

Security of Vital Ventura County Data-Processing

Summary

The 2005-2006 Grand Jury received a briefing on the operations of Ventura County's Information Systems Department (ISD). The Grand Jury toured ISD's facilities in the County Hall of Administration. As a result of both presentations, the Grand Jury became concerned that the operation and location of ISD create risks to ongoing availability of ISD services and might compromise sensitive Ventura County data.

The Grand Jury concluded that the current location of ISD's facilities is vulnerable to flooding as a result of either a storm or broken water pipes during an earthquake. Limited-capability backup facilities are equally vulnerable. The Grand Jury further concluded that the current practice of using a commercial service to archive unencrypted data places sensitive data such as payroll and personnel records at risk of unauthorized disclosure.

The Grand Jury recommends that ISD facilities be moved to above-grade locations and that a backup facility be established at a distance from Ventura County. The Grand Jury also recommends that all data archives be encrypted before being entrusted to any external archiving service.

Background

Ventura County ISD provides centralized computer and data services for County agencies. Among those services are telephone, E-mail, Internet connection, payroll processing for the County Controller, and the Ventura County Integrated Justice Information System (VCIJIS, a database system for the various Ventura County criminal justice agencies).

The ISD offices and primary operating facilities are located on the Lower Plaza of the Hall of Administration. These facilities includes a computer mainframe, network servers, routers, and telephone switches. A backup facility for E-mail and Internet connection is located adjacent to the Camarillo Airport. A backup facility for payroll processing and VCIJIS is located adjacent to the County Emergency Operations Center in the basement level of the main County Jail.

Methodology

The Grand Jury interviewed the Ventura County Chief Information Officer (who manages ISD) and toured the ISD facilities. The Grand Jury also toured the Emergency Operations and Center in the Ventura County Jail. News reports about flooding of the adjacent Ventura County Sheriff's Dispatch Center were reviewed.

Findings

ISD Facilities

- F-01.** The ISD facilities on the Lower Plaza of the Hall of Administration include offices, communications equipment, computer mainframe, network servers, and telephone switches for Ventura County operations.
- F-02.** The mainframe, servers, and routers are located below grade with cables below the floors.
- F-03.** Telephone switches are located below grade.
- F-04.** The ISD maintains limited backup capability for E-mail and Internet connections in a building adjacent to the Camarillo Airport.
- F-05.** Much of the Oxnard Plain — especially the entire area surrounding the Camarillo Airport — is designated as subject to liquefaction on California Geological Survey maps [Ref-01].
- F-06.** The ISD maintains backup capability for payroll and VCIJIS adjacent to the Emergency Operations Center in the basement of the Ventura County Jail.
- F-07.** The Emergency Operations Center and Sheriff's Dispatch Center have been repeatedly flooded by backed-up sewer lines.
- F-08.** In case of a severe storm, the Lower Plaza of the Hall of Administration and the basement of the Jail might be subject to flooding.
- F-09.** In case of an earthquake, the Lower Plaza of the Hall of Administration and the basement of the Jail might be subject to inundation by broken water or sewer lines.
- F-10.** In case of an earthquake, liquefaction might render structures in the area of the Camarillo Airport unsafe and unusable.

Security of Sensitive Data

- F-11.** Daily backups of server data are prepared by ISD. These include payroll and personnel data.
- F-12.** The daily data backups are not encrypted on the removable backup media.
- F-13.** Under a contract with ISD, a commercial service picks up removable media containing backed-up data and stores these media in a remote archive.
- F-14.** The loss or theft of removable data media is a recognized problem affecting financial institutions, government agencies, colleges, and other organizations. Instances of this loss may lead to the compromise of sensitive data and the possibility of identity theft using those data [Ref-02].

Conclusions

- C-01.** In the event of a flood or earthquake, the County is at risk of losing the ability to conduct business through its computer systems, not only in the main ISD facility in the Hall of Administration but also in backup facilities in the Jail

and at the Camarillo Airport. (F-01, F-02, F-04, F-05, F-06, F-07, F-08, F-09, F-10)

- C-02. In the event of a flood or earthquake, the County is at risk of losing the ability to conduct business through its telephone system. (F-01, F-03, F-08, F-09)
- C-03. The failure to encrypt data before archiving places Ventura County employees and retirees and members of the public conducting business with the County at risk of identity theft. (F-11, F-12, F-13, F-14)

Recommendations

- R-01. ISD’s primary facility should be relocated above ground level. (C-01, C-02)
- R-02. The ISD should establish a backup facility not in the Oxnard Plain. This facility should be capable of supporting all major County information system functions, including E-mail, Internet, payroll, and VCIJIS. A location in a geological zone remote from any earthquake fault that could impact the County Hall of Administration should be developed. (C-01)
- R-03. When backing-up data, all files should be encrypted before release outside of the ISD. Only designated security personnel within ISD should have access to the related decryption keys. (C-03)

Responses

Responses Required From:

Ventura County Information Services Department (R-01, R-02, and R-03)

Bibliography

References

- Ref-01. The map is available via the Web at <http://gmw.consrv.ca.gov/shmp/MapProcessor.asp?Action=IMap&Location=SoCal&FClass=Quad&FID=Camarillo&Liq=true&Land=false&Bore=false&Road=true&City=false>.
- Ref-02. “Data storage firm apologizes for loss of railroad data tapes”, The Boston Globe, April 28, 2006. This article describes how removable media containing sensitive archived employee data of the Long Island Railroad were lost by or stolen from the archiving firm Iron Mountain, Inc. The article also cites prior such losses by Bank of America and Fidelity Investments and indicates that 75 such losses occurred nationally in the first four months of 2006.

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