2's Abilene network and other regional and national research and education networks. NWVng will even offer the capability to support demanding new applications such as Virginia's Standards of Learning online testing.

VirginiaLink (www.valink.net)

Jean Woods, Director, Advanced Communications and Internet Infrastructure, Center for Innovative Technology, explained the VirginiaLink program to the Committee. VirginiaLink is a multi-vendor telecommunications marketplace providing Virginia businesses with a diverse selection of deeply discounted advanced telecommunications services. The cornerstone of this program is distance-insensitive, high-performance, broadband connectivity, which is available throughout the Commonwealth from participating carriers. Offerings range from direct Internet access to enterprise-wide network solutions utilizing ATM and Frame Relay for voice, data, and video conferencing. To enhance these transport services, the program also makes available to participants router equipment, security products (firewalls), hosting services, and VPNs (virtual private networks) at reduced prices. Long distance services, including traditional outbound, toll-free inbound and teleconferencing, have recently been added to VirginiaLink's marketplace with the introduction of additional products, services, and vendors planned for the near future.

Recognizing the importance of bringing affordable broadband services to businesses throughout the Commonwealth, the Office of the Secretary of Technology served as a catalyst for this comprehensive and innovative project, bringing together a collaborative team to launch the program - the Center for Innovative Technology, Virginia Tech, and some service providers. While the initial offering was modeled after Net.Work.Virginia, an ATM-based distance-insensitive network offering, managed by Virginia Tech and available to educational and governmental entities throughout the state, CIT recognized that the unique needs of the commercial sector would require that the program be broaden considerably to create a multi-vendor, multi-service marketplace. VirginiaLink now provides a platform of leading-edge telecom products and services, designed so that any Virginia company would have a choice in selecting the appropriate value proposition for its business.

The program was established and is managed by CIT. CIT prescreens the vendors to ensure that only reputable providers that can meet stringent performance criteria are included in the marketplace. Master agreements are then negotiated with the selected providers by CIT on behalf of Virginia businesses; services, preferred rates, strong service level agreements to ensure top-notch performance, and other favorable terms and conditions are thus established. CIT retains a strong role in marketing the VirginiaLink program, but the vendors are responsible for their own sales and maintain a direct relationship with their customer base.

VIPNet (www.vipnet.org)

Rodney T. Willett, General Manager, Virginia Information Providers Network ("VIPNet"), informed the Committee about VIPNet's latest "My Virginia" project. VIPNet is a state entity that assists other government entities in providing information and services via the Internet. My Virginia (www.myvirginia.org) is the official homepage of the Commonwealth of Virginia. The homepage provides citizens and businesses with a single, electronic gateway to all government-related information. My Virginia receives more than 20 million hits per month from users all over the world. Homepage users may access the more than 100 interactive services available from Virginia government entities via the "Online Services" list.

My Virginia is supporting Virginia's "E-Communities" efforts by facilitating citizens finding their community and local Internet based resources. Citizens may search for their community websites by entering a zip code or selecting a specific locality. The search results will present links to the user's local websites under the topics of Communities; Local Government; Education; Online Services; and Parks, Recreation, and Tourism. In turn, community and local government websites are adding direct links to the My Virginia homepage and Virginia government interactive services listings.

BEVNET (www.bev.net)

Andrew M. Cohill, Director, Blacksburg Electronic Village, presented the history and development of The Blacksburg Electronic Village ("BEV"). The BEV is an outreach effort of Virginia Tech, in partnership with the Town of Blacksburg. It is based entirely on the Internet. The goals of the project are to continue to foster the virtual community that has been created to complement and enhance the physical community; further refine the model for creating electronic communities in other towns; investigate the factors that make community networks self-supporting and responsive to user needs; and provide support and assistance to other communities that are trying to develop healthy community networks.

By the summer of 1999, more than 87% Blacksburg's 38,000 citizens were using the Internet on a regular basis. More than 475 local businesses advertise online, or about 75% of all businesses in the Blacksburg area. Many office buildings in the area are completely wired for direct, high-speed access to the Internet. The ubiquitous network facilities in Blacksburg enable local businesses to conduct worldwide operations easily.

The BEV has become a part of everyday life for the residents of Blacksburg. Senior Citizens use it to keep up with old and new friends by chatting on a listserv (e-mail list), contributing a senior profile to the seniors Web page, and having monthly BEV Seniors meetings and socials. More than two-thirds of the businesses in town are using the Internet and are seeing their market expand worldwide. School children have a new way to learn as they use videoconferences to interact with students in faraway lands. Parents keep abreast of classroom activities on the school Web pages and can correspond with teachers using e-mail. Citizens use a simple Web-based survey to let their County Supervisor know what they think of funding sources for school renovations and proposed new roads.

Sprint Local Telecom Division (csb.sprint.com/home/local/index.html)

Bill Gould, Account Executive, Sprint Local Telecom Division ("LTD"), briefed the Committee on Sprint's local telecommunications and data services in Virginia. In Virginia, Sprint LTD employs approximately 700 people. The Division's network is comprised of 432,210 switched access lines (including 83,075 switched business lines), and 31,300 business trunks. Mr. Gould explained that Sprint LTD serves 10% of the Virginia population through 90 switching central offices. Sprint LTD's service in Virginia is delivered predominantly to rural customers. He detailed Sprint LTD's data services and underlying infrastructure in the Commonwealth, as well as the company's participation in the Southwest Virginia Education Training Network (www.svetn.org). In conclusion, Mr. Gould presented information on Sprint LTD's future plans in Virginia, including the company's eight-year project to equip its central offices for packet switching and its plan to focus on vertical markets such as government, education and electronic communities. As Sprint converts its network from circuit to packet switching, the distance from the central office that DSL will be available will increase from 18,000 feet to 33,000-36,000 feet.

Virginia Telecommunications Industry Association (www.vtia.org)

Earl Bishop, Executive Vice President, Virginia Telecommunications Industry Association ("VTIA"), provided an overview of the data services offered in Virginia from the VTIA's member companies and the partnerships to which they belong. Mr. Bishop illustrated, using the Network.Virginia maps (www.networkvirginia.net/netmaps/index.html), the geographic availability of high-speed data service throughout the Commonwealth. The maps identify the network's ATM switches in Washington, Richmond and Roanoke, the lines served by those switches and the sites served including the speed of that site's connection. Every site has a T1 line or faster, with rural counties typically having two or more lines. Network.Virginia, COVANET, Virginia Link, Verizon and others currently provide T1 lines throughout the Commonwealth.

Committee members discussed the information gathered to date. Dial-up service and T1 lines are available throughout the Commonwealth. Other forms of access are available in various regions. The issue, according to many, is the lack of actual demand and the current availability of access to the backbone from a given locale for areas that have the demand. As an example, Mr. Bishop conveyed the statistic raised by the National Cable & Telecommunications Association earlier in the month - out of 65 million homes with high-speed cable access, only 6.5

million (1 in 10) actually use it. The rate of use for ISDN lines is only 5.5 percent for business and 1.9 percent overall. Those statistics made the Committee realize that there are even more issues than were anticipated when the study began. As Mr. Bishop explained, the question is not whether a company or person can get access at a given location, but rather what type of service the user wants or needs and how much users are willing to pay. If access is not available, it can be provided for a cost.

Distance issues, taxes, local land use policies, pole attachment costs and terrain all affect availability. According to Verizon representative Robert Woltz, Virginia has one of the lowest state telecommunications taxes and the second highest local telecommunications taxes. He also explained that federal law requires Verizon to make DSL available in any exchange in the Commonwealth. In some areas customers can buy DSL service directly from Verizon and in other areas, other companies can provide DSL service through Verizon's central offices. Verizon is not required to provide and pay for the equipment, only access to its central offices and use of its cable pairs. These factors make the issue of supply and demand much more complicated and less market driven.

The Telecommunications Infrastructure Needs for a Competitive Locality

John Sternlicht, General Counsel, Director of Community Relations, Policy and Legislation, Virginia Economic Development Partnership, briefed the Committee on the present state of the economic development process, how telecommunications infrastructure factors into the process, and the steps Virginia needs to take in order to become more competitive in economic development.

Mr. Sternlicht explained that changes in the economic development process -- including the use of Internet-based information, consultants and objective qualifications -- has created an atmosphere where companies seeking to relocate or expand may reject a location out of hand because it does not have sufficient telecommunications infrastructure currently in place. He emphasized that the most effective way to avoid elimination early in a company's site selection process is to have detailed infrastructure information from utility providers (not just telecommunications) and localities. Examples of the telecommunications infrastructure required by prospective companies include:

- Traditional manufacturing: T1/DSL connection
- Call center: T1/T3 connection
- Data center or ISP: fiber optic cable
  SONET rings
  switching stations
  DSL availability
  T1/T3 telephonic connections

Mr. Sternlicht said that if Virginia can't show a prospect where such infrastructure is located, "we limit our ability to compete with other states for the prospect. We also limit our ability to encourage prospects to consider areas outside Northern Virginia, Richmond, and Hampton

Roads." He encouraged localities to determine the telecommunications infrastructure needs of the industries they wish to attract, to initiate an assessment process to determine what infrastructure already is in place, and to work with their business community to aggregate demand. Doing this helps make the case to a provider that creating or upgrading the infrastructure is necessary and will be profitable. He also suggested that localities look at atypical solutions such as satellite service.

Front Royal-Warren County

Matthew Tederick of Warren County shared his area's experience in trying to provide broadband service to businesses and residents in Front Royal and Warren County. A former member of the Warren County Board of Supervisors, Tederick told the Committee about Warren County's desire to recruit technology firms to its community in order to create local jobs. A majority of the county's residents work outside of the county. By making broadband service available to businesses and individuals, Warren County hoped to improve its tax base by creating an attractive environment for new technology companies and promoting telecommuting among its existing residents. Mr. Tederick cited not only the economic benefits that should flow from obtaining broadband service, but also the social benefits that new technology jobs would provide for county residents, such as reduced commute time and increased family time.

When the Board of Supervisors began to assess the community's current technology resources, they found that the private sector only was providing dial-up Internet access, DSL was available at a prohibitive cost, and while fiber optic cable was present in Front Royal and a significant portion of Warren county, the owner of the cable presently had no plans to provide broadband via the cable.

Mr. Tederick shared this information with the Committee to show that situations exist in Virginia where the private sector may not be meeting communities' broadband needs. He argued, "local governments need to meet a need the industry is not meeting. At the very least, the 'open access' model, where infrastructure –lighted bandwidth– is provided by the locality and the private sector provides content, is one approach that should be given serious consideration." One industry representative stated that they believed Internet access via cable modem currently is available to Front Royal residents.

Lynchburg

Ray Booth shared Lynchburg's experience. The City of Lynchburg spent $3.75 million to build a fiber optic network, which it then leased to nTelos for a nominal fee. As part of the agreement, nTelos is expanding the network from forty-two to seventy-two miles. Originally, schools and local government were connected to the network; however, industry is being added as the network grows. Under its agreement with the City of Lynchburg, nTelos is required to reserve a portion of newly laid fiber optic cable for both local government and future broadband service providers who will compete with nTelos. Additionally, as a result of Lynchburg's agreement with nTelos, local phone bills have been reduced by approximately twenty percent and DSL is available to seventy percent of Lynchburg's residents. Finally, the City of Lynchburg has placed

a portion of the savings from local phone bills into a fund for reinvestment into maintaining and upgrading the city's network.

City of Bristol v. Earley

The Committee ended the meeting with a discussion of the locality's legal ability to provide telecommunications services. The City of Bristol filed suit against the Commonwealth seeking a declaration that § 15.2-1500(B) of the Code of Virginia was preempted by section 253(a) of the Federal Telecommunications Act of 1996 and, therefore, unenforceable under the Supremacy Clause of the United States Constitution. Judge James P. Jones of the District Court for the Western District of Virginia granted summary judgment in favor of the City of Bristol in *City of Bristol v. Earley*, 145 F.Supp.2d 741 (W.D. 2001). This case is now on appeal to the Fourth U.S. Circuit Court of Appeals. Ed Fuhr (Hunton & Williams, representing VTIA), Ford Stephens (Christian & Barton, representing VCTA) and Mark Flynn (Director of Legal Services, Virginia Municipal League) presented the issues and their impact on any recommendation of the Committee. According to Mr. Stephens, an amendment or repeal of § 15.2-1500(B) would not resolve the issues that are raised in this litigation.

Section 15.2-1500(B) of the Code of Virginia provides, in part:

> Notwithstanding any other provision of law, general or special, no locality shall establish any department, office, board, commission, agency or other governmental division or entity which has authority to offer telecommunications equipment, infrastructure, other than pole or tower attachments including antennas or conduit occupancy, or services, other than intragovernmental radio dispatch or paging systems shared by adjoining localities, for sale or lease to any person or entity . . . .

Section 253(a) of the Federal Telecommunications Act provides:

> No State or local statute or regulation, or other State or local legal requirement may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

The district court found "that the broad and unambiguous language of § 253(a) makes it clear that Congress did intend for cities to be 'entities' within the meaning of the Telecommunications Act." Mr. Flynn added that even one of the Act's authors, Representative Rick Boucher, intended for the Act to apply to localities. According to the court's opinion, an amendment of § 15.2-1500(B) that authorized some, but not all, cities to provide telecommunications or Internet access services would also violate the federal statute. In addition, an amendment to § 15.2-1500(B) that authorized cities to offer limited telecommunication or Internet access services would face the argument that it, in effect, still prohibited localities from providing such services and thus be preempted.

The *Bristol* Court noted that § 15.2-1500(C) "permits a locality to lease dark fibers, defined as fiber optic cable which is not lighted by lasers or other electronic equipment." It found that this provision "imposes severe limitations on the ability of the City to provide telecommunications service" and thus it "at least has 'the effect of prohibiting' the City from providing telecommunications service to the public." As a result, under the district court's opinion (including its finding that "any entity" in 47 U.S.C. § 253(a) includes cities), Virginia cities could claim that an amendment to § 15.2-1500(B) that granted them a qualified or restricted power to provide telecommunication or Internet access services (such as to a limited amount of years or only through certain partnerships with private corporations) would also violate the federal statute.

An outright repeal of § 15.2-1500(B) would not result in Virginia cities having the power to provide telecommunication or Internet access services. Under Dillon's Rule, local governing bodies have only those powers that are expressly granted by the state legislature, those powers fairly or necessarily implied from expressly granted powers, and those powers that are essential and indispensable. The General Assembly has not expressly granted localities the power to operate telecommunication or Internet access systems for their residents. According to Mr. Stephens, the *Bristol* Court's conclusion to the contrary was wrong.

The *Bristol* Court found that "the General Assembly did authorize the City to provide telecommunications service as a public utility in sections 15.2-2109 and 56-265.1 of the Code of Virginia." However, neither of these statutes provides cities such an express power. Section 15.2-2109 grants localities the power to establish, maintain and operate "waterworks, sewerage, gas works (natural or manufactured), electric plants, public mass transportation systems, stormwater management systems and other pubic utilities . . . ." Section 56-265.1 defines pubic utilities as:

> [A]ny company that owns or operates facilities within the Commonwealth of Virginia for the generation, transmission or distribution of electric energy for sale, for the production, storage, transmission, or distribution, otherwise than in enclosed portable containers, of natural or manufactured gas or geothermal resources for sale for heat, light or power, or for the furnishing of telephone service, sewerage facilities or water . . . .

The same statute excludes municipal corporations and counties from the definition of "corporation." As a result, the definition of "public utility" on which the *Bristol* Court relies expressly excludes cities and counties.

Moreover, even if the definition of "public utility" did not expressly exclude cities and counties, the phrase "the furnishing of telephone service" can not be construed as encompassing Internet access services. Initially used in this statute in 1950, the General Assembly could not have intended "the furnishing of telephone service" to include Internet access service because the Internet neither existed, nor could even have been contemplated, at that time. See PSINET, Inc. v. Chapman, 108 F. Supp.2d 611, 620 (W.D. Va. 2000) (construing another statute, the court

found that "when the 1985 version of the statute was adopted, Internet communication was not envisioned and so the statute could not have been meant to regulate such unforeseen forms of electronic communication.").

Under § 15.2-1500(B), the General Assembly confirmed the conclusion that localities do not have the authority to enter into the business of delivering telecommunications services unless they are expressly authorized to do so. An amendment to § 15.2-1500(B) expressly "authorized" one locality "to offer such telecommunications services." Therefore, even if § 15.2-1500(B) were repealed, under Dillon's Rule, localities in Virginia still would not have the express authority to enter into the business of delivering telecommunication services.

Members of the Committee responded that compromise was impossible under this scenario. Tom Dick explained that Bristol already owns the infrastructure to compete and plans to apply to be a CLEC. Furthermore, according to Earl Bishop, Bristol has stated that it has no intention of selling the infrastructure. The State Corporation Commission maintained that it does not believe it has the ability to regulate a locality, even as a market participant.

The Telecommunications Summit

Earl Bishop, Executive Vice President, Virginia Telecommunications Industry Association updated the Committee on the Telecommunications Summit that he 2000 JCOTS Digital Divide Advisory Committee asked the Virginia Association of Counties, the Virginia Municipal League, and the Virginia Telecommunications Industry Association to host. The purpose of the summit was to bring together industry and local government land use planners to discuss issues affecting the deployment of wireless telecommunications towers and the concerns of the local officials. These organizations cosponsored and conducted the summit on July 10, 2001 in Charlottesville.

Two hundred ten people from government, industry and other fields attended the summit. These attendees participated in small group discussions led by facilitators and were asked to complete a survey of general concerns. The group facilitators documented the groups' comments and returned them to the organizing sponsors who are forming a task force to review them and prepare a report. Initial feedback from many participants included a desire for more, similar meetings on regional bases.

Rural Virginia Prosperity Commission (www.rvpc.vt.edu)

Mitchell Goldstein, Director, JCOTS, provided a brief overview of the recommendations on rural digital infrastructure needs made by the Rural Virginia Prosperity Commission ("RVPC"). The RVPC recommended directing the Center for Innovative Technology and the Secretary of Technology to coordinate the evaluation of the present state and need for new infrastructure in rural Virginia and plans to fill any gaps in that infrastructure with the public and private stakeholders, set bandwidth goals and encourage private development. The RVPC expects that it will evolve into a non-profit Center for Rural Virginia that will act as a champion for the rural digital economy to promote the growth of rural e-business, promote and coordinate technical education and identify funding for new infrastructure. The RVPC recommended that in areas not

sufficiently served by the private sector (at minimum established data rates), local governments should be allowed to create the necessary services and, at an appropriate time, offer these services to the private sector at fair market value. Alternatively, localities should be allowed to create public/private partnerships to provide the necessary services. Finally, the RVPC recommended that state tax incentives be provided when a technology business or industry relocates to a rural Technology Zone as designated by the local city, county, or town. The RVPC would like to see state tax credits for infrastructure investments in rural areas, when investments are made to bring an underserved area up to service level goals set by CIT and the Secretary of Technology.

Educational Needs

Bill Wilson, Systems Analyst, Southside Virginia Community College, explained the infrastructure needs of the educational institutions and the technologies that they will be using. The Longwood College Institute for Teaching Through Technology and Innovative Practices (the "Institute") and the Southside Virginia Regional Technology Consortium are working on an advanced communications project (the "project") to deploy H.323 compressed video in twenty-two public school divisions. Recently, the Institute began to identify specific needs and concerns related to consortium member's local area network ("LAN") infrastructure and its impact on the success of the SVRTC project. Additional concerns related to the Internet service provider's ("ISP") wide area network ("WAN") infrastructures arose during a pilot project between two consortium school divisions.

K-12 infrastructures need to be compatible with other school division and potentially national entities in order to ensure successful communications. Equipment that K-12 school divisions are purchasing needs to support the latest protocols and packet-switching technology to ensure future compatibility. Appropriate bandwidth management methods need to be considered to leverage and minimize the cost. End-to-end packet-based quality of service also needs to be included to insure that critical traffic gets appropriate consideration in both LAN and WAN networks. Firewalls need to provide protection from the most common hacking problems while facilitating communications using H.323, voice over IP and other classes of required and/or trusted network traffic. In an effort to address some of these issues a project plan was written that includes an overview of the project along with minimum infrastructure recommendations regarding compatibility and performance protocols. In addition, one governing body must be responsible for developing minimum guidelines and recommendations and providing technical guidance and direction for K-12 school divisions. Identifying and supporting the technical needs of the K-12 environment, including defining minimum guidelines and requirements, is important to the technical success of K-12 across the Commonwealth.

Mid-Atlantic Life Sciences & Information Technology Corridor

Dr. George Kasper, Professor of Information Systems, Department of Information Systems, Virginia Commonwealth University ("VCU"), presented a proposal for the development of the Mid-Atlantic Life Sciences & Information Technology Corridor. At the outset of his briefing, Dr. Kasper stated that he was presenting his proposal in a personal capacity and not on behalf of his employer, VCU. As proposed, this Corridor would be extremely high-speed digital network

connecting the public and private life sciences research institutes, laboratories, universities, and health centers in the geographic corridor of Virginia, Maryland, North Carolina and the District of Columbia. This region currently contains many of the world's most prestigious and leading life sciences and informatics resources. If these research centers, institutes, laboratories, universities, and teaching hospitals are to remain competitive, Dr. Kasper stated, they must have real-time access to the resources that compliment and support their mission-critical needs. Additionally, the Corridor's economy is increasingly dependent upon life sciences and information technology. In short, a push-pull relationship has developed between advances in the life sciences, advances in information technology and the economy of the region in question. The critical limiting resource to this Corridor's prosperity is data communications infrastructure. To date, two other states --Michigan and Missouri-- have initiated intra-state life sciences corridors.

Dr. Kasper concluded by stating that a feasibility study would cost an estimated $280,000. Estimates of the annual cost for the project are $50 million per year for five-years, including annual operating costs. This results in a total five-year commitment of about $250 million, shared among the Corridor's participating states and the District of Columbia.

2. Recommendations

The Committee discussed the effect that the *Bristol* case will have on any recommendations. Delegate Plum cautioned the Committee about the General Assembly's long-standing practice of refraining from addressing issues with a case on point in the courts. He commended the parties for the work that has been done to date noting that the adversarial tone of early meetings has become increasingly cooperative. He added his hope that continued communication would lead to a marketplace solution. Senator Newman echoed Delegate Plum's caution saying that the General Assembly will not address issues that are the subject of ongoing litigation. He proposed that any legislative recommendations be deferred at this time and that the Committee recommend the continuation of this study concerning Virginia's infrastructure needs and monitoring of the ongoing litigation.

B. PRIVACY ADVISORY COMMITTEE
Senator Ticer and Delegate May, Co-Chairs

Charge: To review the issues and concerns raised when customers of government and business are required to release increasing amounts of personal information to conduct their affairs, including ownership and use of the information in the digital age.

1. Summary

The Privacy Advisory Committee met four times during the 2001 interim: on September 4, October 3, November 14 and December 12. During its meetings, the Committee received briefings on technological or market-based solutions and resolutions to the privacy debate and from industry organizations, non-profit organizations, civil rights organizations and corporations

regarding their positions, solutions, resolutions and rationale. In addition, the Committee discussed proposed bills from the 2001 General Assembly Session, which were designed to protect privacy of personal information in commerce, and privacy in the workplace.

EPIC (www.epic.org)

Chris Hoofnagle, Legislative Counsel, Electronic Privacy Information Center ("EPIC"), presented his organization's privacy position. EPIC is a public interest research center that was established in 1994 to focus public attention on emerging civil liberties issues and to protect privacy, the First Amendment, and constitutional values. EPIC believes that this issue should be divided into consumer and government privacy issues. It defines privacy as the ability to live without intrusions from others.

In a September 1999 survey conducted by the *Wall Street Journal* and NBC, approximately twenty-nine percent of participants cited loss of personal privacy as their biggest fear. To protect personal privacy, EPIC recommends that people only give out the information that is necessary for a given transaction. To protect personal privacy, Mr. Hoofnagle stressed several points. People must have the ability to access and correct information about them. Information collected for one purpose or transaction should not be used for another purpose. Reasonable security features should be mandated with protections written into law. The information collected should be open; companies and government should not have "secret databases." EPIC believes that "opt-in" (consent) is the appropriate standard for legislation. Finally, legal protections should exist for wrongful use of the personal information of another; these protections may take the form of personal causes of action, criminal sanctions, or both.

ISTPA (www.istpa.org)

After hearing from a civil rights representative, the Committee heard from a representative of the business community, John Sabo. Mr. Sabo is President of the International Security, Trust, and Privacy Alliance ("ISTPA"), an industry consortium focusing on defining a framework for the protection of personally identifiable data. He began his presentation by differentiating privacy from security. He defined privacy as the proper handling and use of personal information, consistent with the preferences of the subject, and security as the establishment and maintenance of policies and measures (e.g., passwords, firewalls, cryptography) to protect a system. He also cautioned policymakers to consider the life cycle management of personal information beginning with the source/subject traveling through the intermediary and the requestor/receiver and ending with the repository/custodian. Each of these parties can potentially handle and store personal information.

He stressed that procedural and technical security and privacy controls are critical for successful risk management and, therefore, must be designed into systems and not as an afterthought. Mr. Sabo also explained the Organisation for Economic Co-Operation and Development's (OECD) (www.oecd.org) privacy guidelines as they pertain to the Internet. The guidelines outline the following basic principles of national application:

1. **Collection Limitation Principle:** There should be limits to the collection of personal data and any such data should be obtained by lawful and fair means and, where appropriate, with the knowledge or consent of the data subject.

2. **Data Quality Principle:** Personal data should be relevant to the purposes for which they are to be used, and, to the extent necessary for those purposes, should be accurate, complete and kept up-to-date.

3. **Purpose Specification Principle:** The purposes for which personal data are collected should be specified not later than at the time of data collection and the subsequent use limited to the fulfillment of those purposes or such others as are not incompatible with those purposes and as are specified on each occasion of change of purpose.

4. **Use Limitation Principle:** Personal data should not be disclosed, made available or otherwise used for purposes other than those specified in accordance with [the Purpose Specification Principle] except:
   a) with the consent of the data subject; or
   b) by the authority of law.

5. **Security Safeguards Principle:** Personal data should be protected by reasonable security safeguards against such risks as loss or unauthorized access, destruction, use, modification or disclosure of data.

6. **Openness Principle:** There should be a general policy of openness about developments, practices and policies with respect to personal data. Means should be readily available of establishing the existence and nature of personal data, and the main purposes of their use, as well as the identity and usual residence of the data controller.

7. **Individual Participation Principle:** An individual should have the right:
   a) to obtain from a data controller, or otherwise, confirmation of whether or not the data controller has data relating to him;
   b) to have communicated to him, data relating to him within a reasonable time; at a charge, if any, that is not excessive; in a reasonable manner; and in a form that is readily intelligible to him;
   c) to be given reasons if a request made under subdivisions (a) and (b) is denied, and to be able to challenge such denial; and
   d) to challenge data relating to him and, if the challenge is successful to have the data erased, rectified, completed or amended.

8. **Accountability Principle:** A data controller should be accountable for complying with measures that give effect to the principles stated above.

He also conveyed the widely accepted Fair Information Practices of the Federal Trade Commission (www.ftc.gov):

1. **Notice** (Awareness) - Websites would be required to provide consumers clear and conspicuous notice of their information practices, including what information they collect, how they collect it (*e.g.*, directly or through non-obvious means such as cookies), how they use it, how they provide Choice, Access, and Security to consumers, whether they disclose the information collected to other entities, and whether other entities are collecting information through the site.

2. **Choice** (Consent) - Websites would be required to offer consumers choices as to how their personal identifying information is used beyond the use for which the information was provided (*e.g.*, to consummate a transaction). Such choice would encompass both internal secondary uses (such as marketing back to consumers) and external secondary uses (such as disclosing data to other entities).

3. **Access** - Websites would be required to offer consumers reasonable access to the information a website has collected about them, including a reasonable opportunity to review information and to correct inaccuracies or delete information.

4. **Security** - Websites would be required to take reasonable steps to protect the security of the information they collect from consumers.

While the principles advocated globally and the practices advocated nationally appear complete, Mr. Sabo indicated that they are inadequate. The interrelationships among the principles and practices are not intuitive. Neither one addresses such critical components as the consumer, agency and interfaces. He also cautioned that there is no clarity in the privacy/security relationship, nor is there any link to implementation. A privacy framework is needed with agreed upon definitions, that addresses all of the phases of information collection, transfer and storage, and that ensures trust in the system. The ISTPA is developing such a framework.

TRUSTe (www.truste.org)

Rebecca Richards, Director of Compliance and Policy for TRUSTe, presented a market approach to privacy protection. Founded in 1997, TRUSTe is the premier privacy seal program worldwide. TRUSTe is an independent organization dedicated to enabling individuals and organizations to establish trusting relationships based on respect for personal identity and information in the evolving networked world. The TRUSTe seal is currently displayed on all of the Internet's portal sites, 15 of the top 20 sites and approximately half of the top 100 sites. Since the summer of 1999, Nielsen//NetRatings has continuously rated TRUSTe as the most visible symbol on the Internet. According to a Cheskin Research survey, TRUSTe is identified as the most trust-invoking Web seal. Since its launch in 1997, the TRUSTe Watchdog dispute resolution process has allowed Web users to turn to TRUSTe for resolution of their privacy

related disputes. TRUSTe has been a catalyst in the alignment of government and industry on policy issues and effective enforcement practices.

A cornerstone of its program is the TRUSTe "trustmark," an online branded seal displayed by member websites. The trustmark is awarded only to sites that adhere to established privacy principles and agree to comply with ongoing TRUSTe oversight and consumer resolution procedures. Privacy principles embody fair information practices approved by the U.S. Department of Commerce, Federal Trade Commission, and prominent industry-represented organizations and associations. The principles include:

1. Adoption and implementation of a privacy policy that takes into account consumer anxiety over sharing personal information online.
2. Notice and disclosure of information collection and use practices.
3. Choice and consent, giving users the opportunity to exercise control over their information.
4. Data security and quality and access measures to help protect the security and accuracy of personally identifiable information.

All websites that display the trustmark must disclose their personal information collection and privacy practices in a straightforward privacy statement, generally a link from the home page. More than one trustmark may be displayed if personal information privacy practices vary within the site. The information that a website displaying the trustmark must disclose is:

1. What personal information is being gathered;
2. How the information will be used;
3. Who the information will be shared with, if anyone;
4. Choices available regarding how collected information is used;
5. Safeguards in place to protect personal information from loss, misuse, or alteration; and
6. Information on updating or correcting inaccuracies in personal information.

TRUSTe is a program based on contract law. Participants apply for a one-year certification that is renewable. To become certified, businesses must complete an extensive document detailing their website privacy practices and policies. From this assessment, they create a privacy statement that TRUSTe reviews to ensure that it adheres to their standards. TRUSTe then audits the website to ensure consistency between the privacy statement and privacy practices. Once all practices are consistent and meet the standards of the program, TRUSTe awards the privacy seal. After the website receives the seal, TRUSTe continues to monitor compliance with the program. In addition, TRUSTe Watchdog, its alternative dispute resolution mechanism, is available to resolve complaints between websites and users.

TRUSTe is currently developing and implementing its Symbols and Labels Initiative. This initiative seeks to improve consumer understanding of the uses of their personal information and expand current privacy protections beyond the Internet into cell phones, personal digital assistants, and other devices that collect personal information. Through this initiative, TRUSTe

will create icons (symbols and labels) that will help individuals make choices based on specific privacy practices (such as opt-in versus opt-out). Translatable to a variety of different media, the icons will give consumers useful, consumer-friendly information that allows them to make informed, yet quick, decisions about who gets their personal information.

AeA (www.aeanet.org)

The final presenter, John Palafoutas, Senior Vice President, Domestic Policy and Congressional Relations for AeA, discussed the positions of the U.S. technology community. AeA supports the adoption of federal preemption legislation that is consistent with the following guidelines:

1. Provide Individuals with Notice;
2. Ensure Consumer Choice;
3. Leverage Market Solutions;
4. Ensure National Standards;
5. Protect Consumers in the Public and Private Arena;
6. Don't Discriminate Against the Internet;
7. Utilize Existing Enforcement Authority; and
8. Avoid Conflicting or Duplicative Standards.

Mr. Palafoutas explained that this policy is based on a number of assumptions. Among those assumptions are that nobody else is more concerned about consumer confidence than companies. A consumer who is not confident in a website or the entire Internet will not shop through that medium or perhaps even with that company. In other words, consumers play a key role in determining to what extent information is provided and protected. He also mentioned that there is already lots of regulation, some of which has led to unintended consequences. For example, he described a case in Maine regarding the application of a medical privacy law that was designed to protect privacy. After being notified by a police officer that her husband had been in an accident, a woman called the hospital to get information on his condition. The hospital would not provide any information (not even whether the man was in the hospital) because of the law; nor would it provide information to the flower delivery person or even the man's priest. The law was soon repealed.

Mr. Palafoutas cautioned lawmakers to refrain from focusing on "what ifs" and to ask themselves what the damage is if privacy is compromised. He also questioned lawmakers about their own websites. According to a National Electronic Commerce Coordinating Council (NECCC) survey of all 50 state websites, completed in March of 2000, only ten states had privacy policies that were easily accessible and predominantly placed on their homepages. As of June 2000, a second survey revealed that currently thirteen states have posted privacy policies. One other state had a privacy policy, but it was buried and required clicking on at least one other page before finding the link. The NECCC expanded the survey to include the twenty-five largest U.S. cities and counties based on population as well as the Canadian provinces.

Microsoft (www.microsoft.com/mscorp)

Bill Guidera, Federal Government Affairs Manager for Law and Corporate Affairs, Microsoft Corporation, explained his company's position on privacy. He began by stating that the online market is so competitive that companies must take privacy seriously. Some companies, like Microsoft, have created and filled the position of Chief Privacy Officer. Microsoft has adopted the Fair Information Practices, signed on to the European Union safe harbor agreement and integrated P3P into its Internet Explorer version 6.0 web browser. Mr. Guidera supports P3P as a market-based solution that was developed as a market reaction to consumer demand and not a response to the threat of regulation. Microsoft has also created a policy generator to make privacy policies machine readable for integration into P3P. Mr. Guidera went on to describe the Passport program to the Committee. Passport is an authentication service that governs all access to its products and services (AOL and Sun Microsystems have competing products).

Implementing a privacy policy also involves holding business partners and associates accountable for what they do with a customer's information. Advertisers must have a privacy policy before they will be allowed to advertise on Microsoft's websites and before Microsoft will advertise on their websites. Privacy policies only deal with how a company collects and protects information. The next step is security, how a company stops criminals from getting that information. To secure this information, companies should close vulnerabilities, build more secure code, learn from mistakes and create a security response center. Companies also need to work with law enforcement and obtain executive buy-in for any policy to be effective.

Microsoft supports a federal law with preemption provisions to enable companies to create one efficient system with lower costs, instead of multiple systems to comply with a patchwork of state and federal laws. Recourse already exists for violations of privacy policies through Section 5 of the Federal Trade Commission Act and private rights of action through contract. Advocating self-regulation, Microsoft is a member of BBBOnline, TRUSTe and similar organizations. Most important, Mr. Guidera stated that on-line and off-line activities should be treated with parity.

Northern Virginia Technology Council (www.nvtc.org)

Next, Josh Levi, Director of Policy for the Northern Virginia Technology Council ("NVTC"), revealed NVTC's Privacy Principles. Those principles are encourage the free flow of information, use the dynamic marketplace to address consumer preferences, apply privacy rules uniformly to both "on-line" and "off-line" business, educate citizens and consumers on how to exercise choices in the protection of personal information, enforce existing laws that protect sensitive information, avoid a patchwork of local and state statutes, and that government should lead by example in protecting personal information.

Mr. Levi stated that the costs and benefits of regulation on the flow of information, businesses, and consumers must be fully understood when considering increased regulation. As a general rule, government should impose regulation on the marketplace only when the marketplace is not functioning properly; businesses within the marketplace have failed to correct the perceived

problem after having been given a fair opportunity to do so; the regulations offer a real remedy; and the benefit of the regulation exceeds its cost. Businesses understand they must maintain good relationships with their customers and potential customers to build and protect their reputations and good will. As a result, they have a definite incentive to meet customers' expectations of privacy. Mr. Levi added that industry is actively working on policies and technologies to empower consumers by giving them more options to protect the information they voluntarily provide. These efforts should be given an opportunity to be tested and refined.

Mr. Levi also explained that current laws address many of the concerns expressed about the privacy of information. These laws should be actively enforced and applied uniformly to all businesses. The issue here is not the method of gathering the information, but the information that is gathered. In addition, companies usually store similar information in the same database regardless of the method of collection. Existing laws, which address the type of information and the abuse of that information, must be enforced before legislators determine whether new laws are necessary. More importantly, government should lead by example and protect the personal information that it expects the private sector to protect.

P3P - The Technological Solution?

Steve DelBianco, Vice President for Corporate Affairs, Association for Competitive Technology and a member of the Committee, informed the Committee about the Platform for Privacy Preferences Project . P3P is a technological means for lay people to understand privacy policies, compare those policies with their preferences, and avoid websites that do not meet their preferences. Website developers can use various programs to generate a P3P policy that a P3P browser can interpret. Users have more flexibility than the traditional privacy settings afforded by browsers (i.e., accept all cookies, disable all cookies or accept only cookies that get back to the originating server). With P3P, users have six different preferences that they can set. The computer will use that preference to determine whether to accept or not based upon the privacy policy of the site trying to use the cookie. No longer are users restricted to accepting all or no cookies or to reviewing every to place a cookie on their machines. The P3P specifications also evaluate cookies from third parties and allow users to treat them different than cookies from the original website.

The Virginia Internet Privacy Protection Act (House Bill No. 2382) and the Personal Information Privacy Act (House Bill No. 2803)

During the 2001 Session, Delegates Anne G. "Panny" Rhodes and Jerrauld C. Jones introduced House Bills 2382 and 2803, respectively. After considering these proposals and recognizing the need to review the issues and concerns in more depth, the House Committees on Science and Technology and Corporations, Insurance and Banking requested that the Commission study privacy during the 2001 interim.

House Bill 2382 creates the Virginia Internet Privacy Protection Act to protect consumers' personal information over the Internet. The Act defines three types of consumer personal information: a) necessary personal information consists of information provided by a consumer

to an Internet company, for the purpose of conducting a transaction with the Internet company (e.g., name, address, telephone number and credit card number); b) optional personal information consists of information provided by the consumer to an Internet company that is not necessary to conduct or complete the transaction (e.g., demographics information); and c) profiled personal information refers to consumer information collected by the Internet company, usually without the knowledge of the consumer, by using "cookies" or other similar technology.

The Act prohibits disclosure of payment information, such as account information of credit card or other payment methods. It requires the Internet company to first obtain an express consent of the consumer before disclosing, selling, transferring or sharing the consumer's (i) necessary personal information, (ii) optional personal information, and (ii) profiled personal information that specifically identifies the consumer (OPT IN). The Internet company would be able to disclose, sell, transfer or share profiled personal information that does not specifically identify a consumer, unless the consumer explicitly prohibits doing so (OPT OUT). None of these prohibitions apply if the disclosure, sale, transfer or sharing of personal information falls under the exclusions provided by the Act; for example, disclosure to a third party to conduct or complete the transaction, a requirement under other law or court order, or at the request of the consumer. Internet companies must establish an Internet privacy policy to inform consumers about its requirements of the Act and the Internet companies' personal information policies and practices.

The Act also provides for civil relief should any consumer be injured due to an Internet company's violation of this Act, but also provides an affirmative defense of bona fide error for the Internet company. The Act also makes violation of the Act a prohibited practice under the Virginia Consumer Protection Act (§ 59.1-196 et seq.), thus giving the Attorney General of Virginia jurisdiction to enforce its provisions.

House Bill 2803 creates the Personal Information Privacy Act. This Act prohibits suppliers from soliciting or obtaining the personal information of any individual without first notifying the individual of the supplier's privacy policy. The privacy policy must include the specific purposes for which the supplier may use any personal information, and whether the personal information is sold or disclosed to any third party, or combined with the personal information of any other individuals and sold or disclosed to any third party. Suppliers are required to provide written notice to individuals of any change in the supplier's privacy policy, and are prohibited from using the personal information of any individual who had provided personal information under a former privacy policy for any purpose not contained in such former policy, but included in a subsequent privacy policy, without the written consent of such individual.

Committee members Steve DelBianco and Rodney Glover and lobbyist Chris LaGow submitted statements to the Committee. Mr. DelBianco revealed the results of an Association for Competitive Technology (ACT) survey of 1,000 American voters about their experiences, concerns and policy preferences regarding privacy protection. Sixty-five percent of those surveyed stated that they consider a website's privacy policy when choosing a vendor and deciding whether to visit a website; 55 percent believed that existing laws should be better enforced before new laws are created; and 89 percent said that privacy laws should cover all

personal information regardless of the method of collection. When asked which level of government should pass new privacy laws, 62 percent expressed a preference for the federal government while 26 percent wanted the state government to pass new laws.

Applying these results to the bills, Mr. DelBianco's three specific concerns were: H.B. 2382's opt-in provisions for basic personal information; H.B. 2382's provision creating a private right of action; and H.B. 2803's requirement for opt-in consent if a business changes its privacy policy. Regarding the first concern, Mr. DelBianco explained that his experience has shown that few users (as low as four percent in a trial of more than 100,000 users) will take the necessary steps to opt in even if they are not opposed to information sharing. According to a study commissioned by ACT, a private right of action would cost website owners an average of $100,000 in system development costs to maintain the information needed to defend against lawsuits. Those provisions and H.B. 2803's requirement for opt-in consent every time a business changes its privacy policy would drastically reduce the amount of information sharing leading to less marketing revenue to subsidize content and services.

Mr. DelBianco cautioned legislators to not focus on "what-ifs," but to deal with actual problems. Legislators should ask themselves what harm is being caused and what damages result from that harm. Government should protect citizens not from the decisions that they can make for themselves as they decide whether to share personal information in exchange for content and services, but from decisions that they can not make (e.g., whether government shares information that citizens are required to provide).

Mr. Glover's concerns were more technical. He questioned whether the Commonwealth had sufficient jurisdiction over the companies to which these bills would apply. He also expressed concern over the definitions, or lack thereof, of various terms.

Mr. LaGow, representing Nationwide Insurance, explained that even though these bills provide that violations are also violations of the Virginia Consumer Protection Act, the exemptions provided by that act apply to a number of different, highly-regulated entities, including banks, public service corporations and insurance companies. He believes, therefore, that these exemptions would still apply if one of these companies violated the provisions of either act. He urged the Committee to make certain that any regulated entities that are clearly covered under other privacy laws be expressly exempted from any new privacy protection law that it recommends.

Mr. LaGow's other concerns pertain to the private right of action for damages resulting from breaches of privacy and the provisions regarding the accrual of a cause of action beginning with the time the consumer discovers the breach. In addition, the provisions of H.B. 2803 contain no exceptions or exemptions and include an opt-in procedure for companies that change their information use policies. These provisions are more restrictive than those found in other laws and in some cases, they conflict with other requirements that pertain to regulated industries. His final comment was that if every state passed its own privacy protection law, it would impede interstate commerce.

Members of the Committee also had much to say about the legislation. Most of the comments reflected the concerns made by other speakers. Frosty Landon, Executive Director, Virginia Coalition for Open Government, expressed his view that the discussions should differentiate two very different types of personal information: non-public and public. Public personal information should still be publicly available. James Wheaton, an attorney with Troutman Sanders Mays & Valentine, reminded the Committee of the experience with the Children's Online Pornography Protection Act (COPPA). Businesses found the provisions so costly that many of them stopped providing information for children, thereby resulting in less marketing to and less information geared toward children. Delegate Joe May added that a certain amount of competence must be assumed for people who conduct business on the Internet.

The other major issues advanced by the Committee involved the rights of the consumer versus the rights of the company, what happens to the information when control of the company is transferred to another party and what liability third parties have in the process.

Delegate Rhodes and Delegate Jones introduced these bills in the 2001 Session to address the concerns of their constituents and to foster debate. Delegate Rhodes requested that the Commission at least monitor the actions of industry even if the Committee decides not to recommend any legislation at this time. In response to criticism over the application of the bill to all collection of information, Delegate Rhodes suggested changing it to apply only to situations where personal information is traded, sold or otherwise transferred. She cautioned the Committee to evaluate criticisms of the bill and fix them rather than dismiss it using hypothetical situations. In response to the argument that companies would be subject to a patchwork of legislation, she responded that multinational companies must already comply with a number of state regulations from various jurisdictions. Consumer's voices are heard through the legislature and the legislature can not abdicate its responsibility to them.

In response to criticism that his bill would harm companies like Domino's Pizza by requiring them to read their privacy policies over the telephone before collecting information and notifying all prior customers when their policy changes, Delegate Jones asked what was wrong with requiring companies to notify customers of their privacy policy prior to collecting information. Delegate Rhodes commented that the Domino's Pizza concern could be easily remedied by requiring companies to disclose their privacy policy only if they intend to distribute or sell the personal information that they collect.

One Committee member pointed out that the Sunday newspaper is predominately advertisements. Those advertisements pay for almost all of the cost of production. In that same vein, the information that companies collect, compile and transfer enables them to target potential customers with content, products and advertisements and use the revenue to pay for the content and services that they provide. People dislike the countless subscriber cards that fall out of magazines, the advertisements that interrupt television shows, appear in movies or newspapers, and the junk mail that fills their mailboxes as much as they dislike the junk e-mail that results from their information being collected and disseminated. The flow of the information, however, pays for most of all of the cost of the content (i.e., television shows, movies, newspapers, website newsletters) that they enjoy.

Terry Riley, President of the Hampton Roads Technology Council, put the issue in perspective. Privacy concerns date back to the 1920s, if not centuries before. The concern has traditionally been not the collection of information but the subsequent use or misuse of that information, such as using it for purposes that the provider never intended. These practices, whether they are harmful or just objectionable, are what consumers really want to control, not the information itself. If the practice is merely objectionable, consumers can choose not to do business with that company. If the practice is harmful, the legislature should protect consumers and legislate. He cautioned the Committee to forget the information and focus on the practices.

By an overwhelming majority, the Committee voted to not recommend either bill. Without a clear consensus on the issues or the need for legislation and cognizant of the law of unintended consequences, the Committee decided not to recommend any legislation this year. Some members of the Committee felt that legislation should only be brought forward if current privacy concerns are not capable of being remedied by other means such as the Attorney General's Cyber Bill of Rights, evolving technology (such as P3P), the Virginia Consumer Protection Act, or the Federal Trade Commission's guidelines for privacy policies.

Privacy in the Workplace

Rodney Glover, an employment law attorney and Committee member, briefed the Committee on the monitoring employees. He pointed out three principal reasons why employers are monitoring employee use of company-owned technology in the workplace - to ensure a non-hostile work environment, to ensure productivity, and to protect trade secrets and other intellectual property. Reviewing e-mail transmissions and Internet access can dramatically reduce the number of inappropriate materials being circulated in the workplace, thereby helping the employer reduce its liability for sexual harassment and other types of lawsuits. According to Mr. Glover estimates show that the average employee spends approximately six hours per week surfing the Internet for non-work related materials; therefore, by monitoring individual employee activity to limit this behavior, productivity can be increased. Finally, employers must protect sensitive information (e.g., traditional intellectual property, marketing strategies and developmental materials) from dissemination by employees beyond the confines of the workplace.

According to Mr. Glover, most companies with more than 100 employees now monitor, in one form of another, e-mail, Internet access, computer files, phones, and/or office space. Most of the review is now being performed using various software programs that have been developed and are available commercially. Employee privacy issues usually arise in situations in which an employee has been disciplined for violating an employer's policy regarding appropriate use of employer-owned technology. Mr. Glover explained that the number of lawsuits based on these issues is increasing dramatically, with estimates revealing that the number of privacy claims has increased 3,000 percent in the last decade alone.

Mr. Glover informed the Committee that there are five main reasons for legislation. The first reason to pass legislation is to provide clarity to all parties concerning appropriate behavior in the workplace, from both the employer and employee perspective and what privacy rights, if any,

employees in the workplace. Second, since most companies currently have policies, legislation is needed to assure some uniformity of protection to employees. Third, given the increased number of privacy claims in the courts, the parties need some clarity and employers who follow state legislation may potentially need immunity. Fourth, because terminated employees are beginning to include privacy claims in addition to the more traditional claims, legislation could reduce the assertion of privacy claims, thereby reducing the burden on state and federal courts. Finally, the scope of discovery in cases that have been filed under privacy theories is extensive and forces companies to potentially disclose other employees' e-mail and Internet access records, thereby violating the privacy of those employees.

For these reason, Mr. Glover believes that any legislation should include six key elements. Those elements are notice by employers to employees of the type and frequency of monitoring; a description of the activities being monitored; immunity for employers that follow legislatively mandated policies; the requirement that employers have a written policy regarding monitoring and privacy in the workplace; signed acknowledgements by employees; and a cap for damages for violation of the statute.

Notice of Electronic Monitoring Act

The Committee reviewed for a second time the proposed Notice of Electronic Monitoring Act. This bill would prohibit employers from engaging in electronic monitoring of an employee unless the employer provides a notice containing:

> the form and frequency of monitoring that may be conducted, the data to be collected, how the data will be used, and an explanation of the employer's policies with respect to non-business use of employer-owned or controlled equipment.

The bill also mandates that the employer require every affected employee to sign or electronically verify that he or she read, understands, and acknowledges receipt of the policies and practices. It provides an exception that allows employees to monitor without notice if the employer has reasonable grounds to believe that a particular employee is engaged in conduct that violates the legal rights of the employer or another person and could involve significant harm to the employer or the other person and the electronic monitoring is likely to produce evidence of the conduct.

Several committee members asked why the same concerns that apply to the other proposed bills would not apply to this issue. This proposal would treat technology differently than other methods of monitoring. However, privacy in the workplace has been somewhat established when the issue is a person's office, locker or body. The rules are less clear when the issue is monitoring from a distance using a more powerful, less physically intrusive means. After much debate, several members of the Committee proposed changing the notice requirement to mirror the EEOC and Department of Labor notice requirements. The changes would allow a company to include its policy in its employee handbook and post it in a location accessible to all employees instead of providing it in writing and obtaining the employee's agreement. Despite the changes, the Committee expressed much concern about recommending this proposal.

Similar bills have stalled in many statehouses across the country and in Congress. However, Connecticut and Delaware enacted similar legislation. Connecticut's law requires employers to provide written notice to employees before engaging in any type of electronic monitoring. Employers can satisfy the requirement by posting the notice in a conspicuous place that is readily available for review by its employees. Exceptions to Connecticut's law apply when an employer has reasonable grounds to believe that employees are engaged in conduct that violates the law, violates the legal rights of the employer or its employees or creates a hostile work environment and electronic monitoring may produce evidence of the conduct. Delaware also passed a similar law that requires employers to provide a one-time, written notice to employees that must be signed by the employee. Delaware's law has no exceptions.

The California legislature also passed a similar statute without exceptions. Its law, like the original proposal before the Committee, mandates that the employer require every affected employee to sign or electronically verify that he or she read, understands, and acknowledges receipt of the policies and practices. The governor vetoed the bill because this last provision may prohibit employers from monitoring business computers used by employees to guard against inappropriate business or personal uses. He stated that:

> ...[W]hen considering this issue, I start from the common-sense presumption that employees in today's wired economy understand that computers provided for business purposes are company property and that their use may be monitored and controlled.
>
> Under current law, employers are potentially liable if the employer's agents or employees use the employer's computers for improper purposes, such as sexual harassment, defamation and the like. It therefore follows that any employer has a legitimate need to monitor, either on a spot basis or at regular intervals, such company property, including e-mail traffic and computer files stored on either employer-owned hard drives, diskettes or CD ROMs.
>
> This bill places unnecessary and complicating obligations on employers and may likely to [sic] lead to litigation by affected employees over whether the required notice was provided and whether it was read and understood by the employee.

While many committee members understood the concern and the need for certainty in this area to protect both the employer and the employee, they did not want the cure to cause more problems. Therefore, the Committee voted to not recommend this proposal.

2. Recommendations

The Committee did not recommend any legislation, nor did it reach consensus except to continue to review, analyze and monitor these and related issues.

C. ELECTRONIC GOVERNMENT ADVISORY COMMITTEE
Senator Howell and Delegate Nixon, Co-Chairs

Charge: To explore the issues that governments and citizens face as more of their interaction occurs through computer networks.

1. Summary

The Electronic Government Advisory Committee met twice during the 2001 interim: on October 24 and November 28. During its meetings, the Committee received briefings on trends and issues in electronic government.

Center for Digital Government (www.centerdigitalgov.com)

Cathilea Robinett, Executive Director, Center for Digital Government, briefed the Committee on current trends in electronic government. The Center for Digital Government is a national research and advisory institute providing government and industry leaders with decision support, research and education services to help them effectively incorporate new technologies in the twenty-first century. The Center is well known for its annual survey of how state and city governments apply and use digital technologies to help govern.

Ms. Robinett surveyed current trends in digital government, highlighting successful and innovative uses of technology by state and local governments. In particular, she was complimentary of the usefulness of two Virginia agencies' websites, the Virginia Economic Development Partnership and the Department of Motor Vehicles. She also highlighted the help via live chat that's available on Virginia's home page as being the type of service governments need to provide to in order to attract and retain users to governments' online resources. Additionally, as more examples of effective use of technology by government, she mentioned Maryland's recent changes to its electronic procurement process and Montana's road weather information system. To make electronic procurement more attractive, Maryland changed the applicable statute to provide delegated authority for procurement amounts between $10,000 and $25,000, so long as the procurement is conducted electronically. In Montana, where there are sudden snowstorms, not many drivers and few detour options, the state created a road weather information system where users can view real time road conditions and see Web cam shots of the highway, enabling would-be drivers to make better travel decisions.

Ms. Robinett informed the Committee that digital government initiatives are not exclusive to the United States. British Columbia, Canada built the Justice Information System to integrate all agencies and create an automated system from arrest to adjudication (corrections, police, crown

counsel, judiciary and court services). Japan is beginning its e-Japan initiative. Singapore has led the way with a life events portal.

The opportunity has been presented for the government to lead the economy. The application of technology to government must be part of the agenda, including issues such as security and privacy, efficiency and collaboration). It must not be an afterthought. When asked how governments could measure their return on investment in technology, Ms. Robinett replied that governments must define their benchmarks (e.g., are they more interested in time savings or cost savings?). She also advised the Committee that governments seeking the benefits of technology must be willing to invest in information infrastructure, and encouraged the Committee to think of information infrastructure in the same terms as industrial infrastructure.

Internet Transactions and Sales Tax

Dawn Conrad, Intern, JCOTS, provided the Committee with a briefing on sales tax and Internet transactions. Sales and use taxes have been topics of debate due to the sharp increase in the amount of electronic commerce conducted online. Currently forty-five states and the District of Columbia impose sales and use taxes. In Virginia, which imposes a sales and use tax of three and one-half percent, localities are allowed to add a sales and use tax of one percent, for a total of four and one-half percent. Sales and use taxes generate more than $150 billion per year in the United States and on average account for roughly one-third of state revenues. However, with consumer purchases increasingly conducted online, the states are frequently unable to collect sales taxes because the vendor's only connection with a state is the mail delivery system. A recent study by Forrester Research found that state and local governments lost $525 million in sales taxes in 1999 because of consumer purchases over the Internet. The study showed that $13 billion in taxable retail was sold online in 1999, but only twenty percent of that commerce was taxed. According to a report by the Center for Business and Economic Research at The University of Tennessee, the inability to collect sales and use taxes on remote sales could cost states more than $20 billion per year by 2003. Virginia alone could possibly lose $363.8 million by 2003 if e-commerce transactions are not taxed.

After summarizing the legal background relating to the states' ability to collect sales taxes from remote vendors, Ms. Conrad discussed U.S. Congressional action on the subject, then examined two model acts currently being developed to streamline the states' sales and use tax systems. Streamlined Sales Tax Project ("SSTP") is developing one model act. The National Conference of State Legislatures' ("NCSL") executive committee is developing the other, which is based on the SSTP's work, but differs in several important aspects. In order to simplify the confusing sales tax system, the two model acts would set up a structure and a timetable for states to work together to finalize a simplified sales tax system. These complementary versions contain both a model act and an accompanying agreement among participating states. In each version, the model act establishes the framework for completing a multistate streamlined sales tax system. The agreement offers the criteria that states would have to meet to enter into an interstate streamlined sales tax compact.

While they are similar, the SSTP version is more detailed than the NCSL version, which leaves more decisions to state officials. Ms. Conrad summarized the options presently available to states contemplating sales tax simplification: (i) they can adopt the NCSL-endorsed model act; (ii) adopt the NCSL act and the NCSL-endorsed agreement; or (iii) approve the SSTP model act and agreement.

Next, Ms. Conrad explored Virginia's approach to sales tax simplification efforts. While the National Governors Association ("NGA") supports state efforts to implement one of the above plans, the Commonwealth has not been involved in either the Streamlined Sales Tax Project or the development of the NCSL version. This lack of involvement may be due to the current administration's (i.e., Gilmore's) opposition to any taxes placed on e-commerce. As early as November 1999, Governor Gilmore submitted a *No Internet Tax Proposal* to the "Policies & Options" Paper of the Advisory Commission on Electronic Commerce. In it, he discussed the increased productivity of e-commerce and its affect in creating new wealth and increasing tax collections by government. He stated that in order to keep e-commerce growing at its current rates, state sales tax would have to be forgotten-- "Old rules do not work well in this new borderless economy." Governor Gilmore's proposal recommended that Congress prohibit all sales and use taxes on remote business-to-consumer transactions facilitated by the Internet. He also recommended that the temporary moratorium contained in the Internet Tax Freedom Act be extended to a permanent prohibition against the imposition of tax burdens on electronic commerce.

While Governor Gilmore opposed the extension of sales taxes to out-of-state sales over the Internet, he maintained that he supported tax simplification, which he described as a policy objective in its own right. However, both the SSTP and NCSL versions of tax simplification legislation could eventually lead to sales taxes on out-of-state Internet sales and the Commonwealth is not a participant in either program.

Ms. Conrad observed that streamlining the sales tax system is a difficult issue that JCOTS may wish to consider studying. If the Commonwealth decides to collect sales tax on goods and services purchased over the Internet and shipped to or provided in Virginia, the Commonwealth may be able to do so only by participating in a streamlining sales tax compact. Furthermore, any sales tax compact among the states would have to be approved by the U.S. Congress in order to be constitutional.

Department of Information Technology (www.dit.state.va.us)

Leslie R. Carter, Deputy Director for Services, Department of Information Technology ("DIT") examined the security of Virginia's information systems for the Committee. She began by explaining that critical information and communication infrastructures are targets for terrorists because of the broad economic and operational consequences a shutdown can inflict. In this light, security against cyber attacks will require far greater coordination and cooperation among private companies, the federal and state government agencies, universities and law enforcement. It also will require new protocols and an unprecedented level of trust and cooperation. Although DIT has undertaken security projects that include secure identification methods, virtual private

networking, digital signatures and secure e-mail, such projects are a relatively small portion of DIT's budget and core business areas of telecommunications, computer services, statewide procurements and information technology ("IT") consulting. Moreover, not all of the Commonwealth's critical data is under DIT's control; DIT has no authority over some agencies in the Commonwealth that possess critical information. DIT can only advise these agencies regarding best practices in securing critical information.

Ms. Carter pointed out that DIT is not an enforcement agency. This point is indicative of a larger challenge in measuring the security of Virginia's IT systems: no one knows how secure the Commonwealth's systems are because presently no one individual is charged with that responsibility. For example, if an agency's system becomes infected with a virus or is hacked, no formal reporting mechanism exists. Other agencies may not be alerted about the threats.

Council on Technology Services (www.cots.state.va.us)
My Virginia Personal Identification Number (*My* Virginia PIN)

The Council on Technology Services (COTS) was created in 1998 and charged with creating an information technology blueprint for state government. The Honorable Donald Upson, Secretary of Technology, highlighted one of the most visible programs in which COTS is involved, *My* Virginia PIN (www.myvirginiapin.org). Developed under Secretary Upson's leadership and in partnership by COTS, the Department of Information Technology (DIT) and Department of Motor Vehicles ("DMV"), *My* Virginia PIN is a single citizen key to electronic government services offered by state agencies, educational institutions and local governments. A user's confidential number enables him to conduct secure transactions with not just one agency or organization, but with all participating agencies and organizations. Secretary Upson called *My* Virginia PIN the most highly demanded, comprehensive electronic access tool ever put forward by state government.

He also discussed methods of improving the Commonwealth's information technology security. The centralization of user data resulting from the implementation of *My* Virginia PIN makes the safeguarding of that data much easier because it will be stored on one system. Secretary Upson also told the Committee that he recommended the creation of a statewide information technology security position that would report directly to the Secretary of Technology and, working with COTS, manage all of the Commonwealth's information technology security issues. Senator Howell complimented him on his work and successes as Secretary of Technology and thanked him for his service to the Commonwealth, a sentiment that was echoed by the rest of the Committee.

Next, Jennifer Wootton, Executive Director, COTS, provided the Committee with a more detailed look at *My* Virginia PIN. During her presentation, Ms. Wootton explained that *My* Virginia PIN protects a user's personal information and ensures that the transactions he conducts with government service providers at all levels remain safe and secure. She also described some of the services that will be available to *My* Virginia PIN users when the system goes live at the beginning of 2002, including filing tax returns and checking tax refund status, changing addresses with DMV, renewing driver's licenses, reporting sold or traded vehicles, and verifying

voter registration status. Additionally, many other services will be made available throughout 2002, including registering for Parks & Registration facilities and services, purchasing, accessing records at K-12 schools and applying for professional licenses. She told the Committee that with more agencies, local governments and educational institutions signing up to participate every day, *My* Virginia PIN will become an increasingly useful tool for Virginians.

The successful DMV PIN framework serves as the model for *My* Virginia PIN. The initial round of applications is scheduled to go live in December 2001. At that time, current DMV PIN holders will be converted to *My* Virginia PIN and DMV will no longer be issuing DMV PINs. There are about 500,000 active DMV PIN holders. Citizen PINs will be implemented first, with the development of business and public employee PINs to follow. By building on DMV's existing PIN framework, the Commonwealth will be able to bring additional organizations and their services into the program in the shortest possible time and at the lowest possible cost to construct and administer.

Project Dashboard

Jerry Simonoff, Director, Department of Technology Planning ("DTP"), briefed the Committee on a recent development in information technology reporting, the Commonwealth Major IT Project Status Report Dashboard ("Project Dashboard"). Started in September 2001 by a COTS ad hoc workgroup, the digital dashboard presents the Secretary of Technology, sponsoring Secretariats, oversight committees, and proponent state agencies with a succinct and timely summary of the status of their major information technology projects. The objectives of this project are to facilitate existing oversight process for major IT projects costing more than one million dollars, to establish a common framework to monitor progress and assess risks and to enhance project management maturity.

This Internet-accessible report provides decision makers with a visual status indicator, or dashboard, for each major project, along with links to detailed information. The dashboard establishes a common framework for agency staff, Secretariats, and oversight committees to periodically update project activity, monitor progress, and assess risks. Benefits to state decision makers include improved tracking of projects, ability to respond in a timely manner to project changes, increased accountability, and improved agency project management capabilities. The primary benefit to citizens is successful completion of information technology projects that enhance and expand state services. The Commonwealth Major IT Project Status Report Dashboard imparts the visibility and control that are critical to agency projects meeting system performance requirements on time and within budget.

The dashboard shows the status of several key indicators of project activity. Key indicators identify whether the project is on schedule, within budget, and meeting its goals; achieving agency defined measures of success; experiencing significant changes to original performance, budget, and schedule baselines; and the degree of risk exposure. From the dashboard, decision makers can access more detailed background information about each project, review the sponsoring Secretariat evaluation, and query detailed status information for each indicator.

George Williams, Technology Management Specialist, DTP, and Chair of the COTS Ad Hoc Workgroup on Project Dashboard, gave the Committee a demonstration of the Dashboard prototype.

Fairfax County and State Enterprise Strategy

David Molchany, Chief Information Officer, Fairfax County, briefed the Committee on his experiences in introducing and implementing an enterprise approach to Fairfax County's provision of electronic government. He described the County's strategic approach to technology, linking the overall direction of government and its technology investments to ensure excellence in customer service for both internal and external customers. (See attached). The County has a central information technology agency whose responsibility and authority is operating countywide systems and setting countywide standards and providing department information technology people who operate and maintain LANs, desktops and department-wide systems. Central IT works with the agencies on hiring people to fill key roles and to certify and train project managers. The money for information technology projects resides with and is controlled by Central IT with input from affected constituencies. The County has also created one set of job descriptions and classifications enabling it to offer a more comprehensive development opportunity to IT professionals. Mr. Molchany believes that the approach taken by Fairfax County can serve as an example for other localities and for state government.

Mr. Molchany also explained Fairfax County's business approach to managing local government services and its focus on meeting citizen service expectations by employing e-business practices for electronic government solutions. Fairfax County uses a multi-faceted strategy with a single goal -- utilize technology to bring government to its citizens, or, put another way, build a government without walls, doors or clocks. In implementing an enterprise approach to electronic government, Fairfax County uses a governance structure that relies heavily on a strong chief information officer who is empowered by his superiors and peers and the centralization of hardware and software standards.

Fairfax County uses four technology platforms to meet its goals and address the digital divide: interactive voice response ("IVR"), access to services via touch-tone phone; information kiosks located at various sites in the County, Fairfax City, the Town of Warrenton and INOVA Hospitals; the Fairfax County website, developed using citizen, business and internal focus groups; and the government access channel on cable television. The County's emphasis is to give constituents and businesses convenient choices in how they do business with the County. Fairfax County determined that support of elected officials, senior management and constituents, having an overall IT investment plan (www.co.fairfax.va.us/gov/dit/itplan.htm) and a solid IT infrastructure and using creativity were essential to achieving its goals. The County also set enterprise performance goals and measures for itself, including slowed personnel growth, increased staff effectiveness, increased internal efficiency, reduced printing costs, creating 24-hour government, including all constituents and bridging the digital divide. The results so far include $600,000 for FY 1999 and $878,589 for FY2000 in paid traffic fines through IVR; more than five million screen touches through the kiosks since 1996; an average of one million visits per month through the County's website; 38,841 tax payments yielding $10.9 million through the

website with minimal advertisement between Fall 1999 and Fall 2000; and 29,202 taxpayer vehicle sale/move updates, address changes and questions during the same time frame.

According to Mr. Molchany, other localities have engaged in impressive electronic government initiatives as well. (*See* Appendix 6).

Credit Card Fees for Government Transactions

Jack Christian, Comptroller, Department of Motor Vehicles ("DMV"), briefed the Committee on credit card fees in government transactions. Mr. Christian shared DMV's experience in introducing credit card transactions to its customers, and discussed the related issue of the fees charged by third-party companies for processing such transactions. He said that while technology has made the use of credit cards to facilitate transactions possible, it was DMV's desire to improve customer service that led it to expand their use. Using credit cards for government transactions expands payment options, simulates retail experience, increases service outlets, reduces office overcrowding, and enhances customer convenience. However, service costs associated with accepting credit cards, which are not incorporated into the fee structure, and increased support activity can have a major budgetary impact for large-dollar transactions. In addition, MasterCard's and Visa's agreements do not allow merchants to charge service fees for accepting credit cards in places where the merchant accepts cash and checks as well.

Mr. Christian shared some additional information regarding DMV's experience with credit card growth. From fiscal year 1997 through fiscal year 2001, the percentage of credit card transactions grew every year increasing from 2.56 percent to 10.55 percent. During the same period, the average transaction cost decreased from $1.67 to $1.35. Mr. Christian concluded that although the up-front costs of implementing a credit card payment system and the ongoing transaction fees (i.e., equipment, training, maintenance, staff and time) may be an initial deterrent to other agencies considering the adoption or expansion of credit card payment, ultimately up-front costs may be recouped and transaction costs reduced, all while increasing the quality of customer service. According to a recent UVA customer satisfaction survey, 98 percent of DMV's customers rated the Department's customer service as good or better.

DMV raised the money that it needed to implement its electronic government initiatives by charging a service fee. This fee enabled DMV to fund the infrastructure, which in turn led to enough cost savings to eventually remove the fee and even offer a discount for using the various systems (e.g., automated telephone systems and websites). Mr. Christian informed the Committee that DMV encourages the use of alternative forms of payment to reduce its costs. These forms of payment include ACH (automated clearinghouse) Credits, ACH Debits, Electronic Checks, Checks Cards and Purchasing Cards.

Electronic Notaries

Shelly McCabe, Director of Information Systems, Office of the Secretary of the Commonwealth, presented an update on the work of the Secretary of the Commonwealth Advisory Committee on Electronic Notaries (www.soc.state.va.us/electronicnotary.htm). This committee plans to make a

number of recommendations in its final report, which it anticipates providing to Governor-elect Warner's Secretary of the Commonwealth. Among the recommendations are requirements that notaries keep journals and retain all records for 10 years. To accommodate the increased costs associated with being an electronic notary, the committee plans to recommend increasing fees charged by notaries from two dollars to five dollars. To facilitate online applications, it also recommends removing the endorsement process from the notary application.

2. Recommendations

The Committee recommended that the Commission support:

1. A bill changing the Secretary of Technology's enabling statute to

   a. advance a policy change, advocating an enterprise approach to the Commonwealth's information technology assets; and
   b. delete the one million-dollar threshold, giving the Secretary of Technology maximum flexibility in determining which technology projects are worth in-depth review. The original proposal was to clarify the Secretary's authority over technology projects by defining the one million dollar trigger to reflect an aggregate cost or sum of all phases of Commonwealth technology projects.

   The Committee rejected requiring the Secretary to report on the status of technology projects in the Commonwealth and other specific items in addition to his general report to the Commission on an annual basis.

2. A resolution to study information technology procurement practices in the Commonwealth. This study should include a review of all prior studies and recommendations as well as recent case studies and experiences regarding technology and electronic procurement. The original recommendation included a bill transferring permanent procurement authority for information technology hardware, software and services to the Secretary of Technology. The Committee voted to explore this recommendation in next year's study.

3. A bill transferring responsibility for security audits from the Governor to the Secretary.

4. A bill adding the Directors of JCOTS and COTS as non-voting, ex officio members of the other agency. This measure passed by a slim margin.

5. A bill extending the authorization presently given to the legislative branch of state government, Secretary of Commerce and Trade, Secretary of Technology and State Board for Community Colleges to use videoconferencing as a means of conducting public meetings with modifications of Freedom of Information Act requirements.

The Committee did not have time to address the remaining recommendations:

6. Requesting the Secretary of Technology to study and promulgate guidelines for accepting advertising on Commonwealth websites (a reintroduction of last year's resolution).

7. Protecting the use of *My* Virginia PIN by clarifying that it is a digital signature and by stating that its misuse is a crime.

8. Deleting the provision in the lobbyist reporting section of the Secretary of the Commonwealth's statute that enables lobbyists to use electronic signatures in addition to original signatures. UETA makes this provision redundant and its inclusion is confusing some agencies regarding whether they need specific authorization to accept electronic signatures included in their statutes.

9. Authorizing all agencies that currently accept payments to take those payments using any commercially acceptable form of payment and standardizing the provisions for accepting payments by credit cards and checks already found throughout the Code.

D. CRITICAL INFRASTRUCTURE ADVISORY COMMITTEE
Senator Bolling and Delegate Bennett, Co-Chairs

Charge: To analyze the risks and necessary security measures for protecting the critical infrastructure of the Commonwealth (including government functions and industry sectors) with the goal of continuing the work of the Century Date Change Initiative and of developing an applicable statutory and policy scheme.

1. Summary

The Critical Infrastructure Advisory Committee, charged with analyzing the risks and necessary security measures for protecting the critical infrastructure of the Commonwealth -- including government functions and industry sectors -- met on December 4, 2001. The Committee received a briefing from the U.S. Department of Commerce's Critical Infrastructure Assurance Office on its Project Matrix. Additionally, JCOTS staff briefed the Committee on several legislative proposals.

Critical Infrastructure Assurance Office
Project Matrix

Pat Burt, Policy Specialist, Critical Infrastructure Assurance Office ("CIAO"), U.S. Department of Commerce, briefed the Committee on Project Matrix. Project Matrix is CIAO's effort to (1) identify critical assets, (2) identify associated dependencies and interdependencies, and (3) satisfy

requirements that help the U.S. government to fulfill its responsibilities for national security, national economic security, and critical public health and safety. CIAO presently is completing its evaluation of the federal government's infrastructure assets. For several months CIAO and the Commonwealth have been working toward an agreement facilitating CIAO's evaluation of the Virginia government's infrastructure assets. Such an evaluation would be the first step toward the Commonwealth defining its complex critical infrastructure protection problems and implementing cost-effective solutions in a structured, timely manner. It also would permit the Commonwealth to start identifying and redressing its most significant critical infrastructure protection vulnerabilities first. Finally, the evaluation would provide the necessary framework for well-informed critical infrastructure protection decision-making and budget utilization. Ms. Burt informed the Committee that Virginia is the only state with which CIAO has discussed participation in Project Matrix, and as such, the Commonwealth's participation would be a pilot for the possible participation of other states.

Following the presentation, Senator Bolling asked Ms. Burt to summarize CIAO's discussions with state government officials relating to the Commonwealth's participation in Project Matrix. Both Ms. Burt and Mitchell Goldstein, Director, JCOTS, reported that the secure disclosure of sensitive data is one issue that will need to be addressed before an agreement can be reached. The information that the Commonwealth would supply CIAO as part of its participation in Project Matrix would detail the Commonwealth's critical infrastructure assets. Separately, this information may be harmless. However, in the aggregate, it can reveal detailed information that would enable someone to disrupt or destroy parts of the Commonwealth's critical infrastructure. Therefore, this information requires protection from disclosure under current statutes.

2. Recommendations

Mr. Goldstein provided a brief overview on two legislative items for review: (1) legislation addressing the secure disclosure of information and analysis relating to Virginia's critical infrastructure systems and (2) legislation endorsing the Commonwealth's participation in Project Matrix.

Senator Bolling expressed concern over the legislation. He stated that while they are good ideas, he was uncomfortable recommending them because the Committee had insufficient time to review them. Instead, he asked that the Committee report that it believes the secure disclosure of critical infrastructure information is an issue worthy of further consideration. Finally, he asked that the drafts be circulated for public comment and that the public's comments be reported along with the draft to the Commission.

The Committee recommended forwarding the draft proposals to the Commission for review, but without recommendation.

IV. CONCLUSIONS

In helping the Commonwealth's legislators sort through the vast array of technology and science issues, JCOTS relies heavily on the experts appointed to its advisory committees. These committees offer non-legislators a significant opportunity to share their particular knowledge for the betterment of the General Assembly's collective understanding of these challenging issues. If trying to understand more about such matters is an example of trying to hit a moving target, the advisory committees at least slow the target's speed for the benefit of the Commission. Indeed, the Commonwealth is very fortunate to have citizens willing to share their insights and ideas on technology and science issues that, by their very nature, often are changing as they are being discussed.

In addition to the dynamic nature of the topics JCOTS addresses, the Commission is confronted by a potentially overwhelming list of technology and science related issues worthy of exploration. During the 2001-2002 interim JCOTS and its advisory committees examined some of the most significant and complex issues confronting the Commonwealth's citizens and government today. Everyday matters such as unsolicited bulk e-mail, personal privacy in the information age and citizen interaction with the government online may sound more exciting and pressing than electronic procurement, critical infrastructure security and local provision of telecommunications services, yet all of these issues and many more are important to Virginians and require the General Assembly's attention on some level.

As JCOTS turns it attention to the 2002-2003 interim, the Commission will again assist the General Assembly in identifying the most pressing technology and science issues for closer scrutiny and possible legislation. To ensure that the Commonwealth remains at the forefront of the business of technology and science, JCOTS will continue to help Virginia distinguish itself by actively addressing --whether through legislation, formal study or simple consideration-- some of today's most challenging technology and science issues.

The Joint Commission on Technology and Science extends its sincere appreciation to everyone who participated in its work during the past year. We look forward to continuing to build on this work in 2002-2003.

Respectfully submitted,

Delegate Joe T. May, Chair
Senator Stephen D. Newman, Vice Chair
Delegate William W. Bennett, Jr.
Senator William T. Bolling
Delegate Mary T. Christian
Senator Janet D. Howell
Delegate Sam A. Nixon, Jr.
Delegate Jay K. O'Brien, Jr.
Delegate Kenneth R. Plum
Delegate Harry R. Purkey
Senator Patricia S. Ticer
Senator William C. Wampler, Jr.

Appendix 1

2001-2002 Commission Work Plan
(Adopted June 21, 2001)

Issues to Actively Study through Advisory Committees

Infrastructure

Technology enables people to be mobile. People are no longer tied to an office, a classroom or any other geographic location. Wireless telephones, wireless modems, laptop computers and personal digital assistants (PDAs) have enabled society to operate 24/7. The potential now exists for anyone to access anything from anywhere at any time. However, the technology and access to it must be widely available at reasonable costs.

For example, with little more than one server, three workstations, two uninterruptible power supplies and a color printer/scanner, a remote part of South Africa has Internet access. The system uses radio and satellite technology, dial-up access and gas-powered generators and cost about $44,000, including training.

This committee will explore the current technology infrastructure in the Commonwealth, the current and expected demands on that infrastructure and the means of meeting those demands across the Commonwealth. The committee will explore some of the following topics:

- Broadband: Including tax credits and other incentives for its deployment
- Cable, DSL, Wireless, etc. (Analog and Digital)
- High-speed Internet access in rural areas (Include the Rural Virginia Prosperity Commission and the Virginia Tobacco Indemnification and Community Revitalization Commission)
- Infrastructure needed for Telemedicine, Teleworking and Distance Learning

Privacy

During the 2001 Session, the House Committee on Science and Technology and the House Committee on Corporations, Insurance and Banking considered privacy legislation. Recognizing the need to review the issues and concerns in more depth, both committees request that the Commission study privacy during the 2001 interim.

In recent years, the public has been inundated with media stories about the use and abuse of personal information. Citizens and governments have become increasingly aware of the issues and concerns as more transactions are conducted and more information is provided through computer networks. We have seen laws mandating privacy policies and lawsuits regarding their

enforcement. Most notable was the Federal Trade Commission's intervention in Toysmart.com's attempted sale of its customer information during its bankruptcy case. This committee will review the issues and concerns involved to determine what steps, if any, the Commonwealth should take. Among the issues are:

- Who owns personal information? Should the parties make a difference (i.e., government, business, or public or private citizen)?
- Should the amount and type of information contained in public records vary depending on the format (i.e., paper or digital)?
- Do the current privacy laws meet the needs of the people of the Commonwealth?
- When conducting a commercial transaction through the Internet, should consumers have a choice about what personal information they provide, in addition to the information necessary to complete the transaction?

Electronic Government

During the last few years, citizens and businesses have conducted more and more transactions electronically. Situations that have occurred during and since these transactions have raised a number of concerns; among these concerns are privacy, security, and cost. These concerns also face governments and their citizens as they conduct more of their business online. However, the information is more sensitive, including tax returns, social security numbers, criminal history, and involvement in previous lawsuits. This committee will explore the issues that governments and citizens face as more of their interaction occurs through computer networks. Among the topics that it will address are:

- How secure are e-government transactions? How about the Commonwealth's critical infrastructure?
- Sales Taxes on Internet Transactions
- E-Litigation (e.g., electronically filing documents, electronic discovery)
- E-Notaries
- Project Delivery: a highly disciplined planning, budgeting and acquisition process. It is a prescribed (information technology investment management) process that links planning, budgeting and acquisition and produces information that can be used by decision makers. The purpose of project delivery is to make sure that the funding of projects is based on information that provides both a definite link to the mission of the agency and the assurance that the agency has access to the knowledge skills and tools to achieve an expected outcome.
- How can the Commonwealth simplify access to information and services?
- Should e-transactions costs be passed along to consumers? Monitoring the studies being conducted by the Department of Motor Vehicles and the Secretary of Finance.

The Commonwealth's Critical Infrastructure

The federal government created the Critical Infrastructure Assurance Office in 1998 as a mechanism to assist in the coordination of the federal government's initiatives on critical infrastructure protection. CIAO's successes can help the Commonwealth review its own critical infrastructure. This committee will analyze the risks and necessary security measures for protecting the critical infrastructure of the Commonwealth (including government functions and industry sectors) with the goal of continuing the work of the Century Date Change Initiative and of developing an applicable statutory and policy scheme.

Intellectual Property

During the last two years, both this Commission and the Virginia Research and Technology Advisory Commission (VRTAC) have studied the laws, policies and procedures surrounding commercializing the intellectual property developed from collaborations between public educational institutions and private industry. This committee will continue that work and monitor the progress that the parties have made to date. It will review the Secretary of Technology's 2001 report, which was conducted by VRTAC, on this issue.

Emerging Technologies

The Commonwealth is home to numerous emerging technologies that will transform the way we live. These technologies include, among others, lasers, genetically modified foods, cloned organisms, biometrics, bioinformatics, and nanotechnology. This committee will review the role that these technologies play in the economic development of the Commonwealth as well as the economic and statutory environments in which they operate.

Issues to Actively Study through Commission Meetings

1. New Issues Affecting the Commonwealth

With its rich science and technology sectors and its proximity to the nation's capital, the Commonwealth of Virginia is in a prime location for further innovation and development. However, it is also a competitor with other states, a leading venue for making policy on newly raised issues and a prime target for attack.

- The **Critical Infrastructure Assurance Office** was created in 1998 as a mechanism to assist in the coordination of the federal government's initiatives on critical infrastructure protection. CIAO works with federal agencies and their private industry counterparts to examine crosscutting issues and help secure the nation's critical infrastructure. CIAO's successes can help the Commonwealth review its own critical infrastructure.

- **Space Technology** affects the way we live today. We not only look to space as a source of adventure and discovery, but also as a means of research and invention. Numerous discoveries once thought useful only for space travel are now part of our everyday lives. This session will focus on the impact that our fascination with space has made to life on Earth.

2. Studies to Monitor

- Continuation of H.J.R. 35 - requesting the Innovative Technology Authority, in consultation with the Virginia Biotechnology Research Park Authority, to study the feasibility of establishing a state-sponsored venture capital program for the biotechnology industry.

- H.J.R. 625 and S.J.R. 403 - Requesting the Departments of General Services, Transportation, and Technology Planning, in consultation with the Joint Commission on Technology and Science, to study the methods and technologies needed to implement competitive procurement via electronic means, including electronic sealed bidding.

- H.J.R. 681 - Establishing a joint subcommittee to study Virginia's election process and voting technologies.

- H.J.R. 789 - Establishing a joint subcommittee to study the protection of information contained in the records, documents and cases filed in the courts of the Commonwealth.

- S.J.R. 334 - Requesting the Office of the Executive Secretary of the Virginia Supreme Court, in consultation with the Joint Commission on Technology and Science, to study the discovery of electronic data.

- S.J.R. 361 - Requesting the Secretary of Finance to study the assessment of additional transaction fees when citizens pay Commonwealth penalties, taxes, license fees and other charges with credit cards or other electronic methods of payment. DMV is conducting a similar study.

3. Additional Topics

- Telecommunications Summit being cosponsored by VML, VACo and VTIA at the request of the Digital Divide Committee (2000 interim)

- Updates on Federal Legislation covering science and technology issues that affect the Commonwealth

Appendix 2

2001 - 2002 JCOTS Calendar

2001

- **June 21** - Organizational Meeting (1 p.m. - GAB)
- **August 23** - Infrastructure Advisory Committee (First Meeting) (10 a.m. - Science Museum of Virginia)
- **September 4** - Privacy Advisory Committee (First Meeting) (10 a.m. - Center for Innovative Technology, Herndon)
- **October 3** - Privacy Advisory Committee (Second Meeting) (10 a.m. - House Room 4)
- **October 16** - Full Commission Meeting on *Space Technology* (9 a.m. - Sheraton Premier/Tysons Corner)
- **October 17** - Infrastructure Advisory Committee (Second Meeting) (10 a.m. - GAB)
- **October 24** - Electronic Government Advisory Committee (First Meeting) (1 p.m. - GAB)
- **November 14** - Privacy Advisory Committee (Third Meeting) (10 a.m. - GAB)
- **November 20** - Infrastructure Advisory Committee (Third Meeting) (10 a.m. - GAB)
- **November 28** - Electronic Government Advisory Committee (Second Meeting) (1 p.m. - GAB)
- **December 4** - Critical Infrastructure Advisory Committee (1:00 p.m. - GAB)
- **December 10** - Infrastructure Advisory Committee (Fourth Meeting) (10 a.m. - GAB)
- **December 12** - Privacy Advisory Committee (Fourth Meeting) (10 a.m. - GAB)
- **Mid-December** - Advisory Committees to conclude their work
- **December 18** - Full Commission Meeting (*Topic: 2002 Legislative and Policy Proposals*)

2002

- **January 9** - First day of 2002 Session

Appendix 3

JCOTS 2001 Advisory Committees[1]
(Final 12/31/2001)

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APPENDIX 4

BANDWIDTH COMPARISONS[1]

Speed	Typical Use
10 to 40 bps	Morse code, brief messages, telegrams.
110 bps	Long text messages, news wire services
300 to 1,200 bps	Personal computer communications, transmission of word processing documents, hobbyist bulletin-board systems (BBSs).
9.6 to 14.4 Kbps	Online services with crude graphics or black-and-white photos, e-mail, text-based web pages.
28.8 Kbps (28.8k)	Graphical web pages, downloading software files smaller than 1 megabyte (MB).
56 Kbps (56k)	Streaming audio, animated web pages, software files larger than 1 MB, e-mail with color digital photos attached.
128 Kbps to 1 Mbps	Mid-grade video-conferencing, Internet radio and telephone, downloading movie trailers and high-fidelity audio tracks, telecommuting.
The future: 1 Mbps and up	High-quality video-conferencing, virtual travel, downloading movies and CDs on demand, distance learning, e-mailing home videos.

INTERNET ACCESS and BROADBAND SERVICES[2]

Compiled by Mitchell Goldstein

Type of Connection	Maximum (Theoretical) Speed[3]	Characteristics
POTS (Plain Old Telephone Service	33.6 Kbps upstream (send), 56 Kbps downstream (receive)	Dial-Up Modem, Common Internet Access. Carries voice and analog data over the public switched telephone network. Switching is accomplished by disconnecting and reconnecting lines in different configurations to set up a continuous pathway between the sender and the recipient.
4 Wire Loop	64 Kbps 56 Kbps standard	Dedicated digital connection. Point-to-Point; not distance sensitive. Ideal for low bandwidth permanent circuit.

1 Source: consumerreports.org.

2 The Federal Communications Commission defines broadband as delivering transmissions to the subscriber at a speed in excess of 200 Kbps in at least one direction. Sources: Federal Communications Commission (fcc.gov), National Cable & Telecommunications Association (ncta.com), Virginia Telecommunications Industry Association (vtia.org), Virginia Cable Telecommunications Association (vcta.com), Newton's Telecom Dictionary (17th edition), dslreports.com, everythingdsl.com, and Virginia's service providers.

3 Kbps = kilobits per second = 1,000 bits per second
Mbps = megabits per second = 1,000,000 (1 million) bits per second
Gbps = gigabits per second = 1,000,000,000 (1 billion) bits per second

ISDN (Integrated Services Digital Network)	Offered by telephone companies, international communications standard for sending voice, video and data over digital telephone lines or normal telephone wires. Service consists of Bearer (B) channels (64 Kbps - meant to carry user data) and Data (D) channels (meant to carry control and signaling information, although it can support user data transmission under certain circumstances).	
ISDN BRI (Basic Rate Interface) Line	144 Kbps	Commonly used for small office, home and ISDN voice telephone service. Consist of 2 B channels (128K) and 1 D channel (16Kbps).
ISDN PRI (Primary Rate Interface) Line	1.544 Mbps	Industrial-strength ISDN telephone connection commonly used to service multiple dial-up data connections, PBX systems (large central switchboard systems) and other highly specialized needs. Consist either as 23 B + 1D (64 Kbps) or 24 B + 0 D channels.
Cable Modem	10 Mbps up, 27 Mbps down (to a PC) 52 Mbps down (to an ISP)	Actual speed is generally 1-3 Mbps downstream and 500 Kbps-2.5Mbps upstream. Offers shared bandwidth between subscribers, which affects actual speed (more people online means slower speeds). Designed to operate over cable TV lines and provided by cable companies.
T-carrier system	The T-carrier system is entirely digital, using pulse code modulation (a digital scheme for transmitting analog data) and Time-Division Multiplexing (a scheme in which numerous signals are combined for transmission on a single communications line or channel). The system uses four wires and provides duplex capability (two wires for receiving and two for sending at the same time). The T-1 digital stream consists of 24 64-Kbps channels that are multiplexed. (The standardized 64 Kbps channel is based on the bandwidth required for a voice conversation.) The four wires were originally a pair of twisted pair copper wires, but can now also include coaxial cable, optical fiber, digital microwave, and other media. Multiple variations on the number and use of channels, leading to different rates of speed, are possible. The entire system can be used to carry high-bandwidth communications. Introduced by the Bell System in the U.S. in the 1960s, the T-carrier system was the first successful system that supported digitized voice transmission.	
DS-1 (Digital Signal, level 1) or T-1	1.544 Mbps	Point to point connection, dedicated phone connection, popular leased line option for businesses connecting to the Internet and for Internet Service Provider connecting to the Internet backbone. Another commonly installed service is a fractional T-1, which is the rental of some portion of the 24 channels in a T-1 line, with the other channels going unused. Equivalent to 24 channels (simultaneous phone calls).
DS -2 or T-2	6.312 Mbps	Equivalent to 96 channels (4 T-1 lines). Not commonly used.
DS -3 or T-3 (also considered OC-1)	44.736 Mbps	Dedicated phone connection, used mainly by Internet Service Providers connecting to the Internet backbone and for the backbone itself. Supports real time video. Equivalent to 672 channels (28 T-1 lines).
DS-4 or T-4	274.176 Mbps	Equivalent to 4,032 channels (168 T-1 lines). Not commonly used.
DS-5 or T-5	400.352 Mbps	Equivalent to 5,760 channels (240 T-1 lines). Not commonly used.

DSL or xDSL (Digital Subscriber Line; x is a placeholder)	Constant Internet connection offered by telephone companies utilizing existing copper phone lines. Limited by distance to telephone company's central switching office. There are currently at least six different types of DSL - Asymmetric Digital Subscriber Line (ADSL), Symmetric Digital Subscriber Line (SDSL), ISDN Digital Subscriber Line (IDSL), High speed or High-bit-rate Digital Subscriber Line (HDSL), Very high-bit-rate Digital Subscriber Line (VDSL), and Rate-Adaptive Digital Subscriber Line (RADSL). Each one has different technical ranges, capabilities, and limitations.	
ADSL	128 Kbps up, 8 Mbps down	Speed of the digital link to customer premises is generally not the same speed as the connection coming back. Limited to 18,000 feet (3.4 miles) from the central office; as distance from central office increases, speed decreases (8.448 Mbps at 9,000 feet; 6.312 Mbps at 12,000 feet; 2.048 Mbps at 16,000 feet; 1.544 Mbps at 18,000 feet). For residential and small business Internet access.
SDSL	128 Kbps to 2.3 Mbps	Limited to 22,000 feet (4.1 miles) from the central office; as distance from central office increases, speed decreases. For business Internet access.
IDSL	128 Kbps to 144 Kbps	Hybrid of ISDN and DSL. Limited to 35,000 feet (6.6 miles) from the central office. More affordable, always on alternative to dial-up ISDN. Uses standard Point-to-Point ISDN signaling techniques to link the customer to the central office.
HDSL	1.54 Mbps	Limited to 12,000 feet (2.4 miles) and can be extended using repeaters. Used by Incumbent Local Exchange Carriers for T-1 service. Used for wideband digital transmission within a corporate site and between the telephone company and a customer.
VDSL	51 to 55 Mbps	A developing technology that promises higher data rates over relatively short distances (1,000 to 4,500 feet); as distance from central office increases, speed decreases (51.84 Mbps at 1,000 feet; 25.82 Mbps 3,000 feet; 12.96 Mbps at 4,500 feet).
RADSL	272 Kbps to 1.088 Mbps up, 640 Kbps to 2.2 Mbps down	ADSL technology in which software determines the rate at which signals can be transmitted on a given customer phone line and adjusts the delivery rate accordingly.
Frame Relay	56 Kbps - 45 Mbps	An interface protocol for statistically multiplexed (combining two or more information channels onto a common transmission medium) packet-switched data communications in which (a) variable-sized packets (frames) are used that completely enclose the user packets they transport, and (b) transmission rates are usually between 56 kb/s and 1.544 Mb/s (the T-1 rate). Used as a WAN (Wide Area Networks) solution. Frame Relay networks in the U.S. can support data transfer at 56K, 64K, T-1 and T-3 port speeds.
Asynchronous Transfer Mode (ATM)	1.54 Mbps – OC192	High-performance, cell-oriented switching and multiplexing (combining two or more information channels onto a common transmission medium) technology that utilizes 53 byte fixed-length packets to carry different types of traffic. Able to deliver quality of service (QOS) for voice, data, and video.

OC-1 (Optical Carrier, level 1)	51.8 Mbps	SONET is the American National Standards Institute standard for synchronous data transmission on optical media. The standards ensure that digital networks can interconnect internationally and that existing conventional transmission systems can take advantage of optical media through tributary attachments. OC-1 is equivalent to 28 T-1 lines or 1 T-3 line (up to 672 simultaneous voice calls).
OC-3	155.5 Mbps	Digital connection over fiber optic cables. Typical backbone speed. Equivalent to 84 T-1 lines or 3 T-3 lines (up to 2,016 simultaneous voice calls).
OC-9	466.56 Mbps	Equivalent to 252 T-1 lines or 9 T-3 lines (up to 6,048 simultaneous voice calls). Not commonly used.
OC-12	622.08 Mbps	Equivalent to 336 T-1 lines or 12 T-3 lines (up to 8,064 simultaneous voice calls).
OC-18	933.12 Mbps	Equivalent to 504 T-1 lines or 18 T-3 lines (up to 12,096 simultaneous voice calls).
OC-24	1.244 Gbps	Equivalent to 672 T-1 lines or 24 T-3 lines (up to 16,128 simultaneous voice calls).
OC-36	1.866 Gbps	Equivalent to 1,008 T-1 lines or 36 T-3 lines (up to 24,192 simultaneous voice calls).
OC-48	2.488 Gbps	Equivalent to 1,344 T-1 lines or 48 T-3 lines (up to 32,256 simultaneous voice calls).
OC-96	4.976 Gbps	Equivalent to 2,688 T-1 lines or 96 T-3 lines (up to 64,512 simultaneous voice calls).
OC-192	10 Gbps	Highest backbone speed presently available. Equivalent to 5,376 T-1 lines or 192 T-3 lines (up to 129,024 simultaneous voice calls).
OC-255	13.21 Gbps	No telecom provider currently uses this for its backbone. Equivalent to 7,140 T-1 lines or 255 T-3 lines (up to 171,360 simultaneous voice calls).
Satellite	56 Kbps up, 400 Kbps down	May require a telephone line for upstream. Some are capable of 2-way but they are still asymmetrical. Subject to interference, line-of-sight, and reliability. Delay in transmission for signal to bounce off satellite.
	Various	Very Small Aperture Terminal (VSAT) - the 'earth station' used for bi-directional satellite communication. Generally, these systems operate in the Ku-band and C-band frequencies, and are typically 1-2 meter satellite dish transceivers. Services are available in a multitude of speeds both upstream and downstream, and are normally asymmetrical in nature with a higher downstream speed. More expensive than most residential satellite offerings such as DirecPC, but offer higher speeds and bi-directional communications without a land line.
Wireless LAN (WLAN)	2.4 GHz and Higher	Wireless LAN technology based on 802.11x standards (IEEE). Transmission rates from 11Mbps (802.11b), 54Mbps (802.11a), and up. Range of transmission from 30 ft. to several miles depending on amplification and antennae used.
Wireless	Various	Pagers, Cellular Phones, PCS (Personal Communications Service), Mobile Computing, Two-way Radio, Fixed Wireless. Can be omni directional, bi-directional, or unidirectional. Subject to interference, line-of-sight, distance, reliability and bandwidth considerations.

AVAILABILITY and SUBSCRIBERSHIP of BROADBAND (as of June 30, 2001)[4]

Virginia has:

Providers

- 8 ADSL (86 nationwide)
- 5 Coaxial Cable (47 nationwide)
- 19 Wireline, Optical Fiber, Satellite and Fixed Wireless Systems (98 nationwide)
- 23 Total Broadband (160 nationwide)

Lines

By Technology

- 39,114 ADSL (2,693,834 nationwide)
- 131,553 Coaxial Cable (5,184,141 nationwide)
- 42,141 Wireline, Optical Fiber, Satellite and Fixed Wireless Systems (9,616,641 nationwide)

By User

- 178,648 Residential and Small Business Lines (7,812,375 nationwide)
- 34,160 Medium and Large Business, Institutional and Government Lines (1,803,966 nationwide)

Total

- 212,808 Total Broadband Lines (9,616,341 nationwide)
- 13th most lines and 12th largest population in the nation behind, in order of the number of lines with the population ranking according to the U.S. Census Bureau in parentheses - California (1), New York (3), Florida (4), Texas (2), New Jersey (9), Michigan (8), Ohio (7), Massachusetts (13), Illinois (5), Georgia (10), Pennsylvania (6), Washington (15)
- 93% increase from June 2000 to December 2001 (62% nationwide)
- 52% increase from December 2000 to June 2001 (36% nationwide)

Percentage of Zip Codes with Broadband Lines in Service

- Seven or More - 15% (11% nationwide)
- Six - 15% (4% nationwide)
- Five - 7% (5% nationwide)
- Four - 6% (8% nationwide)
- One to Three - 51% (50% nationwide)
- Zero - 18% (22% nationwide)

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[4] Report of the Federal Communications Commission on the Availability of High-Speed and Advanced Telecommunications Capability (http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-02-33A1.pdf), Adopted February 6, 2002.

APPENDIX 5

Background Report on Sales Tax and the Internet
Presentation to the Advisory Committee on E-Government
October 24, 2001
by Dawn Conrad, Research Assistant

I. CHARGE TO ADVISORY COMMITTEE ON E-GOVERNMENT

During the past few years, citizens and businesses have conducted more transactions electronically. The growing popularity of electronic transactions has raised a number of issues, including funding, transaction costs, and taxation. This advisory committee is charged to explore the issues that arise as governments and citizens conduct more of their business through computer networks.

II. INTRODUCTION

Recently, sales and use taxes have been topics of debate due to the sharp increase in the amount of electronic commerce conducted on-line. Currently 45 states and the District of Columbia impose sales and use taxes.[5] The Commonwealth of Virginia imposes a sales and use tax of three and one-half percent,[6] and localities are allowed to add a sales and use tax of one percent,[7] for a total of four and one-half percent. Sales and use taxes generate more than $150 billion per year in the United States and on average account for roughly one-third of state revenues.[8] However, with consumer purchases conducted on-line, the states are frequently unable to collect sales taxes because the vendor's only connection with a state is the mail delivery system. A recent study by Forrester Research found that state and local governments lost $525 million in sales taxes in 1999 because of consumer purchases over the Internet. The study showed that $13 billion in taxable retail was sold on-line in 1999, but only 20 percent of that commerce was taxed.[9] According to a report by the Center for Business and Economic Research at The University of Tennessee, the inability to collect sales and use taxes on remote sales could cost states more than $20 billion per year by 2003.[10] Virginia alone could possibly lose $363.8 million by 2003 if e-commerce transactions are not taxed.[11]

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[5] Graham Williams, *NCSL LegisBrief: Streamlined Sales Tax for the New Economy, at* http://www.ncsl.org/legis/LBRIEFS/legis844.htm, Nov./Dec. 2000. (Accessed on July 31, 2001).
[6] *See* Va. Code § 58.1-603 to -604 (2001).
[7] *See* Va. Code § 58.1-605 to -606 (2001).
[8] Office of Public Affairs, National Governor's Association, *Overview of Sales and Use Taxes and Electronic Commerce*, February 23, 2001, *at* http://www.nga.org/nga/legislativeUpdate/1,1169,C_ISSUE_BRIEF^D_1248.00.html. (Accessed on July 31, 2001).
[9] *Id.*
[10] *Id.*
[11] Office of Public Affairs, National Governor's Association, *Projected Annual Revenue Losses for States*, July 13, 2001, *at* http://www.nga.org/nga/legislativeUpdate/1,1169,C_ISSUE_BRIEF^D_2314,00.html. (Accessed on August 3, 2001).

A sales tax is a tax levied on the sale of goods and services that is calculated as a percentage of the purchase and collected by the seller when the sale occurs. A use tax is a tax imposed on the use of goods purchased in another state and paid by the purchaser to his home state at a later time. The sales and use tax rates are the same in the Commonwealth-- 4.5 percent of the total amount purchased.[12] Generally, the rate of remittance of the use tax is low for business-to-consumer sales. One reason for these low collection rates is that taxing agencies have no practical means to identify individual purchases or their consumers, making enforcement difficult and in many cases not cost effective. Most use tax remittances come from business-to-business sales where businesses are registered within the states and subject to audits.[13]

The various sales tax rates among states and within states has led to a movement to simplify the process in order to impose collection duties on out-of-state vendors. For example, in Connecticut, and a handful of other states, there is only one sales tax rate. However, in Colorado, there are 49 cities with the authority to impose sales taxes on top of the state rate of 2.9 percent. In addition, retailers have to keep track of changes to the rates. They have to be aware of sales tax holidays and different audit procedures. They must comply with different consumer privacy laws and variations in laws governing returns and remittances.[14] Furthermore, the 7,500 different taxing jurisdictions across the country routinely define and tax the same products differently. For example, orange juice is taxed as a fruit in one state, but not taxed in a neighboring state because it is considered a beverage.[15] This confusing array of taxing jurisdictions is just another barricade that states have to face if they want to collect sales taxes from remote sellers.

This memorandum will attempt to aid the E-Government Advisory Committee by providing background information on sales tax and Internet transactions. After a brief legal background on the states' ability to collect sales taxes from remote vendors, this memorandum will discuss U.S. Congressional action on the subject. Then, it will examine two model acts currently being considered to streamline the states' sales and use tax systems. Finally, this memorandum will describe two competing views on the subject-- the National Governor's Association's support of sales tax on Internet commerce and Virginia Governor Jim Gilmore's opposition to any such tax.

III. LEGAL BACKGROUND

With the current multifarious system of rates in sales and use taxes, states cannot collect sales taxes from remote venders without conflicting with the U.S. Constitution. In the 1967 case of *National Bellas Hess, Inc. v. Department of Revenue of the State of Illinois,*[16] the United States Supreme Court had to decide whether a state could require a seller to collect and remit sales

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[12] *See generally* Va. Code §§ 58.1-600 et seq. (2001).
[13] *ACEC's Report to Congress*, April 12, 2000, *at* http://www.ecommercecommission.org/about.htm, at 13. (Accessed on August 1, 2001).
[14] Carl Tubbesing, *In Search of a Simple Sales Tax*, State Legislatures Magazine: May 2001, *at* http://www.ncsl.org/legis/pubs/501tax.htm (© NCSL 2001). (Accessed on July 31, 2001).
[15] National Governor's Association, *The Streamlined Sales Tax Project Answers the Question . . . Is orange juice a fruit or a beverage?*, *at* http://www.nga.org/nga/salestax/. (Accessed on July 31, 2001).
[16] 386 U.S. 753 (1967).

taxes when the seller's only connection to customers in the state was by common carrier[17] or the U.S. mail. The Court held that a state or local government could not do so unless a vendor has a significant business nexus with the state, which goes beyond mere connection by common carrier or U.S. mail.[18] In reaching this conclusion, the court relied on both the Due Process Clause[19] and the Commerce Clause[20] of the U.S. Constitution. The Due Process Clause, which prohibits states from denying any person life, liberty, or property without the due process of law, was interpreted to require that a minimum level of presence must exist before a state may exercise its power over an out-of-state vendor.[21] The Commerce Clause does not allow states to place burdens on interstate commerce, and the Court held that requiring out-of-state vendors to collect sales tax would be such a burden. The Court drew a distinction between mail order sellers with retail outlets, agents, or property within a taxing jurisdiction, and those who merely communicate with customers within the jurisdiction as part of a general interstate business. The Court found that out-of-state retailers with an in-state physical presence of personnel or property could be required to collect sales tax whereas out-of-state vendors with no such presence could not be required to do so.[22]

With hopes that *Bellas Hess* would be overturned, state officials in North Dakota brought another out-of-state sales tax case to the Supreme Court. The Quill Corporation sold office equipment and supplies, and solicited business through catalogs and flyers, advertisements in national periodicals, and telephone calls. Its annual sales exceeded $200 million, of which almost $1 million came from its 3,000 customers in North Dakota.[23] Although the company had no physical presence in North Dakota, the state argued that the catalogs, flyers and advertisements distributed within the state by the company, along with its shipment of merchandise into the state through the mail, was sufficient to establish a nexus. Agreeing with this argument, the Court decided in *Quill* that the company's level of contact with the state was, in fact, enough to satisfy the minimum presence requirements of the Due Process Clause[24] thereby partially clearing the path for North Dakota to impose collection duties.[25]

However, the Commerce Clause[26] still presented an obstacle, and the Court found that the commerce clause provided a more significant presence requirement from that of the due process clause. The Court looked to the commerce clause standards established in *Contemporary Auto Transit, Inc. v. Brady*.[27] "Those standards require that a tax must be applied to an activity with a substantial nexus with the state, be fairly apportioned, not discriminate against interstate

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[17] A carrier that is required by law to transport passengers or freight, without refusal, if the approved fare or charge is paid. Black's Law Dictionary 205 (7th ed. 1999).
[18] *See* 386 U.S. at 758.
[19] U.S. Const. amend. XIV, § 1.
[20] U.S. Const. art. I, § 8.
[21] Jeremy Holmes, *Taxing Electronic Commerce: Adapting to a New Age*, Internet Law and Regulation, Pike & Fischer, Inc. (BNA), 1999: Laws & Policy page TX-A4.
[22] *See Id.*
[23] *Quill Corp v. North Dakota*, 504 U.S. 298, 302 (1992).
[24] *Supra* note 12.
[25] *See supra* note 7, page TX-A4.
[26] *Supra* note 13.
[27] 430 U.S. 274 (1977).

commerce, and be fairly related to the services provided by the state."[28] Thus, by placing sales tax collection duties on Quill, North Dakota unconstitutionally burdened interstate commerce since Quill's only connection with the state was through solicitations and the U.S. mail.[29]

This decision creates a problem for states that wish to collect sales taxes on e-commerce. Similar to mail order sales, e-commerce is frequently conducted between consumers in one state and vendors in another whose only connection with the state is through solicitations and the U.S. mail. Uncertainty remains over applying nexus standards to Internet transactions. Whether or not Internet contact counts as a more substantial presence in a taxing jurisdiction than the mails or common carriers is not clear. Another question that has arisen is whether having a web server in a state establishes physical presence.[30] However, Congress does have the power to remedy this situation, because under the Commerce Clause, they have the ability to legislate on matters involving interstate commerce.[31] In fact, in *Quill*, the Supreme Court invited Congress to change the situation if they thought it necessary-- "Congress is now free to decide whether, when, and to what extent the States may burden interstate mail-order concerns with a duty to collect use taxes."[32]

IV. THE INTERNET TAX FREEDOM ACT

One of the first steps that Congress chose to take in the arena of electronic commerce was the Internet Tax Freedom Act of 1998 (ITFA)[33]. The ITFA established a three-year moratorium on state taxes on Internet access and on multiple or discriminatory taxes on transactions made over the Internet, but did nothing to affect sales and use taxes.[34] This moratorium will expire at the end of October 2001.

The ITFA also established the Advisory Commission on Electronic Commerce (ACEC or "Commission") to study the application of taxes to e-commerce and telecommunications.[35] The ACEC was composed of three federal representatives, eight private representatives from the e-commerce industry, and eight state and local government representatives, including Utah Governor Michael Leavitt, Washington Governor Gary Locke, and its chairman, Virginia Governor James Gilmore. The ACEC sent a report to Congress on April 12, 2000, but failed to reach the required supermajority (two-thirds) to make findings and recommendations.[36]

The Commission noted the difficulty in determining the amount of sales taxes actually collected on business-to-consumer sales over the Internet. Part of this difficulty stems from the fact that certain businesses with large operations in multiple states are establishing their website vendors

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[28] *Supra* note 7, page TX-A4.
[29] *See* 504 U.S. 298, 315 (1992).
[30] *Supra* note 7, pgs. TX-A4-A5.
[31] U.S. Const. art. I, § 8.
[32] 504 U.S. at 318.
[33] ITFA, Pub. L. No. 105-277, 112 Stat. 2681-719 (1998).
[34] Carl Tubbesing, *In Search of a Simple Sales Tax*, State Legislatures Magazine: May 2001, *at* http://www.ncsl.org/legis/pubs/501tax.htm (© NCSL 2001). (Accessed on July 31, 2001).
[35] ITFA § 1102, Pub. L. No. 105-277, 112 Stat. 2681-722 (1998).
[36] *Supra* note 30.

as separate corporate entities that have a much more limited physical presence in a given state. Although their web addresses may carry the name of the parent company and they advertise their Internet sites at their stores, their websites are separate from their "Main Street" retail operations. Accordingly, most are only collecting and remitting sales taxes in the states where their Internet affiliate has a substantial presence.[37]

In the course of the Commission's examination of the impact of e-commerce on sales and use tax collections, the commissioners generally agreed that the current sales and use tax system is complex and burdensome. Most, if not all, of the commissioners felt that fundamental uniformity and simplification of the existing system were essential. The need for nationwide consistency and certainty for sellers as well as the need to alleviate the financial and logistical tax collection burdens and liability of sellers were common themes throughout their meetings.[38] Unfortunately, on the subject of sales and use taxes, the ACEC recommendations received only 11 (out of a possible 19) votes, not the two-thirds majority required, and thus were not official recommendations to Congress. In its report to Congress, the ACEC made the following unofficial policy proposals on sales and use taxes and the steps that Congress should take in that area:

1. For a period of five years, extend the current moratorium barring multiple and discriminatory taxation of e-commerce and prohibit taxation of sales of digitized goods and products and their non-digitized counterparts.
2. Clarify which factors would not, in and of themselves, establish a seller's physical presence in a state for purposes of determining whether a seller has sufficient nexus with that state to impose collection obligations.
3. Encourage state and local governments to work with and through the National Conference of Commissioners on Uniform State Laws (NCCUSL) in drafting a uniform sales and use tax act that would simplify state and local sales and use taxation policies so as to create and maintain parity of collection costs (net of vendor discounts) between remote sellers and comparable single-jurisdiction vendors that do not offer remote sales.
4. Establish a new advisory commission responsible for oversight of the progress of NCCUSL's efforts to create a uniform sales and use tax act.[39]

V. Possible Future Congressional Action

With just three months left to the ITFA moratorium on Internet taxes, some Congressmen expressed a "sense of urgency" in July 2001 about passing an extension of the moratorium without all of the peripheral state sales-tax issues that have restricted action on the ban so far this year. The comments arose at a hearing before the House Subcommittee on Commercial and Administrative Law on July 18, 2001, concerning H.R. 1410, a bill that would extend the ban and would allow states to enter into a compact to collect sales tax from out-of-state vendors once

[37] *ACEC's Report to Congress*, April 12, 2000, *at* http://www.ecommercecommission.org/about.htm, at 14. (Accessed on August 1, 2001).
[38] *Id.* at 19.
[39] *Id.* at 5.

a sufficient number of states can show they have simplified their confusing mixture of taxing jurisdictions.[40] Many lawmakers on Capitol Hill believe that sales tax simplification measures cannot be resolved prior to voting to extend the moratorium before it expires on October 21, 2001. However, state and local government groups oppose any attempt to extend the Internet tax moratorium without addressing the simplification concerns, arguing that the deadline adds a sense of urgency to addressing the issue that would be lost if Congress simply passed the moratorium extension alone.[41] Most sales and use tax simplification plans would allow states to require vendors to use software that would track the sales taxes due based on tax rates in the buyer's jurisdiction. Out-of-state sellers would then be compensated for any costs incurred in collecting the tax.[42]

H.R. 1410 is the only House of Representatives bill that incorporates simplification with an extension of the moratorium. The U.S. Senate Committee on Finance recently held hearings concerning H.R. 1410's companion bill, S. 512.

Before the passage of the ITFA, 10 states had imposed taxes on Internet access. The ITFA allowed them to continue to do so, but prohibited any states from placing new taxes on Internet access; however, whether states have any plans to impose new Internet-specific tariffs should Congress fail to extend the moratorium is not clear.[43] Although passing a moratorium extension with the heated debate over sales tax simplification may be difficult, several states are already considering two sales tax simplification plans.

VI. TWO MODEL PLANS

In March 2001, Wyoming became the first state to sign into law model legislation developed by the Streamlined Sales Tax Project. By July 2001, 15 states had followed Wyoming's lead to enact streamlining sales tax bills.[44] Those states included Arizona, Florida, Indiana, Kentucky, Louisiana, Maryland, Minnesota, Nebraska, Nevada, North Dakota, Oklahoma, South Dakota, Tennessee, Texas, and Utah.[45]

In order to simplify the confusing sales tax system, the two model acts would set up a structure and a timetable for states to come together to finalize a simplified sales tax system. These complementary versions contain both a model act and an accompanying agreement among participating states. In each version, the model act establishes the framework for completing a

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[40] Brian Krebs, *Urgency of Net Tax Moratorium May Eclipse State Concerns*, Government Technology, July 2001, *at* http://www.govtech.net/news/features/news_feature.phtml?docid=3030000000002379. (Accessed on August 7, 2001).

[41] *Id.*

[42] *Id.*

[43] *Id.*

[44] Office of Public Affairs, National Governor's Association, *Timeline for Simplifying the Nation's Sales Tax System*, *at* http://www.nga.org/nga/legislativeUpdate/1,1169,C_ISSUE_BRIEF^D_1228,00.html (February 23, 2001). (Accessed on July 31, 2001).

[45] Commerce and Communications Committee, National Conference of State Legislatures, *2001 State Action on Streamlined Sales Tax System*, Updated on July 16, 2001, *at* http://www.ncsl.org/statefed/stateaction.htm. (Accessed on July 31, 2001).

multistate streamlined sales tax system. The agreement offers the criteria that states would have to meet to enter into an interstate streamlined sales tax compact.[46] The Streamlined Sales Tax Project (SSTP), developed by a group of 32 state revenue officials, created one model act. The other version, endorsed by the National Conference of State Legislature's (NCSL) executive committee, is based on the streamline project's work, but also differs from it in several important respects.[47]

While they are similar, the SSTP version is more detailed, while the NCSL version leaves more up to the decisions of state officials. The SSTP model spells out the requirements for definitions, rounding rules, sales tax holidays and bad debt procedures, while the NCSL model defers decisions on these sections until state officials begin meeting after their states have passed the model act. Another major difference deals with who those state officials will be. The SSTP model would require state revenue officials. The NCSL version provides for a larger board of state officials that could contain legislators.[48] Therefore, states contemplating sales tax simplification have three primary options: i) they can adopt the NCSL-endorsed model act; ii) adopt the NCSL act and the NCSL-endorsed agreement; or iii) approve the SSTP model act and agreement.[49]

Besides differing on governance and who will represent a state in the next round of discussions, the models vary on several other factors. The NCSL task force on electronic commerce was troubled by the question of how much a state should compensate a retailer for collecting the sales tax. The current range is from a low of no compensation in one state to a high of five percent of the amount of the transaction in another state. The SSTP model specifies a process for setting this rate for participating states. The NCSL task force decided to adopt the SSTP recommendation while calling for a study of the actual costs that vendors incur. The results of the study will be used to review the level of vendor compensation in the future.[50] The SSTP model includes such items as uniform definitions, uniform rounding rules, uniform bad debt provision, uniform treatment of caps, thresholds and sales tax holidays.[51] The NCSL model, however, leaves out these items and calls for final resolution by a new governing body made up of states that pass the model act. The NCSL task force feared that including these items in the model at this stage could slow the progress of the legislation through state legislatures.

The SSTP and NCSL versions have many similarities as well. They attempt to achieve as much uniformity as possible in sales tax structure and administration. Neither of these models would require states to impose a sales tax; thus, neither model would affect the states that do not currently collect sales taxes.[52] For the states that choose to impose a sales tax, however, both models would require states to provide retailers with as much advance notice as possible of sales

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[46] *Supra* note 30.
[47] *Id.*
[48] *Id.*
[49] *Id.* (quoting Illinois Senator Steve Rauschenberger, co-chair of NCSL's task force on taxation of electronic commerce).
[50] *Id.*
[51] *Id.* (*Comparison of NCSL's and the Streamlined Project's Approaches* by Graham Williams, NCSL © 2001).
[52] Five states currently have no sales tax-- Alaska, Delaware, Oregon, Montana, and New Hampshire. *Supra* note 30.

tax rate changes and would limit the effective date of a rate change to the first day of a quarter.[53] The models would establish a set of uniform decision rules for making the determination of what sales tax rate to apply to catalog and Internet sales.[54] The NCSL and SSTP models would require that the state administer the sales tax for local jurisdictions.[55] Furthermore, both models anticipate that computer software will be an indispensable element of the new streamlined system, especially for retailers who ship products to numerous states. Thus, both models attempt to establish standard ground rules for certifying these different software systems.[56] Finally, other common features of the two models include uniform audit procedures, uniform tax returns, a central registration system for sellers and uniform privacy protections for consumers.[57] Even with the contentious items in the two model acts deferred until after state enactment, states considering these two models cannot avoid the debate of whether to force out-of-state vendors to collect sales tax in the first place.

VII. THE NGA and GOVERNOR GILMORE

The National Governors Association (NGA) supports state efforts to implement one of the above plans. Their policy on the sales tax issue is that sales tax simplification is necessary to restore fairness to competition between local retail store purchases and out-of-state mail transactions and to provide a means for the states to collect taxes that are owed under existing law.[58] In order to achieve this balance, the NGA hopes for joint industry and government development of significant simplifications in the administration of the sales tax in areas such as uniform registration, tax returns, remittance requirements, and filing procedures. The NGA also calls on Congress to re-establish fairness in state sales tax systems by requiring remote sellers to collect sales taxes for any state that simplifies its tax system in accordance with one of the above plans. States that choose not to simplify the sales tax would retain a narrow and limited physical presence requirement for out-of-state vendors.[59] The NGA believes that Congress should expand the duty to collect sales taxes to remote vendors in every state where they sell taxable products and services.[60]

In comparison, the Commonwealth of Virginia has not been involved in either the Streamlined Sales Tax Project or the development of the NCSL version. This lack of involvement may be due to the current administration's opposition to any taxes placed on e-commerce. As early as November 1999, Governor Gilmore submitted a *No Internet Tax Proposal* to the "Policies &

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[53] *Supra* note 30.
[54] *Id.*
[55] *Id.*
[56] *Id.*
[57] *Id.*
[58] National Governor's Association, *Streamlining State Sales Tax Systems Policy*, Adopted Winter Meeting 1999; reaffirmed Winter Meeting 2001, *at* http://www.nga.org/nga/legislativeUpdate/1,1169,C_POLICY_POSITION^D_489,00.html. (Accessed on July 31, 2001).
[59] *See* discussion under PART III LEGAL BACKGROUND.
[60] *Supra* note 54.

Options" Paper of the Advisory Commission on Electronic Commerce.[61] In it, he discussed the increased productivity of e-commerce and its affect in creating new wealth and increasing tax collections by government. He stated that in order to keep e-commerce growing at its current rates, state sales tax would have to be forgotten-- "Old rules do not work well in this new borderless economy."[62] Governor Gilmore's proposal recommended that Congress prohibit all sales and use taxes on remote business-to-consumer transactions facilitated by the Internet. He also recommended that the temporary moratorium contained in the Internet Tax Freedom Act be extended to a permanent prohibition against the imposition of tax burdens on electronic commerce.[63]

Governor Gilmore's position did not change after the meetings of the ACEC. In his letter accompanying the ACEC's Report to Congress, Governor Gilmore stated, "my fundamental belief in the Internet to empower citizens as consumers and entrepreneurs and the failure of pro-tax advocates to demonstrate a real need for additional tax revenues led me to conclude that the Internet should remain tax free."[64] He based his conclusion on the fact that states had made little or no effort to enforce use taxes against individual consumers for decades, and use tax collections from consumers still made up an insignificant portion of state budgets.[65] Therefore, he reasoned that even with no sales or use taxes on interstate business-to-consumer transactions, states could preserve the sales tax within states and on business-to-business Internet transactions, ". . . while maximizing the tax freedom of individual people. This policy would encourage expansion of electronic commerce specifically and the U.S. economy generally, thereby producing net increase in tax revenues to government at all levels."[66]

While Governor Gilmore opposed the extension of sales taxes to out-of-state sales over the Internet, he maintained that he supported tax simplification, which he described as a policy objective in its own right.[67] However, both the SSTP and NCSL versions of tax simplification legislation could eventually lead to sales taxes on out-of-state Internet sales and the Commonwealth is not a participant in either program.

VIII. CONCLUSION

Streamlining the sales tax system is a difficult issue that JCOTS may wish to consider studying. If the Commonwealth decides to collect sales tax on goods and services purchased over the Internet and shipped to or provided in Virginia, the Commonwealth may be able to do so only by participating in a streamlining sales tax compact. Furthermore, any sales tax compact among the states would have to be approved by the U.S. Congress in order to be constitutional.

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[61] Governor James S. Gilmore, III, Commonwealth of Virginia, *No Internet Tax Proposal*, November 8, 1999. Published in Internet Law and Regulation, Pike & Fischer, Inc. (BNA), 1999: Laws & Policy page TX-195.
[62] *Id.*
[63] *Id.* at TX-197.
[64] Governor James S. Gilmore, III, Commonwealth of Virginia, *Letter to the Congress of the United States*, April 3, 2000, pg. 1. *Available through link at* http://www.ecommercecommission.org/about.htm.
[65] *Id.* at 2.
[66] *Id.*
[67] *Id.* at 3.

APPENDIX 6

E-Gov In Virginia Local Government

- Hampton/James City County/York County Regional GIS website - 24x7 access to GIS information with links between their real estate database and maps
- York County/Hampton Library Interactive Transactions
- Hampton 311 Call Center - Resolution, Knowledge Based, 24x7 Call Center - provides "One Call Does It All" service - 1st in Virginia
- Lynchburg Customer Service Center - One number call center utilizing lotus notes to create trouble tickets, routed to the proper city agency
- Virginia Beach
  - Established E-Government Portal - vbgov.com
  - Report Pothole, Traffic Light, Street Light or Mosquito Problem
  - Interactive Library Transactions
  - Online Procurement for Major Bids and RFPs
  - Download Local Tax Forms
  - Park and Recreation Course Offerings
  - City Council & Planning Commission Agendas
  - Access City Code, City Budget & CIP, Historical Info
  - IVR Permit/Inspections & Fax On Demand City Services Info
- Chesterfield County
  - Web Tax/Utility Payments
  - Web Library Interactive Access & Transactions
  - IVR for 24-Hour Telephone Access to Building Inspections Requests and Status
- Alexandria City
  - Search and Retrieve docket items for the City Council, Planning Commission, Board of Architecture Review and Board of Zoning Appeals via the Web
  - Web-Based Job Application, Parking Fines, Tax Payments, Library Interactive Transactions
- Wise County & Fairfax County
  - Circuit Court Web Imaging Applications
- Loudon County
  - Credit Card Tax Payments on the Web/E-Check Web Tax Payments/Tax Relief Forms
  - Web-Based Bidder Registration
  - Current RFPs & IFBs/Current Contracts
  - Calendar of Public Meetings/Agendas/Minutes
  - Pictures of County Store Items
  - Adoption of Pets/Stray and Lost Animal Listings
  - Dog License Applications
  - Job Listings and Descriptions
  - The Zoning Ordinance and Draft/Approved Amendments
- Arlington County
  - Tax Payments
  - Real Estate Assessments (Lookup)
  - Apply for a County Job & View Latest Announcements
  - File Consumer Complaint
  - Access Library Catalog & Book Hold
  - Interactive GIS Mapping
  - Apply to be an Election Officer
  - E-Mail County Government Officials

- Meeting Planners Space Finder
- Parking Meter Request for Handicap Designation
- Smoke Detector Automated Reminder
- Street Light Out Report
- Look Up Resources & Activities for Teens
- Look up Non-Profit Resources in Community
- Tour Group Assistance/Contact Local Hotels
- Locate Restaurant by Cuisine & Location
- Request a Tourist Guidebook
- Apply to be a Volunteer
- Register Bicycle with Police

- City Of Norfolk
  - On-Line Posting of Requests For Bids & Proposals
  - Posting of City Council Agendas & Minutes
  - Web-Based Circuit Court Docket
  - Real Estate Property Assessment
  - GIS Voting Poll Location
  - Utility Service Requests
  - Employment Applications
  - U.S.S. Wisconsin Visitor Guest Book
  - Library Interactive Transactions
  - Business License Application & Renewals
- City Of Richmond
  - Established a Central E-Citizen Steering Committee to Oversee and Standardize all Internet and Intranet development
  - GIS website serves Citizens with Aerial Photography, Property Assessments, Census Information, and Election Data
  - More than 30 Downloadable Forms Available Online for Citizens to Apply for Jobs and Request a Wide Range of Public Services
  - Online Posting of Requests For Bids & Proposals
  - Bank Draft Billing for Utility Customers
  - IVR System for Credit Card Payments
  - Completed New Template to Establish Standard Navigation and Information Architecture for Internet Site
  - Intranet Recently Redesigned and Enhanced to Disseminate Information and Facilitate Communication within and across Departments
  - Detailed May 2000 Council Election Results Posted "Live" on Internet as Precincts were Reported
  - Searchable Internet Directory Provides Phone Numbers and E-Mail Addresses for all City Employees
  - Permits and Inspections IVR Based Application for 24 x 7 Service to Contractors
- Prince William County
  - Interactive GIS
  - Personal Property Assets Change & General Info
  - Real Estate Assessments
  - Personal Property & Real Estate Tax Payment
  - Selling Maps
  - Building Inspections
  - Streaming Board Meetings Audio
  - Library Catalogs
  - Solicitations/Contracts & Application/Forms
  - Land Records (Fall 2000)
  - Citizens Requests for Services (Fall 2000)

- Henrico County
  - Web Library Interactive Access & Transactions
  - IVR and Web-Based Job Information & Applications
  - Electronic Board Room for Supervisor's Meetings
  - Web Based Employee Benefit and Training Records - All Employee Information can be Accessed by Kiosks or through the Web
  - Land Development website - Provides all Information/Forms Developers or Citizens need to Build/Develop in the County.
  - Web Access to Permits, Inspections & Applications for Police, Fire, Utilities and Public Works Services
  - Telephone IVR System to Allow Builders to Check Status of Building Permits.
- Bedford County - Access Real Estate Assessment Data - Using "Freeware" One of the First 3 Jurisdictions in the US to Allow Web Access to Real Estate Assessment Data, Offers Cable Modems in Libraries and Schools to help address the Digital Divide.
- Norfolk, VA Beach, Chesapeake, Portsmouth, Suffolk, Hampton, Newport News & James City County - Jurisdictions Provide Leadership and Vision in Bringing Together Local Government, the Business Community and the Education Community to Launch a Regional Technology Initiative "Smart Hampton Roads" to Enhance Quality of Life and Economic Competitiveness in the Region.
- Fairfax City
  - Payment of Fees On Line, including: Water and Sewer Utility Bill, Personal Property and Real Estate Taxes.
  - City Tech Center, in conjunction with George Mason University's Telecommuting Center, Allows City Residents to use 14 High Speed Public Access PCs
  - Lela Project, Sidney Lanier Middle School, Employs Thin Clients to allow Students, Teachers and Parents to Fully Participate in the Learning Process.

Appendix 7

2002 Legislation with Technology and Science Content (Alphabetically by Subject Matter)

Legislation recommended by the Joint Commission on Technology and Science is in **bold.** Passed legislation is *italicized.* Failed legislation appears with committee in parentheses.

	HB	HJR	SB	SJR	Totals
Introduced	67	24	32	12	135
Passed	33	12	21	10	76
Failed	34	12	11	2	59

Committees

HA	House Committee on Appropriations
H(S)C&L	House (Senate) Committee on Commerce and Labor
H(S)CJ	House (Senate) Committee on Courts of Justice
HF	House Committee on Finance
H(S)GL	House (Senate) Committee on General Laws
HHWI	House Committee on Health, Welfare and Institutions
HMPPS	House Committee on Militia, Police and Public Safety
H(Senate)P&E	House (Senate) Committee on Privileges and Elections
H(S)R	House (Senate) Committee on Rules
HS&T	House Committee on Science and Technology
HT	House Committee on Transportation

Criminal Law, Civil Law and the Courts (27)

HB 38	Terrorism; criteria for requesting wiretaps, threats of bodily injury.[1] (See HB 1120) (HCJ)
HB 58	Accessories after the fact; terroristic acts.[1] (See HB 1120) (HCJ)
HB 210	Stalking (including via the Internet); penalty.[2] (HCJ)
HB 304	*Computer trespass; penalty.*
HB 457	*Compliance with subpoenas duces tecum.*
HB 533	Unsolicited commercial electronic mail; prohibitions, penalty.[2] (HS&T)
HB 543	*Work release; home/electronic incarceration.*
HB 576	*Computer Information Transactions Act.*
HB 581	Genetic testing; employment, penalty.[2] (HC&L)
HB 643	"Photo-red" traffic light signal enforcement programs.[3] (HMPPS)
HB 675	*Clerks fees; information technology fee.*

[1] Incorporated into other legislation.
[2] Continued to 2003.
[3] Stricken from the docket.

HB 857 *Technology Trust Fund fee; extending sunset provisions.*
HB 892 *Blood, saliva, or tissue sample required for DNA analysis.*
HB 903 Harboring a terrorist.[1] (See HB 1120) (HCJ)
HB 915 Internet Gambling.[3] (House Calendar)
HB 1028 Computer fraud; penalties.[2] (HCJ)
HB 1307 *Discrimination on the basis of genetic information.*
HB 1363 Unsolicited facsimile transmissions.[2] (HS&T)
HJ 59 Study; employment discrimination based on genetic information.[3] (HR)
HJ 89 *Study; court files.*
SB 41 Traffic signals; use of photo-monitoring in Town of Blacksburg.[4] (HMPPS)
SB 83 *Technology Trust Fund Fee; extends sunset provisions.*
SB 102 *Employment; discrimination on basis of genetic testing.*
SB 221 *Telecommunication devices; penalty.*
SB 418 Internet gambling.[4] (SCJ)
SB 540 Anonymous plaintiff.[2] (SCJ)
SB 567 Unsolicited commercial electronic mail; prohibitions.[2] (HS&T)

Emerging Technologies and Medical Research (16)

HB 56 Technology & Biotechnology Research Development Act; created.[2] (HF)
HB 146 *Reporting dangerous microbes and pathogens.*
HB 260 *Infectious biological substances.*
HB 454 Orders for Facial Recognition Technology.[2] (SCJ)
HB 639 Human embryonic stem cell research.[3] (HHWI)
HB 807 Speeding; use of "photo-radar" technology.[2] (HMPPS)
HB 1227 Infectious biological substances; penalty.[1] (See HB 260) (HCJ)
HJ 88 *Study; university research and development.*
HJ 116 Study; moving people through mass transit.[4] (HR)
HJ 206 *Study; technology resources.*
HJ 218 *Study; advancing research and new technologies.*
HJ 222 ***Celebrating the life of Dr. Robert Michael "Bob" Schwartz.***
HJ 253 Joint Ventures in technology and rehabilitation.[1] (See HJ 218) (HS&T)
SB 5 Department of Business Assistance; Workforce Retraining Program and Fund.[2] (SGL)
SB 610 *Pilot Project with Centers for Disease Control and Prevention.*
SB 619 Health Insurance; coverage for genetic predisposition.[4] (SC&L)

Infrastructure and Internet Access (19)

HB 514 Library systems that access the Internet as a non-public forum.[2] (HS&T)
HB 602 Children's Internet Protection; public libraries.[2] (HS&T)
HB 899 Public Procurement Act; procurement of professional services.[2] (HGL)
HB 1021 *Local telecommunications services.*
HB 1226 Office of Broadband Deployment created; duties.[4] (HS&T)
HJ 24 Study; electronic communications infrastructure.[2] (HR)
HJ 25 Study; electronic communications infrastructure.[2] (HR)

[4] Passed by indefinitely.

HJ 26 Study; electronic communications infrastructure. [2] (HR)
HJ 27 Study; electronic communications infrastructure. [2] (HR)
HJ 28 Study; electronic communications infrastructure. [2] (HR)
HJ 29 Study; electronic communications infrastructure. [2] (HR)
HJ 156 *Study; growth and economic development.*
HJ 162 *Study; Rural Virginia Prosperity Commission.*
HJ 163 *Study; advancing affordable electronic networks in rural Virginia.*
SB 245 *Public utilities; telecommunications services.*
SB 257 *Electric utility restructuring; Electric energy emergencies.*
SB 626 Local telecommunications services. [1] (See SB 245) (SC&L)
SB 691 *Communications towers; sale or lease by State Police.*
SJ 39 ***Secretary of Technology; Secretary of Public Safety; critical infrastructure protection.***

Privacy and Identity Theft (18)

HB 28 Higher education; expectation of privacy in electronic communications. [2] (HS&T)
HB 41 *Agencies Requesting Wiretaps.*
HB 532 Electronic dissemination of public records. [3] (HMPPS)
HB 564 *Driver's Licenses; use of social security numbers.*
HB 630 Creating False Identification Cards. [5] (HCJ)
HB 637 *Cooperation of DMB and DSP with certain federal agencies.*
HB 652 *Consumer Protection Act; use of social security number.*
HB 798 Driver's License; fingerprinting non-U.S. citizens. [2] (HT)
HB 866 Consumer protection; personal information; Consumer Protection Act. [5] (HC&L)
HB 1112 Telephone Privacy Protection Act; Do-Not-Call List. [2] (HC&L)
HB 1344 *Confidentiality of juvenile court records; exceptions.*
HJ 72 Study; confidentiality of juvenile records. [4] (HR)
SB 62 Driver's Licenses, I.D. cards, etc; use of thumbprints. [6] (HT)
SB 140 *Credit card, debit card and other payment device numbers.*
SB 240 *Insurance Transactions; privacy.*
SB 264 *Sharing of protected health information between state agencies.*
SB 423 Telephone Privacy Protection Act. [2] (SC&L)
SJ 67 Study; sharing protected health information. [2] (SR)

State and Local Government (43)

HB 92 Electronic filing of campaign finance disclosure reports. [6] (HP&E)
HB 159 *Standards of Learning; website suggestions for improvement.*
HB 519 *Procurement of information technology and telecommunications goods.*
HB 528 *Research and Technology Advisory Commission; membership.*
HB 530 *Research and Technology Advisory Commission; policies.*
HB 555 Campaign Finance Disclosure Act; electronic filing of reports. [4] (HP&E)
HB 570 *Records of DMV.*
HB 571 *Low-speed vehicles.*

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[5] Tabled.
[6] Defeated.

HB 572 *Information Providers Network Authority; executive director.*
HB 587 *Freedom of Information Act; posting of minutes by public bodies.*
HB 605 *Institute for Advanced Learning and Research.*
HB 627 Notaries public; educational requirements. [4] (HCJ)
HB 628 Public Procurement Act; definition of responsible bidder or offeror. [3] (HGL)
HB 731 *Freedom of Information Act; exemption for certain e-mail addresses.*
HB 800 Office of Preparedness and Coordination; created. [2] (HMPPS)
HB 823 ***Secretary of Technology; security audits, government databases.***
HB 824 ***Secretary of Technology; powers and duties.***
HB 825 *Authority to accept payments by commercially acceptable means; service charge; bad check charge.*
HB 826 ***Lobbyist Reports.***
HB 827 *Council on Technology Services; membership.*
HB 1203 *Freedom of Information; meetings of board of visitors of UVA.*
HJ 100 *My Virginia PIN.*
HJ 128 General Assembly; television coverage of legislative sessions. [2] (HR)
HJ 172 ***Incorporate Privacy Preference Project (P3P) and government websites.***
HJ 228 ***Commending The Honorable Donald W. Upson.***
SB 28 *Divisions of Legislative Services & Automated Systems: access to information.*
SB 38 ***Freedom of Information Act; electronic communication meetings.***
SB 134 *Freedom of Information; exemptions relating to terrorism.*
SB 144 Campaign Finance Disclosure Act; mandatory electronic filings. [3] (SP&E)
SB 208 *Freedom of Information Advisory Council.*
SB 308 *Freedom of Information Act; exemption for certain e-mail addresses.*
SB 416 *Freedom of Information Act; minutes by certain state public bodies.*
SB 459 *Institute for Advanced Learning and Research.*
SB 543 Virginia Freedom of Information Act (FOIA); electronic communication meetings. [1] (See SB 38) (HGL)
SJ 33 *Study; relocation of state government functions.*
SJ 63 *Celebrating the life of Emily Couric.*
SJ 73 General Assembly; television coverage of legislative sessions. [7] (SR)
SJ 82 *Study; private sector sponsorship funds on government websites.*
SJ 87 *Study; state funding formula for educational technology.*
SJ141 *Confirming Governor's appointments to various positions and entities.*
SJ177 *Confirming Governor's appointments to various positions.*
SJ227 *Confirming Governor's appointments to various positions.*
SJ272 *Confirming Governor's appointments to various positions.*

Tax and Taxation (12)

HB 446 Income tax; Broadband Internet Access Tax Credit. [2] (HF)
HB 574 *Personal property tax; classification for biotechnology equipment.*
HB 684 Major business facility job tax credit; reduction in threshold amount. [2] (HF)
HB 685 Major business facility job tax credit; reduction in threshold amount. [2] (HF)

[7] Left in Committee.

HB 1170	Sales and Use Tax; rate increase. [4] (HA)
HJ 136	Study; economic development programs that assist businesses. [3] (HR)
HJ 209	*Study; local taxation of telecommunications industry and customers.*
SB 122	*Local tax on mobile telecommunications services.*
SB 209	*Personal property tax; classification for biotechnology equipment.*
SB 343	*Local enterprise zone program for technology zones.*
SB 688	*Retail Sales & Use Tax; multistate discussion study.*
SJ 59	*Streamlined Sales Tax Project.*

Appendix 8

Final Summaries of 2002 Enacted and Adotped Legislation with Technology or Science Content

(In Numerical Order by HBs, HJRs, SBs and SJRs)

Full Text of Legislation Appears in the 2002 Acts of Assembly

BILL NUMBER: House Bill 41 (Chapter 91)
PATRON: Woodrum
SUMMARY: **Wiretaps.** Allows officers from a town police department to observe or monitor an interception if that police department originated the investigation leading to the wiretap application.

BILL NUMBER: House Bill 146 (Chapter 100)
PATRON: Purkey
SUMMARY: **Reporting dangerous microbes and pathogens.** Requires laboratories in the Commonwealth to report their inventories and changes of inventories of dangerous microbes and pathogens to the State Department of Health. The laboratories must also immediately report inventory that cannot be accounted for within 24 hours. The Board of Health is to determine the list of dangerous microbes and pathogens to be reported and the manner of such reporting.

BILL NUMBER: House Bill 159 (Chapter 101)
PATRON: Lingamfelter
SUMMARY: **Standards of Learning; website for suggested improvements.** Directs the Department of Education to make available and maintain a website, either separately or through an existing website utilized by the Department, enabling public elementary, middle and high school educators to submit recommendations for improvements relating to the Standards of Learning, when under review by the Board according to its established schedule and related assessments required by the Standards of Quality.

BILL NUMBER: House Bill 260 (Chapter 816)
PATRON: McQuigg
SUMMARY: **Infectious biological substances.** The bill defines "radiological agent" and provides that the possession, with the intent to injure another, of an infectious biological substance or radiological agent, capable of causing death or serious bodily injury, is a Class 5 felony. A person who manufactures, sells, gives, distributes or uses an infectious biological substance or radiological agent with the intent to injure another is guilty of

a Class 4 felony. Identical to the amendments to § 18.2-52.1 in HB 1120 and SB 514.

BILL NUMBER: House Bill 304 (Chapter 195)
PATRON: McDonnell
SUMMARY: **Computer trespass.** Provides that, with respect to the computer trespass Code section, nothing in the section shall be construed to prohibit a parent or legal guardian from monitoring the computer usage of a minor, denying the minor access to the computer or Internet or lawfully copying data.

BILL NUMBER: House Bill 457 (Chapter 764)
PATRON: Griffith
SUMMARY: **Compliance with criminal subpoena.** Provides that when a criminal subpoena has been served on a person who is not a party to the action requiring the production of information that is stored in an electronic format, the person shall produce a tangible copy of the information. If a tangible copy cannot be produced, the person shall permit the parties to review the information on a computer or by electronic means during normal business hours, provided that the information can be accessed and isolated. If a tangible copy cannot reasonably be produced and the information is commingled with information other than that requested in the subpoena and cannot reasonably be isolated, the person may file a motion for a protective order or motion to quash.

BILL NUMBER: House Bill 519 (Chapter 579)
PATRON: Devolites
SUMMARY: **Department of Information Technology; procurement of information technology and telecommunications goods and services.** Transfers the power to procure information technology goods and services of every kind from the Division of Purchases and Supply of the Department of General Services to the Department of Information Technology (DIT) and enables DIT to procure telecommunications goods and services of every kind (i) for its own benefit or on behalf of other state agencies and institutions or (ii) by such other agencies or institutions to the extent authorized by the Department of Information Technology. Procurements made in accordance with this provision must be made in accordance with the regulations specified in § 2.2-1111, unless DIT has adopted alternative regulations governing these procurements. By transferring the power to procure information technology goods and services, this bill moves the requirement that the procurement of computer equipment be based on performance-based specifications from § 2.2-1121 to a new § 2.2-1303.1. Provisions of the bill do not affect any authority delegated to state institutions of higher education in the 2002-2004 appropriations act to purchase information technology facilities or services.

BILL NUMBER: House Bill 528 (Chapter 381)
PATRON: Devolites
SUMMARY: **Virginia Research and Technology Advisory Commission; membership.** Increases the number of Commission members to 29 by adding the following ex officio members with voting power: The Vice Provosts of Research at the University of Virginia, Virginia Polytechnic and State University, George Mason University, James Madison University, The College of William and Mary, Old Dominion University and Virginia Commonwealth University; The Director of Jefferson Laboratories, the Executive Director of the Naval Surface Warfare Center, Dahlgren Division, and the Director of the NASA Langley Research Center. The bill also reduces the number of Commission members appointed by the legislature and the governor from 20 to 12.

BILL NUMBER: House Bill 530 (Chapter 382)
PATRON: Devolites
SUMMARY: **Virginia Research and Technology Advisory Commission; policies and standards for the commercialization of intellectual property from research universities.** Directs the Virginia Research and Technology Advisory Commission (VRTAC), in conjunction with the Center for Innovative Technology (CIT), the Office of the Attorney General and the research universities of the Commonwealth, to develop a statewide policy and uniform standard for the commercialization of intellectual property developed through university research. The Commission is required to provide such policy and standards to the Governor and the General Assembly and recommend any changes to the Code of Virginia by December 1, 2002.

BILL NUMBER: House Bill 543 (Chapter 800)
PATRON: Bell
SUMMARY: **Work release; home/electronic incarceration.** Eliminates the blanket authority of a jail administrator to assign a person to a work release or home/electronic incarceration program, and instead provides that a sheriff may designate a deputy sheriff or regional jail administrator to assign offenders to work release or home/electronic incarceration programs.

BILL NUMBER: House Bill 564 (Chapter 135)
PATRON: Byron
SUMMARY: **Driver's licenses; use of social security numbers.** Requires the Department of Motor Vehicles to assign to applicants for driver's licenses driver's license numbers that are not social security numbers, except when applicants request in writing that their social security numbers be used as their driver's license numbers. Incorporates HB 542.

BILL NUMBER: House Bill 570 (Chapter 710)
PATRON: May
SUMMARY: **Records of the Department of Motor Vehicles; on-road testing of motor vehicle emissions by Department of Environmental Quality; subsidies to owners of certain motor vehicles found not in compliance with motor vehicle emissions requirements.** Authorizes the Department of Motor Vehicles to release vehicle owner data to the Department of Environmental Quality in connection with enforcement actions involving on-road testing of motor vehicles. The bill also requires the State Air Pollution Control Board to establish separate and distinct emissions standards applicable to on-road testing of motor vehicles, with such criteria being applicable to all motor vehicles manufactured for a model year 25 years prior to January 1 of the present calendar year or any more recent model year and criteria for each model year being appropriate to that model year. Further provision is made for the expedited identification of "gross violators" of motor vehicle emissions inspection standards. Vehicles registered as "antique" vehicles are exempt. The bill reduces from 90 days to 30 calendar days the time given to owners of vehicles found by on-road testing to be not in compliance with emissions standards to either show that the vehicles have passed a subsequent emissions inspection, qualify for waivers, or have been given waivers. The bill also makes the Department of Environmental Quality responsible for the establishment and operation of a program to subsidize repairs of vehicles that fail to meet emissions standards, when the owner of the vehicle is financially unable to have the vehicle repaired. The costs of implementing and operating this program are to be borne by the Vehicle Emissions Inspection Program Fund.

BILL NUMBER: House Bill 571 (Chapter 214)
PATRON: May
SUMMARY: **Low-speed vehicles.** Authorizes limited over-the-highway operation of low-speed vehicles, defined as four-wheeled electrically-powered vehicles, other than golf carts, whose maximum speed is greater than 20 miles per hour but not greater than 25 miles per hour, that are manufactured to comply with safety standards contained in Title 49 of the Code of Federal Regulations, section 571.500. Low-speed vehicles may be operated on public highways with speed limits of no more than 35 miles per hour by licensed drivers or learner's permit holders accompanied by licensed drivers. The same registration and insurance requirements applicable to passenger cars apply also to low-speed vehicles. Identical to SB 447.

BILL NUMBER: House Bill 572 (Chapter 384)
PATRON: May
SUMMARY: **Virginia Information Providers Network Authority; executive director.** Changes the term Network Manager to executive director. The

Network Manager is employed by the private partner, Virginia Interactive; the executive director is the title of the person who directs the functions of the Authority.

BILL NUMBER: House Bill 574 (Chapter 63)
PATRON: May
SUMMARY: **Personal property tax; separate classification for biotechnology equipment.** Provides a separate classification for tangible personal property tax purposes for equipment used primarily in biotechnology research and development and the production of related products, but not for human cloning purposes or for products or purposes related to human embryo stem cells.

BILL NUMBER: House Bill 576 (Chapter 403)
PATRON: May
SUMMARY: **Uniform Computer Information Transactions Act.** Amends the provisions relating to transferability of a contractual interest in computer information. This amendment removes the prohibition on limiting the transferability in the case of a merger or acquisition or sale of a subsidiary or affiliate.

BILL NUMBER: House Bill 587 (Chapter 580)
PATRON: Lingamfelter
SUMMARY: **Freedom of Information Act; posting of minutes by certain state public bodies.** Requires all boards, commissions, councils, and other public bodies created in the executive branch of state government and subject to the provisions of the Freedom of Information Act to post minutes of their meetings on the Internet. Under the bill, draft minutes must be posted within ten working days of each meeting and final minutes within three working days of final approval of the minutes. Identical to SB 416.

BILL NUMBER: House Bill 605 (Chapter 581)
PATRON: Marshall, D.W.
SUMMARY: ***Institute for Advanced Learning and Research.*** Creates the Institute for Advanced Learning and Research in Southside Virginia to be founded by Averett University, Danville Community College, and Virginia Polytechnic Institute and State University. The Institute will seek to diversify the Dan River region's economy by acting as a catalyst for economic and community transformation, providing a site for the development of technology and a trained workforce, and expanding access to higher education in Southside Virginia. The Institute will promote network-related educational initiatives and generally seek to stimulate the economic viability of the region through education. A nine-member board of trustees, consisting of institutional and citizen members, will govern the Institute that will have corporate powers and be authorized to enter into

and administer agreements with institutions of higher education to deliver traditional and electronic education. The board may appoint an executive director, may seek additional staff support from its founding institutions, and may apply for, accept, and expend gifts, grants or donations from public or private sources. This measure is identical to SB 459.

BILL NUMBER: House Bill 637 (Chapter 412)
PATRON: O'Brien
SUMMARY: **Cooperation of Department of Motor Vehicles and Department of State Police with certain federal agencies.** Provides that the Department of State Police and the Department of Motor Vehicles are to enter into agreements with the United States Department of State, the Immigration and Naturalization Service, and other federal law-enforcement agencies to bring about the interchange of information concerning those aliens residing in the United States who hold or apply for Virginia driver's licenses, commercial driver's licenses, temporary driver's permits, learner's permits, motorcycle learner's permits, or special identification cards in order (i) to ensure that persons who hold or apply for these documents are lawfully entitled to do so and (ii) to facilitate the detection and prevention of criminal activity and the identification and apprehension of persons engaged in criminal activity. This bill will not become effective unless reenacted by the 2003 Regular Session of the General Assembly.

BILL NUMBER: House Bill 652 (Chapter 217)
PATRON: Dudley
SUMMARY: **Consumer Protection Act; use of social security number.** Prohibits a supplier from using a consumer's social security number as the consumer's account number with the supplier, if the consumer has requested in writing that the supplier use a different number. A violation of this provision is a violation of the Consumer Protection Act.

BILL NUMBER: House Bill 675 (Chapter 637)
PATRON: Reese
SUMMARY: **Clerk's fees; information technology fee.** Provides an exception where a clerk has implemented a technology plan approved by the Department of Technology Planning allowing allocations to exceed the pro rata share of the collections of the three-dollar fee relative to the chancery and law actions filed in that jurisdiction.

BILL NUMBER: House Bill 731 (Chapter 242)
PATRON: Woodrum
SUMMARY: ***Freedom of Information Act; record exemption for certain e-mail addresses.*** Provides an exemption from the mandatory disclosure requirements of FOIA for personal information, including electronic mail addresses furnished to a public body for the purpose of receiving electronic mail from the public body, provided that the electronic mail

recipient has requested that the public body not disclose such information. The bill provides that access shall not be denied to the person who is the subject of such record.

BILL NUMBER: House Bill 823 (Chapter 247)
PATRON: Nixon
SUMMARY: **Secretary of Technology; security audits; government databases.** Requires the Secretary of Technology to develop policies, procedures and standards for conducting audits of government databases and data communications. The Secretary is also required to direct an appropriate entity to conduct periodic audits of all executive branch agencies and institutions of higher education regarding security procedures for protecting government databases and data communications. The designated entity may contract with a private firm or firms in completing this task. All government entities subject to such audits are to fully cooperate with the designated entity.

BILL NUMBER: House Bill 824 (Chapter 424)
PATRON: Nixon
SUMMARY: **Secretary of Technology; powers and duties.** Includes enterprise-wide thinking in the duties of the Secretary. In addition to the one million dollar minimum on the technology projects that the Secretary must review periodically, this bill adds the requirement that those projects be either mission critical or of statewide application. This bill also contains limited exemptions for research projects and research initiatives at the institutions of higher education. This bill is a recommendation of the Joint Commission on Technology and Science.

BILL NUMBER: House Bill 825 (Chapter 719)
PATRON: Nixon
SUMMARY: **Authority to accept payments by commercially acceptable means; service charge; bad check charge.** Authorizes all public bodies to accept payments, except those assessed under § 19.2-353.3, by any commercially acceptable means and to levy a service charge in the amount of the lesser of the amount charged to the public body if it incurs a charge for accepting that method of payment or the amount negotiated and agreed to by contract. If a check or other method of payment is returned for insufficient funds, the bill authorizes public bodies to assess a service charge in the amount of the costs assessed to it or $25, whichever is greater. The bill also provides that state public bodies must waive additional charges, except for those associated with bounced checks, if the use of this means of payment reduces its processing costs and losses due to bad checks or other receivable costs by an amount equal to or greater than the additional charge.

BILL NUMBER: House Bill 826 (Chapter 248)
PATRON: Nixon
SUMMARY: **Lobbyist reports.** Recognizes the provision in the Uniform Electronic Transactions Act (UETA) that prohibits a signature from being denied legal effect or enforceability solely because it is in electronic form. Present law requires original or electronic signatures by principals and lobbyists on the lobbyist annual disclosure statement. This amendment removes the words "or electronic" because UETA already treats electronic signatures as originals. The format must still be specified by the Secretary of the Commonwealth.

BILL NUMBER: House Bill 827 (Chapter 425)
PATRON: Nixon
SUMMARY: **Council on Technology Services; membership.** Adds the Executive Director of the Virginia Information Providers Network Authority to the list of ex officio members of the Council on Technology Services.

BILL NUMBER: House Bill 857 (Chapter 250)
PATRON: Phillips
SUMMARY: **Technology Trust Fund fee; sunset.** Extends the sunset from July 1, 2002, to July 1, 2004. Identical to SB 83.

BILL NUMBER: House Bill 892 (Chapter 773)
PATRON: McDougle
SUMMARY: **DNA analysis upon arrest for a violent felony.** Requires a saliva or tissue DNA sample to be taken from every person arrested for a violent felony. If the charge is dismissed or the person is acquitted at trial the DNA sample must be destroyed by the Division of Forensic Science. The bill further provides for civil immunity for the sample taker unless he is negligent. The bill has an effective date of January 1, 2003.

BILL NUMBER: House Bill 1021 (Chapter 489)
PATRON: Marshall, D.W.
SUMMARY: **Local telecommunications services.** Provides that any certificate for local exchange service or interexchange service granted by the SCC after July 1, 2002, shall be for service throughout the Commonwealth. Each local exchange carrier that was certificated before July 1, 2002, to provide service in part of the Commonwealth shall be certificated to provide local exchange service throughout the Commonwealth beginning September 1, 2002. The bill authorizes any county, city or town that operates an electric distribution system to provide telephone services within any locality in which it has electric distribution system facilities as of March 1, 2002, if the locality obtains a certificate for such service from the SCC and complies with all applicable laws and regulations for the provision of competitive telecommunications services. A county, city or town that does not obtain a certificate to provide telephone services may offer

qualifying telecommunications services, including high-speed data service and Internet access service, upon application to the SCC. The SCC shall approve such a petition if it is in the public interest, and if the proposed services are not available in quantity, quality, and price from three or more providers in the proposed geographic area. Identical to SB 245.

BILL NUMBER: House Bill 1203 (Chapter 297)
PATRON: Parrish
SUMMARY: **Freedom of Information; meetings of board of visitors of the University of Virginia.** Extends from July 1, 2002, to July 1, 2004, the authority of the board of visitors of the University of Virginia to conduct meetings via audio/video communication when at least two-thirds of the membership is physically assembled at its regular meeting place and when the customary requirements of public notice, voting and recordation of the meetings are followed.

BILL NUMBER: House Bill 1307 (Chapter 659)
PATRON: Watts
SUMMARY: **Discrimination on the basis of genetic information.** Prohibits employers from (i) requiring a genetic test as a condition of employment and (ii) refusing to hire, failing to promote, discharging or otherwise adversely affecting any term or condition of employment, other than a long-term care, life or disability insurance policy, an employee or prospective employee solely on the basis of the results of a genetic characteristic or genetic test. Violators are subject to actual or punitive damages, including back pay with interest, or injunctive relief. Identical to SB 102.

BILL NUMBER: House Bill 1344 (Chapter 741)
PATRON: Hurt
SUMMARY: **Confidentiality of juvenile court records; exceptions.** Allows Commonwealth's attorneys and probation officers direct electronic access to offenders' juvenile delinquency records for the strictly limited purposes of preparing a presentence report, sentencing guidelines or transfer or sentencing hearing.

BILL NUMBER: House Joint Resolution 88
PATRON: Devolites
SUMMARY: **Incentives to commercialize research and development.** Requests the Secretary of Technology, in cooperation with the Center for Innovative Technology and the Virginia Research and Technology Advisory Commission, to recommend incentives necessary to encourage the commercialization of university research and development. The Secretary must report his written findings and recommendations to the Governor and the 2003 Session of the General Assembly.

BILL NUMBER: House Joint Resolution 89
PATRON: Devolites
SUMMARY: **Court files.** Establishes a joint subcommittee to study protection of information contained in the records, documents and cases filed in the courts of the Commonwealth. The joint subcommittee shall shall submit its written findings and recommendations to the Governor and the 2003 Session of the General Assembly

BILL NUMBER: House Joint Resolution 100
PATRON: Devolites
SUMMARY: ***My*Virginia PIN.** Supports the leadership of the Office of the Secretary of Technology, the Council on Technology Services, the Department of Motor Vehicles and the Department of Information Technology and their efforts to develop the My Virginia Personal Identification Number (*My*Virginia PIN), thus enabling citizens to conduct secure online transactions with multiple agencies across multiple levels of government.

BILL NUMBER: House Joint Resolution 156
PATRON: Hall
SUMMARY: **Growth and Economic Development.** Continues the Commission on Growth and Economic Development. In conducting its study, the Commission shall continue to encourage the participation of all interested groups, organizations and individuals, including those associated with local governments, business interests, the development community, and environmental causes. Issues to be examined by the Commission may include: (i) the need for new or additional funding for programs such as the Derelict Structure Fund, the Weed and Seed Program, Housing Revitalization Zone Program, Urban Public-Private Partnership Redevelopment Fund, housing tax credits, public transportation needs, brownfields site assessment, Agricultural Vitality Program and state and local important soil surveys; (ii) the need for a dedicated source of funding to preserve open space; (iii) a study of the local government tax authority and structure to determine what may be a hindrance to preserving open space; (iv) the creation of a statewide housing policy to address issues such as homeownership trends, barriers to homeownership, and the need for local government accommodation of the housing needs of the entire spectrum of potential home buyers; (v) reform of VDOT funding methods, including increased flexibility to localities in the use of state street maintenance and construction funding; (vi) changes to VDOT minimum street width standards to allow greater local flexibility; (vii) enhancement of the use of various state tax credits and development of a tax credit program for brownfields; (viii) issues surrounding the leasing versus purchasing of educational facilities; (ix) issues related to local revenue shortfalls including proposals to return a portion of future growth in state income tax revenue and use of the referendum process to allow citizens to

determine whether a locality should adopt new local taxes to address such shortfalls; and (x) methods for addressing the state transportation funding shortfall. The Commission must report its interim findings and recommendations to the Governor and the 2003 Session of the General Assembly, and must submit its written final report to the Governor and the 2004 Session of the General Assembly.

BILL NUMBER: House Joint Resolution 162
PATRON: Hogan
SUMMARY: **Continuing the Rural Virginia Prosperity Commission for the purpose of establishing the Center for Rural Virginia.** Continues the Commission for the purpose of establishing the Center for Rural Virginia. The Commission shall monitor the Center's implementation of the Commission's recommendations, including those related to (i) capital access for rural areas, (ii) adult education and workforce enhancement, (iii) the digital economy, (iv) incentives for economic and rural development, (v) infrastructure, (vi) K-12 education, and (vii) primary industries. In addition, the Commission shall assist the Center in exploring the numerous issues considered by the Commission but requiring further study. The Commission must submit an interim report of its findings and recommendations to the Governor and the 2003 Session of the General Assembly, and its written final report to the Governor and the 2004 Session of the General Assembly.

BILL NUMBER: House Joint Resolution 163
PATRON: Saxman
SUMMARY: **Advancing affordable, high-bandwidth electronic networks in rural Virginia.** Requests the Center for Innovative Technology and the Secretary of Technology to study the means for advancing affordable, high-bandwidth electronic networks in rural Virginia. The Center for Innovative Technology and the Secretary of Technology shall coordinate meetings with public and private stakeholders to achieve the following goals: (i) evaluate the present state and need for new infrastructure in rural Virginia to fill strategic gaps in present commercial networks and coordinate plans to fill the gaps; (ii) set bandwidth goals with a timetable for achieving the goals; and (iii) encourage private development and, where necessary, facilitate the extension of advanced networks throughout the state to serve rural counties, cities and towns with affordable, high-bandwidth connections for businesses, local governments, education, health care and citizens. The Center for Innovative Technology and the Secretary of Technology shall further recommend a means or criteria by which areas that are not sufficiently served by the private sector at minimally-established data rates, be permitted to create public-private partnerships to provide the necessary services or, alternatively, to create the necessary services themselves with such services to be offered to the

private sector at fair market value at the appropriate time. The Center for Innovative Technology and the Secretary of Technology shall coordinate their work with the Tobacco Commission and the E-58 project. The Center for Innovative Technology and the Secretary of Technology shall report their written findings and recommendations to the Governor and the 2003 Session of the General Assembly.

BILL NUMBER: House Joint Resolution 172
PATRON: Brink
SUMMARY: **P3P and government websites.** Encourages all state and local government agencies and individuals to incorporate machine-readable privacy policies and the Platform for Privacy Preferences Project specification (P3P) into all agency and personal government websites. This resolution also requests VIPNet to work with its parent company, NIC, to encourage other governments to adopt P3P into their websites.

BILL NUMBER: House Joint Resolution 206
PATRON: Nixon
SUMMARY: **Commercialization of intellectual property; Seed capital and angel investor.** Requests the Secretary of Technology, in conjunction with the Secretary of Commerce and Trade, to establish a task force to study best practices for assisting the development of technology-based businesses that will produce jobs and other economic benefits throughout the Commonwealth. The task force shall (i) focus on best practices designed to assist in the development of a business environment and infrastructure conducive to the discovery and commercialization of new technologies and the development and growth of technology-based businesses throughout the Commonwealth; (ii) review existing initiatives in other states, including best practices being defined and followed in those states; (iii) seek the voluntary participation of representatives of the House of Delegates and Senate of Virginia, Virginia-based technology businesses, Virginia-based investors, and Virginia's institutions of higher education; and (iv) submit periodic progress reports to the Joint Commission on Technology and Science (JCOTS) and a final progress report in time for JCOTS to finalize its legislative recommendations for the 2003 Session of the General Assembly. The task force must submit its written findings and recommendations to the Governor and the 2003 Session of the General Assembly.

BILL NUMBER: House Joint Resolution 209
PATRON: Bryant
SUMMARY: **Local taxation of the entire telecommunications industry and its customers.** Establishes a joint subcommittee to study the local taxes imposed on the entire telecommunications industry and its customers within the Commonwealth. The joint subcommittee shall examine local taxes imposed on the telecommunications industry to ensure that the taxes

imposed on this complex industry are fair and equitable to all elements of the telecommunications industry, and its customers, and are relatively easy to administer and collect. The joint subcommittee must submit its written findings and recommendations no later than August 1, 2002, to the joint subcommittee established to study and revise Virginia's state tax code, and to the Governor and the 2003 Session of the General Assembly.

BILL NUMBER: House Joint Resolution 218
PATRON: Van Landingham
SUMMARY: **Research and new technologies for persons with disabilities.** Requests the Secretaries of Technology and Health and Human Resources to work with representatives of technology industries to develop an action plan prescribing renewed partnerships among the Center for Innovative Technology (CIT), the Department of Information Technology (DIT) and rehabilitation agencies, including the Department of Rehabilitation Services, the Department for the Blind and Vision Impaired, the Department for the Deaf and Hard-of-Hearing and the Woodrow Wilson Rehabilitation Center, to strengthen cooperation in advancing research and new technologies to respond to the talents and needs of persons with disabilities. The Secretaries must report their written findings and recommendations to the Governor and the 2003 Session of the General Assembly.

BILL NUMBER: House Joint Resolution 222
PATRON: May
SUMMARY: **Celebrating the life and mourning the loss of Dr. Robert Michael "Bob" Schwartz.**

BILL NUMBER: House Joint Resolution 228
PATRON: May
SUMMARY: **Commending The Honorable Donald W. Upson, the Commonwealth's first Secretary of Technology.**

BILL NUMBER: Senate Bill 28 (Chapter 2)
PATRON: Trumbo
SUMMARY: **Division of Legislative Services and Legislative Automated Systems; access to information.** Provides that the Clerks of the House of Delegates and Senate will have access to floor substitutes, conference committee reports and substitute bills accompanying a conference committee report as soon as the bills and reports are drafted; however, neither shall access the electronic file containing such documents until the legislation is offered for introduction in either house. This bill also makes certain housekeeping changes in the Code section to conform to current practice.

BILL NUMBER: Senate Bill 38 (Chapter 429)
PATRON: Newman
SUMMARY: **Virginia Freedom of Information Act (FOIA); electronic communication meetings.** Extends the exemption of certain public bodies from the FOIA's electronic communication meeting restrictions from July 1, 2002, to July 1, 2004. The exempted entities are (i) any public body (a) in the legislative branch of state government or (b) responsible to or under the supervision, direction, or control of the Secretary of Commerce and Trade or the Secretary of Technology or (ii) the State Board for Community Colleges. The bill also extends from April 15, 2001, to April 15, 2003, the filing date for submitting a report detailing their experience with meetings held under this pilot program.

BILL NUMBER: Senate Bill 83 (Chapter 140)
PATRON: Wampler
SUMMARY: **Technology Trust Fund fee; sunset.** Extends the sunset from July 1, 2002, to July 1, 2004. Identical to HB 857.

BILL NUMBER: Senate Bill 102 (Chapter 565)
PATRON: Howell
SUMMARY: **Discrimination on the basis of genetic information.** Prohibits employers from (i) requiring a genetic test as a condition of employment and (ii) refusing to hire, failing to promote, discharging or otherwise adversely affecting any term or condition of employment, other than a long-term care, life or disability insurance policy, an employee or prospective employee solely on the basis of the results of a genetic characteristic or genetic test. Violators are subject to actual or punitive damages, including back pay with interest, or injunctive relief. Identical to HB 1307.

BILL NUMBER: Senate Bill 122 (Chapter 68)
PATRON: Stosch
SUMMARY: **Local tax on mobile telecommunications services.** Incorporates uniform federal sourcing laws that determine which jurisdictions may impose taxes on local mobile telecommunications services. Beginning August 1, 2002, federal law provides that taxes on mobile telecommunications services may be imposed by a jurisdiction only if the customer's place of primary use is within the jurisdiction. The "place of primary use" is defined as the street address representative of where the customer's use of the mobile telecommunications service primarily occurs, which must be the residential street address or the primary business street address of the customer and within the licensed service area of the provider of the telecommunications service.

BILL NUMBER: Senate Bill 134 (Chapter 830)
PATRON: Stolle
SUMMARY: **Freedom of Information; exemptions relating to terrorism.** Provides a record exemption from FOIA for (i) plans to prevent or respond to terrorist activity, to the extent such records set forth specific tactics, or specific security or emergency procedures, the disclosure of which would jeopardize the safety of governmental personnel or the general public, or the security of any governmental facility, building, structure, or information storage systems; and (ii) engineering and architectural drawings, operational, procedural, tactical planning or training manuals, or staff meeting minutes or other records, the disclosure of which would reveal surveillance techniques, personnel deployments, alarm or security systems or technologies, or operational and transportation plans or protocols, to the extent such disclosure would jeopardize the security of any governmental facility, building or structure or the safety of persons using such facility, building, structure, or information storage systems. The bill also expands the open meeting exemption to provide that a public body may convene a closed meeting for the discussion of plans to protect public safety as it relates to terrorist activity and briefings by staff members or legal counsel concerning actions taken to respond to such activity or a related threat to public safety. The bill also authorizes the custodian of public records to require a requester of records for his name and legal address. The bill contains a technical amendment.

BILL NUMBER: Senate Bill 140 (Chapter 744)
PATRON: Ticer
SUMMARY: **Credit card, debit card and other payment device numbers; receipts.** Prohibits certain persons from printing certain numbers or the expiration date of a credit card, debit card or other payment device on electronic receipts. This bill applies to all new electronic devices placed in service on or after July 1, 2003. For all other devices in service prior to July 1, 2003, the provisions do not apply until July 1, 2007. Violators of this section shall be liable for damages caused to the cardholder or other payment device holder and the issuer due to the use of the card or other payment device without the cardholder's or other payment device holder's permission.

BILL NUMBER: Senate Bill 208 (Chapter 75)
PATRON: Houck
SUMMARY: **Freedom of Information Advisory Council.** Removes the sunset of July 1, 2002, thereby making the FOIA Council a permanent legislative agency.

BILL NUMBER: Senate Bill 209 (Chapter 148)
PATRON: Ticer
SUMMARY: **Personal property tax; separate classification for biotechnology equipment.** Provides a separate classification for tangible personal

property tax purposes for equipment used in biotechnology research and development and the production of related products but not for human cloning purposes or for purposes related to human embryo stem cells.

BILL NUMBER: Senate Bill 221 (Chapter 671)
PATRON: Stolle
SUMMARY: **Telecommunication devices; penalty.** Broadens the definition of "telecommunication device" to include devices and software capable of receiving a variety of transmissions, including telephonic, electronic, Internet access, audio and video. The bill modifies the existing violation of selling or manufacturing unlawful telecommunication devices by adding the word "knowingly." Additionally, the bill provides that for the purposes of punishment, the unlawful activities of knowingly selling or manufacturing unlawful telecommunication devices are separate offenses for each device involved. The bill provides for both the forfeiture of unlawful telecommunication devices and the order of restitution. Finally, the bill provides civil relief for any party providing oil, electric, gas, water, telephone, telegraph, telecommunication or cable television service that is aggrieved by violation of certain sections.

BILL NUMBER: Senate Bill 240 (Chapter 76)
PATRON: Wampler
SUMMARY: **Insurance transactions; privacy.** Requires a depository institution selling insurance to provide purchasers with a statement that the insurance policy is not a deposit, is not FDIC insured, is not guaranteed by the bank, and involves investment risk, where appropriate. Currently, the requirement applies only where the insurance is sold in connection with the lending of money or extension of credit. The measure also clarifies that the simplified notice of the insurer's privacy policy must be sent both at issuance of the policy and annually thereafter. The provision regarding giving annual notices is amended to be consistent with the Gramm-Leach-Bliley Act. Finally, duplicative language is deleted.

BILL NUMBER: Senate Bill 245 (Chapter 479)
PATRON: Wampler
SUMMARY: **Local telecommunications services.** Provides that any certificate for local exchange service or interexchange service granted by the SCC after July 1, 2002, shall be for service throughout the Commonwealth. Each local exchange carrier that was certificated before July 1, 2002, to provide service in part of the Commonwealth shall be certificated to provide local exchange service throughout the Commonwealth beginning September 1, 2002. The bill authorizes any county, city or town that operates an electric distribution system to provide telephone services within any locality in which it has electric distribution system facilities as of March 1, 2002, if the locality obtains a certificate for such service from the SCC and complies with all applicable laws and regulations for the provision of

competitive telecommunications services. A county, city or town that does not obtain a certificate to provide telephone services may offer qualifying telecommunications services, including high-speed data service and Internet access service, upon application to the SCC. The SCC shall approve such a petition if it is in the public interest, and if the proposed services are not available in quantity, quality, and price from three or more providers in the proposed geographic area. Identical to HB 1021.

BILL NUMBER: Senate Bill 257 (Chapter 609)
PATRON: Watkins
SUMMARY: **Electric utility restructuring; electric energy emergencies.** Authorizes the Governor to declare an electric energy emergency upon finding that an unplanned interruption in the generation or transmission of electricity, resulting from a hurricane, ice storm, windstorm, earthquake or similar natural phenomena, or from a criminal act affecting generation or transmission, act of war or act of terrorism, so imminently and substantially threatens the health, safety or welfare of residents of this Commonwealth that immediate action of state government is necessary to prevent loss of life, protect the public health or safety, and prevent unnecessary or avoidable damage to property. Upon declaring an emergency, the Governor may require a generator or municipal electric utility to generate, dispatch or sell to the Commonwealth electricity from a facility that it operates within the Commonwealth, for distribution within the areas of the Commonwealth designated in the declaration. The Commonwealth shall compensate generators, dispatchers or sellers of electricity. The Governor is also authorized to request the Secretary of the United States Department of Energy to invoke section 202(C) of the Federal Power Act.

BILL NUMBER: Senate Bill 264 (Chapter 835)
PATRON: Lambert
SUMMARY: **Sharing of protected health information between state agencies.** Declares the coordination of prevention and control of disease, injury, or disability and the delivery of health care benefits to be (i) necessary public health activities; (ii) necessary health oversight activities for the integrity of the health care system; and (iii) necessary to prevent serious harm and serious threats to the health and safety of individuals and the public. The Departments of Health, Medical Assistance Services, Mental Health, Mental Retardation and Substance Abuse Services, and Social Services must establish a secure system for sharing protected health information that may be necessary for the coordination of prevention and control of disease, injury, or disability and the delivery of health care benefits when such protected information concerns individuals who (a) have contracted a reportable disease, including exposure to a toxic substance, as required by the Board of Health pursuant to § 32.1-35 or other disease or disability

required to be reported by law; (b) are the subjects of public health surveillance, public health investigations, or public health interventions or are applicants for or recipients of medical assistance services; (c) have been or are the victims of child abuse or neglect or domestic violence; or (d) may present a serious threat to the health or safety of a person or the public or may be subject to a serious threat to their health or safety. Pursuant to the regulations concerning patient privacy promulgated by the federal Department of Health and Human Services, covered entities may disclose protected health information to the secure system without obtaining consent or authorization for such disclosure. Such protected health information will be used exclusively for the purposes established in this section. The Office of the Attorney General will advise the Departments of Health, Mental Health, Mental Retardation and Substance Abuse Services, and Medical Assistance Services in the implementation of this section. This provision also amends the patient health records privacy statute to note that providers may make subsequent disclosures of patient records as permitted under the federal Department of Health and Human Services regulations relating to the electronic transmission of data and patient privacy promulgated as required by the Health Insurance Portability and Accountability Act of 1996. In addition, providers may disclose the records of a patient as authorized by law relating to public health activities, health oversight activities, serious threats to health or safety or abuse, neglect or domestic violence or as necessary to the coordination of prevention and control of disease, injury, or disability and delivery of health care benefits pursuant to the secure system for sharing protected health information.

BILL NUMBER: Senate Bill 308 (Chapter 155)
PATRON: Edwards
SUMMARY: **Freedom of Information Act; record exemption for certain e-mail addresses.** Provides an exemption from the mandatory disclosure requirements of FOIA for personal information, including electronic mail addresses furnished to a public body for the purpose of receiving electronic mail from the public body, provided that the electronic mail recipient has requested that the public body not disclose such information. The bill provides that access shall not be denied to the person who is the subject of such record.

BILL NUMBER: Senate Bill 343 (Chapter 449)
PATRON: Ruff
SUMMARY: **Local enterprise zone program for technology zones.** Authorizes the governing body of any county, city, or town to adopt a local enterprise zone development taxation program for any technology zone located within its boundaries, regardless of whether the technology zone has been designated by the Governor as an enterprise zone. The development

taxation program shall be adopted by local ordinance. Current provisions for such programs for local enterprise zones shall be applicable to any development taxation program adopted for a technology zone. Under current law, a locality may adopt a local enterprise zone development taxation program for any zone located within its boundaries that is declared by the Governor to be an enterprise zone.

BILL NUMBER: Senate Bill 416 (Chapter 618)
PATRON: Rerras
SUMMARY: **Freedom of Information Act; posting of minutes by certain state public bodies.** Requires all boards, commissions, councils, and other public bodies created in the executive branch of state government and subject to the provisions of the Freedom of Information Act to post minutes of their meetings on the Internet. Under the bill, draft minutes must be posted within ten working days of each meeting and final minutes within three working days of final approval of the minutes.

BILL NUMBER: Senate Bill 459 (Chapter 620)
PATRON: Hawkins
SUMMARY: ***Institute for Advanced Learning and Research.*** Creates the Institute for Advanced Learning and Research in Southside Virginia to be founded by Averett University, Danville Community College, and Virginia Polytechnic Institute and State University. The Institute will seek to diversify the Dan River region's economy by acting as a catalyst for economic and community transformation, providing a site for the development of technology and a trained workforce, and expansion of access to higher education in Southside Virginia. The Institute will promote network-related educational initiatives and generally seek to stimulate the economic viability of the region through education. A nine-member board of trustees, consisting of institutional and citizen members, will govern the Institute that will have corporate powers and be authorized to enter into and administer agreements with institutions of higher education to deliver traditional and electronic education. The board may appoint an executive director, may seek additional staff support from its founding institutions, and may apply for, accept, and expend gifts, grants or donations from public or private sources. This measure is identical to HB 605.

BILL NUMBER: Senate Bill 610 (Chapter 850)
PATRON: Mims
SUMMARY: **Geographic Information System; Department of Technology Planning; Planning District Commissions; Department of Health; pilot project with the Centers for Disease Control and Prevention created.** Creates a pilot project under the Department of Technology Planning, Virginia Geographic Information Network division (VGIN division) to develop a standardized Geographic Information System (GIS)

model for the purposes of sharing data relevant to analysis and warning of the spread of airborne toxins and pathogens. This pilot project shall involve the Northern Virginia Planning District Commission (NVPDC), Richmond Regional Planning District Commission (RRPDC), Hampton Roads Planning District Commission (HRPDC), and the Department of Health. The planning district commissions, as appropriate, shall provide staff support and all agencies of the Commonwealth shall provide assistance to VGIN, as requested. The bill requires VGIN to submit an annual report to the Governor and the General Assembly on the progress of this pilot project. The bill expires on July 1, 2005.

BILL NUMBER: Senate Bill 688 (Chapter 476)
PATRON: Hanger
SUMMARY: **Participation in multistate discussions concerning retail sales and use tax.** Provides for the appointment of a delegation of members of the General Assembly to participate in multistate discussions regarding the simplification and modernization of tax administration. The Virginia delegation must report to the 2003 and 2004 Sessions of the General Assembly concerning the issues that they are required to consider, including their recommendations, and any other related issues that the delegation deems advisable.

BILL NUMBER: Senate Bill 691 (Chapter 477)
PATRON: Trumbo
SUMMARY: **Department of State Police; sale or lease of communication towers.** Provides for the Department of State Police to receive in-kind goods and services from the lease or conveyance of any interest in communication towers or sites operated by the Department, which must be used to operate, acquire, construct, maintain, repair or replace communications towers, sites and systems of the Department.

BILL NUMBER: Senate Joint Resolution 33
PATRON: Marye
SUMMARY: ***Relocation of state government functions.*** Requests the Secure Virginia Panel, pursuant to Executive Order 7 (2002), to study the feasibility of relocating state government functions and agencies to enhance safety and security. In conducting the study, the Secure Virginia Panel shall examine state facilities and operations to determine which facilities and operations may be relocated based on the following factors: (i) enhancement to safety and security, (ii) disruption in state services that may be caused by relocation, (iii) potential relocation costs, and (iv) potential economic impact of relocation.

BILL NUMBER: Senate Joint Resolution 39
PATRON: Bolling
SUMMARY: **Critical infrastructure protection.** Encourages the Secretary of Technology and Secretary of Public Safety, in cooperation with other appropriate state agencies, to develop policies, procedures and standards for the analysis of the Commonwealth's critical infrastructure and coordinate this analysis with the federal government and the private sector.

BILL NUMBER: Senate Joint Resolution 59
PATRON: Hanger
SUMMARY: **Streamlined Sales Tax Project.** Encourages the Governor to provide for the executive branch to participate in the Streamlined Sales Tax Project by appointing the Tax Commissioner as its representative. In addition, the resolution provides that the Joint Rules Committee shall appoint a staff of the House and Senate Committees on Finance to monitor discussions of the project.

BILL NUMBER: Senate Joint Resolution 63
PATRON: Whipple
SUMMARY: **Celebrating the life of Emily Couric.**

BILL NUMBER: Senate Joint Resolution 82
PATRON: Newman
SUMMARY: **Private sector sponsorship funds on government websites.** Requests the Secretary of Technology, in consultation with the Joint Commission on Technology and Science, to study and develop guidelines for the use of private sector sponsorship funds on government websites. The Secretary of Technology must submit his report to the Governor and the 2003 Session of the General Assembly.

BILL NUMBER: Senate Joint Resolution 87
PATRON: Puller
SUMMARY: **State funding formula for educational technology and technology support personnel.** Directs the Joint Legislative Audit and Review Commission to recommend a state funding formula for educational technology and technology support personnel. In conducting this study, the Joint Legislative Audit and Review Commission shall (i) seek to place few restrictions on local school divisions except that they adhere to their locally developed technology plans; (ii) examine the possibility of expanding the high school technology resource assistant initiative to include elementary, middle, and adult education schools, (iii) recognize the state share of the costs of support staff required to maintain equipment in schools that is necessary to meet the requirements of the Standards of Quality, other state law, or the Board of Education's regulations; (iv) evaluate the feasibility of support for teacher training, including the development of an online instructional and testing program to facilitate the

achievement of technological competencies and assess such proficiencies; and (v) examine the integration of the technology replacement program into such formula. In addition, the Joint Legislative Audit and Review Commission is requested to study ways to enhance the use of federal assistance for educational technology, such as continuation of the E-rate program and the implementation of state tax credits for businesses that contribute technology resources to schools. The Commission must submit its report to the Governor and the 2004 Session of the General Assembly.

BILL NUMBER: Senate Joint Resolution 141
PATRON: Miller, K.G.
SUMMARY: **Confirming Governor's appointments to various positions and entities.** Confirms appointments made by Governor James S. Gilmore III to various positions and entities with certain exceptions.

BILL NUMBER: Senate Joint Resolution 177
PATRON: Miller, K.G.
SUMMARY: **Confirming Governor's appointments to various positions.** Confirms appointments made by Governor Mark R. Warner of cabinet secretaries and chief of staff.

BILL NUMBER: Senate Joint Resolution 227
PATRON: Miller, K.G.
SUMMARY: **Confirming Governor's appointments to various positions.** Confirms appointments made by Governor Mark R. Warner of certain agency heads and board, committee, and commission members.

BILL NUMBER: Senate Joint Resolution 272
PATRON: Miller, K.G.
SUMMARY: **Confirming Governor's appointments to various positions.** Confirms appointments made by Governor Mark R. Warner of certain agency heads and the chairman and members of the Virginia Parole Board and communicated to the General Assembly on February 28, 2002.