

## Introduction

There is an increasing desire and need to combine the logical access and physical access functions of major organizations.

This can be as simple as merely having an access card that can be used for both functions to the total integration of the IT systems. This latter case involves the cooperation of the Information Technology (IT) department, Security office, and Human Resources (HR) department.

This presentation will focus on a system that uses a common card for both functions. It discusses the migration of the card used in the United States Department of Defense's Common Access Card (CAC) program to the use as a secure identification credential mandated by the recent Homeland Security Presidential Directive 12 (HSPD-12).

## Physical Access System Overview

- The Air Force Institute of Technology (AFIT) needed to do an expansion of their existing security system as they had added new buildings.
- AFIT's physical access system covers six buildings and 220+ doors across its campus, with panels networked together via IP to a centralized security center. The new system allows students to use their CAC card for both physical access and logical access thus eliminating the need for multiple type access cards.

## HSPD-12 and the DoD Directive (PKI PMO Warning Order)

There are two strong drivers today in the United States Government space that is causing a large interest in both Logical and Physical Access Control and in the use of smart cards in these applications.

- Homeland Security Presidential Directive 12 (HSPD-12)
  - Mandatory
  - Government-wide
  - Secure/Reliable forms of identification
  - Issued by Federal Government to employees and contractors
  - Credential issued must be rapidly authenticated electronically
- Department of Defense (DoD) secure network directive
  - Initiate accelerated PKI implementation across DoD
  - Execute CAC logon to NIPRNET
  - Develop guidance for encryption of email
  - Develop guidance for digital signing
  - Allow only certificate-based client authentication to DoD web-servers

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## Implementing a Physical Access System

- The primary desire with the installation was the use of only one card for both logical and physical access. As this is a DoD location most of the faculty, staff, and students already had (Common Access Cards) CAC cards.
- The CAC cards were already being used for logical access. By installing physical access readers that could read the contact chip of the CAC card the objective of using one card was accomplished. This saved the cost of issuing and maintaining a second card system.

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## Implementing a Physical Access System

- In addition a goal of the upgrade to the system was to have a reader that could be used as the CAC card was upgraded to meet the requirements of HSPD-12. This objective was accomplished by installing a reader that interfaced to both legacy contact and transition contact/contactless smart cards.
- Another objective of the physical access control upgrade was to provide cards to both foreign and visiting students that were also attending AFIT. The expense of issuing temporary CAC cards was overcome by using contactless DESFire cards for these temporary applications. Using a contact and contactless reader made this possible. This is an ongoing cost saving with this approach.

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## Implementing a Physical Access System

- The next step in the development of this system is the acceptance of the transitional CAC card by the system. Employing a reader with programmable memory allows for future updates, an objective of the original placement – and part of the business case.
- The reader that is being employed at AFIT has the capability of interfacing to –
  - Legacy CAC contact cards
  - DESFire/Mifare contactless card
  - CAC transitional PIV card (contactless and contact)
  - PIV Card & CAC end-state PIV card
  - Legacy GSA Contact Cards
  - First Responder Access Cards (FRAC)

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## Summary

AFIT was able to build a business case for the combination of logical and physical access control by –

- Recognizing that the currently issued CAC card could be used for both their logical and physical access control needs
- Updating their physical access system to accept the same card as the currently installed logical access control system
- Using lower cost DESFire cards for transient visitors
- Having an upgrade path to allow the simultaneous reading of the current contact CAC card, the DESFire card (contactless), the transitional PIV CAC card, and the end-state PIV CAC card. The latter two cards are a dual interface contact (for logical access) and contactless (for physical access) card.

Contact

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