

ISO/IEC14443 INTEROPERABILITY ISSUES FROM USA National Body

Introduction

The overall position of the USA National Body(USA NB) is that interoperability conformance test programs are critical to the contactless smart card industry, and several entities have initiated programs to determine interoperability between various cards and reader/couplers. However, there are “open doors” in the core standard that cannot be fixed by conformance testing. The USA NB has decided to identify some of these “open doors” and present this information to WG8. Several Interoperability issues were discussed during the meeting and they are:

RFU bits

Default values for RFU bits have not been defined in ISO/IEC14443. Implementers are using these bits for various purposes, and in some cases these uses impact interoperability. After some discussion, the USA NB decided that the RFU bits should have a defined default value. It was also decided that readers/couplers should ignore the semantics of these bits until they are given meaning in future revisions of the standard. It is acceptable for readers/couplers to use these bits in housekeeping operations such as CRC calculation.

Lack of a reader/coupler standard

ISO/IEC14443 is primarily a card standard, and leaves many reader/coupler interoperability issues open. Interoperability between cards and readers/couplers cannot be achieved without standards for the components on both sides of the interface, and so the USA NB recommended developing a reader/coupler standard to complement the current card-oriented standards.

ATQA/ATQB proprietary bits

Proprietary bits are included in ISO/IEC14443 Part 3, Secs. 6.4.2.1, and 7.7.3. These bits are being used in a manner similar to the RFU bits, thereby causing interoperability problems. The USA NB recommended a review of the original rationale for including these bits in IOS/IEC14443, and removing them if they are not essential.