

Biometric Consortium 2006 Conference

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Topic: Attestation-based remote biometric authentication

Abstract: Migration from password and token-based authentication in distributed systems requires fundamental changes to the authentication process. A person's biometric data is not a secret, which presents a fundamental difference with other authentication methods. Matching a sample with a database template is secondary to establishing trust in the integrity of the sample. The process is similar to establishing a chain of custody for judicial evidence. In computer systems this is accomplished using attestation architectures. In this paper, a design for a secure remote biometric login system based on an attestation architecture is analyzed. The system uses a commercially available Trusted Platform Module (TPM) to authenticate the platform during the boot process and perform trusted private-key functions to participate in a challenge/response between the client and a remote biometric matcher. The result is a system that can provide higher assurance than current systems in an economically and administratively feasible system.

Biography: Thomas Polon is a second year graduate student at Clemson University, and he is currently working on ways to increase security within biometric systems. His thesis topic is the use of attestation devices in conjunction with biometric devices.