

COUNTY OF MILWAUKEE
INTEROFFICE COMMUNICATION

Date: April 17, 2017

To: Supervisor Theodore Lipscomb, Sr., Chairman, County Board of Supervisors

From: Laurie Panella, Chief Information Officer, DAS - Information Management Services Division
Prepared by Tod Huber, Chief Technology Officer, DAS-IMSD

Subject: Informational Report: Information Technology Security (Capital Project WO18001)

Background

As part of the 2017 Adopted Capital Improvements Budget, an appropriation of \$1,140,000 was budgeted for a County information technology security program to be further developed throughout 2017 and implemented in 2018. The 2017 scope of work includes:

- Remediation of potential security vulnerabilities;
- Development and implementation of improved security standards and processes;
- Development and implementation of an enterprise security awareness and training program; and
- The purchase, upgrade, and implementation of more advanced information technology infrastructure and applications.

Project Status

DAS-IMSD has taken substantial steps to remediate and mitigate potential security vulnerabilities over the course of 2016 and early 2017. Those steps included:

Penetration Testing. Penetration testing, or “pen testing,” is a method of evaluating the security of an organization’s IT infrastructure through ethical hacking and penetration attempts. Pen testing reveals vulnerabilities in operating systems, networks, services and applications, and even in human responses to hacking or penetration efforts. DAS-IMSD has performed two tests at each critical County site – Milwaukee County general; the Milwaukee County Transit System – External; and General Mitchell International Airport.

Milwaukee County – Internal and External Penetration Tests:

- First test performed March of 2016;
- Remediation based on March 2016 test results performed June 2016 through February 2017;

- Second test performed March of 2017.

Milwaukee County Transit System – External Penetration Tests:

- First test performed November of 2016;
- Remediation based on November 2016 test results performed November 2016 through April 2017;
- Second test scheduled for May of 2017.

General Mitchell International Airport Penetration Tests:

- First test performed January of 2017;
- Remediation based on January 2017 test results to be performed from February to June of 2017;
- Second test scheduled for June of 2017.

Windows Server 2003 Decommissioning and Windows Server Updating Process. Windows Server 2003 is no longer supported by Microsoft, exposing Milwaukee County to security vulnerabilities due to a lack of critical security patches or fixes that enable DAS-IMSD to remediate those vulnerabilities. Windows 2003 servers continue to be necessary to County function due to a number of both County-specific applications that require expensive, custom development and outdated systems or software programs presently in use, but which have not been updated or upgraded due to lack of funding for the necessary upgrades. These custom or outdated systems and software solutions either cannot be easily transferred to an upgraded Windows server, or cannot be upgraded at all, creating ongoing reliance on vulnerable servers. The program started with 100 Windows 2003 servers and 23 remain at this time. DAS-IMSD expects to complete the decommissioning of Windows 2003 servers in June of 2017.

Security Information and Event Management Solution. Security Information and Event Management (SIEM) systems and technology allow an organization to collect data pertaining to security events from a variety of potential data sources. Once the data is collected, it can be analyzed and used to support important IT security functions such as system or network troubleshooting, device monitoring, threat detection, security incident response, compliance reporting, and incident investigation. DAS-IMSD is working with vendor partner Solutionary, Inc. to finalize a Statement of Work to include: event log management for County servers and vital network devices; incident management for Milwaukee County; and vulnerability testing of the County's externally-facing servers or devices and critical internal servers.

System Center Configuration Manager Implementation. System Center Configuration Manager ("SCCM") is a systems management software product developed by Microsoft. The tool will allow DAS-IMSD to better manage computing assets such as personal computers, servers, and mobile devices running Windows, iOS, and Android on Milwaukee County

networks. The tool provides DAS-IMSD with asset inventory, configuration management, and computer replacement scheduling capabilities. Additionally, the tool will improve the County's licensing inventory and compliance efforts for both operating systems and IT applications, and will centralize management of updates for all servers and windows computers, providing both compliance management and oversight for those devices as well as timely delivery of updates to devices. DAS-IMSD rolled out SCCM to the Milwaukee County Transit System in December of 2016, and to Milwaukee County general in February of 2017. Roll-out date for the General Mitchell International Airport has not yet been determined.

Information Security Manager Position. The position of Information Security Manager within DAS-IMSD has been vacant for approximately 8 months. The position is posted in Milwaukee County's Applicant Tracking System ("ATS"). Until DAS-IMSD is able to find a qualified individual to fill the vacant role of Information Security Manager, it will engage an appropriate individual at the Chief Information Security Officer level for a temporary, 6-month contract in order to initiate an Information Security Program for Milwaukee County.

Information Security Analyst Position. The position of Information Security Analyst within DAS-IMSD is a newly created position that requires funding. This role provides the ability to respond to security alerts and sustain our security awareness program that is being implemented to address our recognized vulnerabilities. The position is in the process of being posted in Milwaukee County's Applicant Tracking System ("ATS"). However, DAS-IMSD is unable to fill this critical position until funding can be procured.

Information Security Program Planning. DAS-IMSD is establishing a baseline Information Security Program in 2017 consisting of the following:

- Development of a Policy Portfolio;
- Establishment of a Security Council, including a charter, defined chair, and incorporation of top-level managers from client Divisions and Departments;
- Establishment of an incident management and response program that is:
 - Based on Security Information and Event Management (SIEM) information;
 - Includes event classification, prioritization, and triage; escalation of critical events; and document work for the following technical areas:
 - Reconnaissance and probing;
 - Delivery and attack;
 - Exploitation and installation; and
 - System compromise.
 - Provides a procedure and process for incident management and remediation; and
 - Allows DAS-IMSD to run mock incidents that test the procedure.
- Development of a vulnerability assessment program for:

- Publicly facing servers;
- Enterprise network entry point devices; and
- End user devices.
- Refinement and implementation of a service and applications catalog; and
- Development of a security awareness program for County employees.

Recommendation

The Chief Information Officer of the Department of Administrative Services – Information Management Services Division respectfully requests this report be received and placed on file.

Approved by:



Laurie Panella, DAS-IMSD
Chief Information Officer

cc: County Executive Chris Abele
Raisa Koltun, Chief of Staff
Supervisor Peggy West, Chair, Finance and Audit Committee
Supervisor Sheldon Wasserman, Vice-Chair, Finance and Audit Committee
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