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Philip Statham
Biometrics Programme Manager
CESG

Hubble Road
Cheltenham, Glos. GL51 0EX, UK
Phone: (+44). . . philip.statham@cesg.gsi.gov.uk

Topic: Threat Models - how can we compare different authentication methods?

Abstract: We are well used to password authentication. Governments and commercial organisations have worked out how to specify password requirements in terms of hashing algorithms and length and randomness of passwords, and how to relate these parameters to the perceived threat from technically sophisticated attackers using password crackers, reverse engineering and other techniques.

Passwords though have their own weaknesses and they are not always suitable for the wide range of e-authentication requirements in the modern world. To fill these gaps we have seen a big growth in the use of tokens (in varying forms and levels of sophistication) and, more recently, biometrics. The introduction of new authentication technologies has served to highlight weaknesses in the traditional ones, but the truth is that all the technologies have inherent strengths and weaknesses, usually in different areas. The intrinsic differences make it hard to compare authentication mechanisms and determine their relative security. The problems are further complicated when considering multi-factor authentication.

This presentation will examine some of the issues and formulate a possible approach. It will outline a CESG-developed proposal that attempts to balance the desire to produce a realistic, quantifiable outcome while avoiding undue complexity

Biography: Philip Statham chairs the UK Government Biometrics Working Group and manages the CESG biometrics programme, jointly sponsored by CESG and the UK Central Sponsor for Information Assurance (CSIA). He is responsible for developing the security evaluation methodology for biometric devices and systems and managing the biometric security assessment programme at CESG. He is providing advice on biometric security and security evaluation to the UK Government ID Card programme. He participates in international biometric standards work as a UK National Body representative to the ISO SC 37 Biometric Standards committee and as an SC 37 liaison officer to SC 27 on biometric security evaluation methodology standards

His career began at Government Communications Headquarters (GCHQ) – CESG's parent organisation, where he developed IT systems to support the intelligence community. He later moved to CESG, the UK Government's Information Assurance authority, and has worked there on a range of information assurance projects including software analysis tools, anti-virus technology evaluation, and biometric authentication, security evaluation and standards.

He graduated in Physics at City University, London and he is a Member of the British Computer Society, a Chartered Information System Practitioner and a Chartered Engineer.