

# The MITRE Corporation

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### Additional Information and Links

Barry, S., et al., 2008, "Encrypted Biotoken for Border Security," The MITRE Corporation, [www.mitre.org/news/events/exchange08/3232.pdf](http://www.mitre.org/news/events/exchange08/3232.pdf).

The MITRE Corporation  
Technology Transfer Office  
7515 Colshire Drive  
McLean, VA 22102-7539

Phone: 703-983-6053  
[www.mitre.org/work/tech\\_transfer/](http://www.mitre.org/work/tech_transfer/)  
Email: [techtransfer@mitre.org](mailto:techtransfer@mitre.org)

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[www.mitre.org](http://www.mitre.org)

## Biotoken

**R**adio Frequency Identification (RFID) can be used to speed processing at U.S. ports of entry by enabling customs officials to pre-fetch information about travelers. However, for this approach to be accepted, concerns regarding security, privacy, authentication, and cost must be addressed. MITRE envisions a mobile device that meets border management's security, privacy, and authentication objectives—a reasonably priced mobile device that combines proven security solutions with biometric functionality. To support this goal of providing border management with a complete solution, MITRE developed software, which was embedded into a customized piece of hardware that was manufactured by a third-party vendor.

MITRE's research and the resulting technologies can enhance security and privacy for the portal access applications using RFID tags, while also providing enhanced and reliable positive identification capabilities. The credit card-sized device will contain an active radio device that provides the means to regularly change the ID number of the device and maintain the association between the RFID tags and authorized users. Further, the device will contain a fingerprint sensor, which will enable it to be secured by the authorized user's fingerprint, thus providing a high level of confidence that the card's user is the person to whom the card was originally issued.

## Applications

Among the candidates who would benefit from using this technology are border management programs such as U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT), Free and Secure Trade (FAST), NEXUS, and the Transportation Worker Identification Credential (TWIC). The licensee will provide fingerprint-enabled active radio cards and a host workstation to securely associate a radio tag with a single user. To verify the fingerprint subsystem's ability to determine when an authorized person uses a card, the technology will be tested under conditions similar to those encountered by border management applications. The test results will establish functional, security, privacy, cost, and identity assurance benchmarks for fieldable systems that can be used for applications such as identity verification at high-traffic entry and exit portals.

## Benefits

The Department of Homeland Security (DHS) could use this technology to improve the speed, performance, and accuracy of biometric verification at all entry and exit portals. MITRE's technology successfully demonstrates a secure long-range biometric credential for entry and exit verification that addresses these critical needs and shows that these capabilities can be achieved at a moderate cost to travelers and a very low cost to DHS.