HB 432

Department of Legislative Services

Maryland General Assembly

FISCAL NOTE

House Bill 432 (Delegate Frank, *et al.*)
Economic Matters

Science and Technology - Digital Signatures and Certification Authorities

This bill pertains to digital signature technology which can be applied as a computer-based alternative to traditional signatures. The stated purposes of this bill include: (1) facilitating commerce by means of reliable electronic messages; (2) minimizing the incidence of forged digital signatures and fraud in electronic commerce; (3) legally implementing relevant standards; and (4) establishing, in coordination with other states, uniform rules for the authentication and reliability of electronic messages. The bill provides for the licensure and regulation of certification authorities (CA) and requires the Secretary of State to act as a CA for the private sector, as well as for State and local governments, if no CA is licensed within six months. The bill specifies that it does not determine the validity or invalidity of a digital signature that is verified by reference to a public key listed in a certificate issued by an unlicensed CA.

This bill is effective July 1, 1999.

Fiscal Summary

State Effect: Indeterminate increase in general fund revenues due to fees collected by the Secretary of State, beginning in FY 2000. Indeterminate, but potentially significant, increase in expenditures by the Secretary of State and an indeterminate effect on expenditures for other State agencies. Potential indeterminate increase in general fund revenues and expenditures due to the bill's penalty provisions.

Local Effect: Indeterminate effect on local government finances. Potential indeterminate increase in revenues and expenditures due to the bill's penalty provisions.

Small Business Effect: Potential meaningful impact on small businesses.

Fiscal Analysis

Bill Summary: The bill authorizes the Secretary to issue, deny, revoke, suspend, reprimand, or reinstate a CA license, or place a license on probation, with opportunity for a hearing before the Secretary in certain cases. The bill also specifies certain penalties that the Secretary may impose that are to be paid into the State's general fund. The Secretary must: (1) adopt regulations; (2) maintain a publicly accessible database containing a CA disclosure record for each licensed CA and a list of all judgements filed; and (3) publish the contents of the database in at least one recognized repository. The bill specifies the duties of licensed CAs and subscribers.

For digital signatures that are verified by reference to the public key listed in a certificate issued by a licensed CA, the bill specifies that where a rule of law requires a signature, that rule is satisfied by a digital signature if the digital signature was affixed by the signer with the intention of signing the message and the recipient has no knowledge or notice that the signer breached a duty as a subscriber or does not rightfully hold the private key used to affix the digital signature.

Background: The bill is based on an encryption system known as "asymmetric cryptosystem," which utilizes a "public key" and a "private key." The key pair is generated with a mathematical algorithm that ensures that a message could only be decoded with a particular public key if it had been encoded with the corresponding private key. The bill provides for the licensure and regulation of CAs, who would issue certificates to subscribers. A certificate, in effect, verifies the identity of a particular user (subscriber) who has registered with the CA and verifies the public key associated with that user. The subscriber assumes a duty to exercise reasonable care in retaining control of the private key and keeping it confidential. Certificates are published in recognized repositories, which are on-line databases of certificates available for retrieval and use in verifying digital signatures.

State Revenues: General fund revenues would increase by an indeterminate amount depending on the amount set for the licensing fee and the number of applicants for CA licenses. In addition, revenues would increase from any fees collected by the Secretary of State acting as a CA for State and local governments and potentially from fees collected from the private sector. The increase would depend on the amount set for any fees for the issuance of a certificate to a subscriber and the number of subscribers. It is noted that the bill has a delayed effective date of July 1, 1999.

While this bill is based on a Washington State law enacted in 1997 with a January 1, 1998 effective date, certain aspects of the bill remain similar to elements of the Utah Digital Signature Act, which was enacted in 1995 and fully implemented in November 1997. Thus, for illustrative purposes only, it is noted that Utah charges $500 annually for a CA license, requires a $75,000 bond, and expects to issue 10-15 CA licenses in the first year.

State Expenditures: State expenditures are indeterminate, but potentially significant. The Office of the Secretary of State advises that the bill will require the acquisition of a conceptual understanding of the scope of the State's regulatory authority, the acceptable technology, liability issues, and interstate and international standardization. The office advises that implementation cannot be adequately accomplished with existing resources or staff and may require restructuring the Office of the Secretary of State to include an additional division. Legislative Services advises that while additional personnel may be necessary, particularly in light of the technical nature of this bill, such expenses would depend on the demand for services. In addition to duties related to the licensing of CAs, expenditures could increase further if the Secretary of State were required to act as a CA for the private sector as well as for State and local governments.

For illustrative purposes only, Utah employs one coordinator and one secretary at a cost of about $90,000 per year. A consultant was hired at a cost of about $66,000 to assist in drafting the request for proposals for software and developing a repository. The purchase price was between $15,000 and $20,000. (Software for the use of the digital signatures by individuals costs $75 to $125. In addition, certificates may be obtained for as little as $10 to $50 from on-line vendors.) Depending on the volume, Utah estimates two to three additional employees may be necessary on a full-time basis, at an estimated additional cost of $150,000 per year.

To the extent that State agencies utilize the digital signature technology set out in this bill, expenditures could increase initially, but could be offset to some extent by savings that result from more efficient processing of paperwork that requires signatures.

The Administrative Office of the Courts advises that the bill could have a direct impact on the caseload of the Maryland courts due to possible litigation resulting from denials, suspensions, and revocations of certificates. The volume of any case filings cannot be reliably estimated at this time.

Local Effect: For local governments that choose to become licensed CAs or otherwise utilize the digital signature technology set out in this bill, expenditures could increase initially, but could be offset to some extent by savings that result from more efficient processing of paperwork that requires signatures.

Small Business Effect: Small businesses could benefit from the increased ability to conduct commerce over the Internet. In addition, small businesses that serve as licensed CAs, sell software packages to subscribers, or manage repositories could benefit from additional business opportunities.

Information Source(s): Office of the Secretary of State, Judiciary (Administrative Office of the Courts), Attorney General's Office, Department of Budget and Management, Department of Legislative Services

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