Introduction

The number of computer security incidents and the resulting cost of business disruption and service restoration continue to escalate. Implementing solid security policies, blocking unnecessary access to networks and computers, improving user security awareness, and early detection and mitigation of security incidents are some of the actions that can be taken to reduce the risk and drive down the cost of security incidents.

Purpose

The purpose of the System Development Policy is to describe the requirements for developing and/or implementing new software in the TSSWCB Information Resources.

Audience

The TSSWCB System Development Policy applies equally to all individuals that use any TSSWCB Information Resources.

Definitions

Information Resources (IR): Any and all computer printouts, online display devices, magnetic storage media, and all computer-related activities involving any device capable of receiving email, browsing Web sites, or otherwise capable of receiving, storing, managing, or transmitting electronic data including, but not limited to, mainframes, servers, personal computers, notebook computers, hand-held computers, personal digital assistants (PDA), pagers, distributed processing systems, network attached and computer controlled medical and laboratory equipment (i.e. embedded technology), telecommunication resources, network environments, telephones, fax machines, printers and service bureaus. Additionally, it is the procedures, equipment, facilities, software, and data that are designed, built, operated, and maintained to create, collect, record, process, store, retrieve, display, and transmit information.

Information Resources Manager (IRM): Responsible to the State of Texas for management of the agency’s information resources. The designation of an agency information resources manager is intended to establish clear accountability for setting policy for information resources management activities, provide for greater coordination of the state agency's information activities, and ensure greater visibility of such activities within and between state agencies. The IRM has been given the authority and the accountability by the State of Texas to implement Security Policies, Procedures, Practice Standards and Guidelines to protect the Information Resources of the agency. If an agency does not designate an IRM, the title defaults to the agency’s Executive Director, and the Executive Director is responsible for adhering to the duties and requirements of an IRM.

Definitions, continued

Information Services (IS): The name of the agency department responsible for computers, networking and data management.

System Development Life Cycle (SDLC): a set of procedures to guide the development of production application software and data items. A typical SDLC includes design, development, maintenance, quality assurance and acceptance testing.

Owner: The manager or agent responsible for the function which is supported by the resource, the individual upon whom responsibility rests for carrying out the program that uses the resources. The owner is responsible for establishing the controls that provide the security. The owner of a collection of information is the person responsible for the business results of that system or the business use of the information. Where appropriate, ownership may be shared by managers of different departments

Custodian: Guardian or caretaker; the holder of data, the agent charged with implementing the controls specified by the owner. The custodian is responsible for the processing and storage of information. For mainframe applications, Information Services is the custodian; for micro and mini applications, the owner or user may retain custodial responsibilities. The custodian is normally a provider of services.

User: Has the responsibility to (1) use the resource only for the purpose specified by the owner, (2) comply with controls established by the owner, and (3) prevent disclosure of confidential or sensitive information. The user is any person who has been authorized to read, enter, or update information by the owner of the information. The user is the single most effective control for providing adequate security.

Production System: The hardware, software, physical, procedural, and organizational issues that need to be considered when addressing the security of an application, group of applications, organizations, or group of organizations.

System Development Policy

- IS is responsible for developing, maintaining, and participating in a System Development Life Cycle (SDLC) for TSSWCB system development projects. It is recommended that software developed in-house which runs on production systems be developed according to the SDLC. At a minimum, this plan should address the areas of preliminary analysis or feasibility study; risk identification and mitigation; systems analysis; general design; detail design; development; quality assurance and acceptance testing; implementation; and post-implementation maintenance and review. This methodology ensures that the software will be adequately documented and tested before it is used for critical TSSWCB information.
- All production systems must have designated Owners and Custodians for the critical information they process. IS must perform periodic risk assessments of production systems to determine whether the controls employed are adequate.
- All production systems must have an access control system to restrict who can access the system as well as restrict the privileges available to these Users. A designated access control administrator (who is not a regular User on the system in question) must be assigned for all production systems.
- Where resources permit, there should be a separation between the production, development, and test environments. This will ensure that security is rigorously maintained for the production system, while the development and test environments can maximize productivity with fewer security restrictions. Where these distinctions have been established, development and test staff must not be permitted to have access to production systems. Likewise, all production software testing must utilize sanitized information.
- All application-program-based access paths other than the formal user access paths must be deleted or disabled before software is moved into production.

Disciplinary Actions

Violation of this policy may result in disciplinary action which may include termination for employees and temporaries; a termination of employment relations in the case of contractors or consultants; dismissal for interns and volunteers; or suspension or expulsion in the case of a student. Additionally, individuals are subject to loss of TSSWCB Information Resources access privileges, civil, and criminal prosecution.

Supporting Information

This Security Policy is supported by the following Security Policy Standards

Reference # **Policy Standard detail**

8 All computer software programs, applications, source code, object code, documentation and data shall be guarded and protected as if it were state property.

10 The owner must engage the IRM, or designate, at the onset of any project to acquire computer hardware or to purchase or develop computer software. The costs of acquisitions, development and operation of computer hardware and applications must be authorized by appropriate management. Management and the requesting department must act within their delegated approval limits in accordance with the agency authorization policy. A list of standard software and hardware that may be obtained without specific, individual approval will be published.

11 The department which requests and authorizes a computer application (the owner) must take the appropriate steps to ensure the integrity and security of all programs and data files created by, or acquired for, computer applications. To ensure a proper segregation of duties, owner responsibilities cannot be delegated to the custodian.

14 The integrity of general use software, utilities, operating systems, networks, and respective data files are the responsibility of the custodian department. Data for test and research purposes must be de-personalized prior to release to testers unless each individual involved in the testing has authorized access to the data.

17 All departments must carefully assess the risk of unauthorized alteration, unauthorized disclosure, or loss of the data for which they are responsible and ensure, through the use of monitoring systems, that the agency is protected from damage, monetary or otherwise. Owner and custodian departments must have appropriate backup and contingency plans for disaster recovery based on risk assessment and business requirements.

References

Copyright Act of 1976
Foreign Corrupt Practices Act of 1977
Computer Fraud and Abuse Act of 1986
Computer Security Act of 1987
The Health Insurance Portability and Accountability Act of 1996 (HIPAA)
The State of Texas Information Act
Texas Government Code, Section 441
Texas Administrative Code, Chapter 202
IRM Act, 2054.075(b)
The State of Texas Penal Code, Chapters 33 and 33A
DIR Practices for Protecting Information Resources Assets
DIR Standards Review and Recommendations Publications