Lesson Title: Identity Standards

7/7/09
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Rationale
Why is this lesson important? Why does the student need this lesson? How does this lesson fit in the larger module?

There is a desire to store more information on identification cards such as passports and drivers licenses in digital form that can be automatically read via a wireless connection. These smart cards use passive RFID technology to fulfill this requirement. There are directives and standards for these identification cards. The student needs this lesson to understand the present identity standards, which will affect the future use of RFID in identity cards.

Objective(s)
What will the student know, be able to do, and value at the end of this lesson? This is smaller amounts of information than the module objectives.

The student will be able to describe HSPD-12, NIST FIPS 201, the Real ID Act of 2005, the security features of the U.S. E-passport, and why U.S. States are reluctant to accept guidelines established by the Real ID Act of 2005.

Exploration
Explicit concepts related to the Module goal are explored. It is at this point that the student will be provided basic information about the topic and the chance to explore some basic concepts about the topic. This is where the instructor imparts information.

- Homeland Security Presidential Directive-12 (HSPD-12) of 2004
  - Issued by President George W. Bush on August 27, 2004
  - Standardize and improve the security of Federal employee and contractor identification
- NIST FIPS 201
  - Department of Commerce and National Institute of Standards and Technology (NIST) tasked to provide technical architecture and standards
  - NIST published Federal Information Processing Standard Publication 201 (FIPS 201), Personal Identity Verification (PIV) of Federal Employees and Contractors, issued on February 25, 2005
  - PIV cards use ISO/IEC 14443
  - Several other special publications by NIST related to PIV
- RFID-enabled Passport
  - May 2002: The Enhanced Border Security and Visa Entry Reform Act requires the USA and other countries whose citizens don't need visas for entering the USA to develop electronic passports. The act sets a deadline of October 2004.
  - March 2004: The Bush administration asks Congress to delay the deadline to October 2006 to allow participating countries more time to address technical issues. Congress agrees.
  - January 2005 - US Government Awards RFID Passport Contracts for testing RFID passports
April 2005: The State Department closes comment period, begins to firm up plans for the new e-passport.

April 2005 – State Department reconsiders adding security measures to RFID-enabled passports after public outcry because can be read at 30 feet (10 meters) instead of 4 inches (10 cm) [ISO 14443]

August 2005 – State Department adds metallic ant-skimming material to cover and spine of passport to limit reading distance to 1 inch

November 2005: State Department plans to make e-passports available to U.S. travelers by October 2006 that have features to prevent skimming and Basic Access Control (characters printed on passport act like PIN number)
  - Before being read PIN must be entered into reader
  - Encryption between reader and tag

October 2005: E-passports available for U.S. travelers

- RFID-enabled passport (E-Passport)
  - Metallic anti-skimming material added in cover and spine to reduce read distance to 1 inch
  - PIN number printed on cover must be entered in reader to read tag and it encrypts communication
  - New industry for wallet makers creating Faraday cages for passports

- Real ID Act of 2005
  - Federal Law
  - Established guidelines for state-issued drivers’ licenses and ID cards to be accepted as valid forms of identification
  - Each State issues drivers’ licenses
  - Original deadline: May 11, 2008
  - Present deadline: 2011

Reflection

Several questions are posed to the student to answer and then often discuss as a class. This is an attempt to determine whether the student "gets" the basic concepts delivered above. If they do get it, move on to engagement. If they do not get it, go back to exploration above. It could be as simple as asking a few probing questions or as complex as asking the student to write a paper.

- Why is NIST FIPS 201 important to study?
- What are some of the security features of the E-Passport?
- What is the Real ID Act of 2005?

Engagement

Concepts learned in the Exploration are further developed by conducting experiments, designing and building solutions, and solving problems. This is an attempt to cause the student to apply the new knowledge. By applying the new knowledge, the student is much more likely to retain this information. This engagement could be accomplished through a debate, an experiment, a problem solving activity, or anything else that would cause the student to demonstrate understanding and competence.

- Homework assignment
**Expansion**

Provide opportunities for students to expand the concepts to more general or global situations including connection to the Module goal. Expand back to the big ideas of the module and prepare for the next lesson.

- Why do some States in the USA resist the Real ID Act of 2005?

**Lesson Assessment**

Assess student understanding of the lesson content. This does not have to be a full-blown examination. It could be a graded homework assignment, a quiz, a performance examination, a graded problem solving activity, or something similar.

- Homework assignment

**Equipment**

- None

**Software**

- None

**References**

- HSPD-12
- NIST FIPS 201
- Real ID Act of 2005
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