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WORKING PAPER

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TECHNICAL ADVISORY GROUP ON MACHINE READABLE TRAVEL DOCUMENTS

Sixteenth Meeting

(Montreal, 26 to 28 September 2005)

Agenda Item 2: Implementation of e-passports
Agenda Item 2.1: Progress and Issues

SECOND EDITION OF TECHNICAL REPORT ON DEVELOPMENT OF A LOGICAL DATA STRUCTURE (LDS) FOR OPTIONAL CAPACITY EXPANSION TECHNOLOGIES ON MRTDs

(Presented by the New Technologies Working Group)

1. BACKGROUND

1.1 During the Eleventh meeting of the TAG/MRTD (Montreal, 1-3 September 1999) the structure and ordering of the Logical Data Structure for recording data to Optional Capacity Expansion Technologies on MRTDs was approved in principal by the TAG.

1.2 During its Twelfth and Thirteenth meetings (Montreal, 6-8 September 2000 and Montreal 13-15 February 2002 respectively), the TAG/MRTD considered and agreed to the form and content of the First Edition of the Technical Report on Development of a Logical Data Structure (LDS) for Optional Capacity Expansion Technologies on MRTDs.

1.3 The TAG/MRTD further agreed that this First Edition would contain an initial format of the LDS, defined as LDS – Version 1.0 which would allow Contracting States and international organizations to commence immediate implementation of development work and pilot testing leading to the standardization of data recorded in optional capacity expansion technologies used for MRTDs.

1.4 The Fourteenth TAG/MRTD (Montreal, 5-9 May 2003) agreed to the contents of the Logical Data Structure Technical Report, First Edition.

1.5 During the Fifteenth TAG/MRTD (Montreal, 17-20 May 2004) Version 1.7 of the Technical Report on Development of a Logical Data Structure (LDS) for Optional Capacity Expansion Technologies on MRTDs was approved. This provides a programming framework for encoding data elements into the various optional data storage technologies approved for use with machine-readable travel documents in ICAO Doc 9303. The primary emphasis in the document is the utilization of contactless integrated circuits.

1.6 Since TAG/15, the NTWG, as part of its ongoing work program has been investigating the content and structure required for LDS Version 2.0. It is anticipated that this version will be released in year 2010. Version 2.0 will be needed to:

- a) Correct errors detected through implementation of Version 1.7;
- b) Maintain compatibility with other standards;
- c) Incorporate appropriate technology enhancements; and
- d) Provide a structure for incorporation of additional applications such as, e-Visas, Travel Records, and bi-lateral/multi-national border crossing schemes.

1.7 The draft outline for Version 2.0 is attached.

2. ACTION BY THE TAG/MRTD

2.1.1 In view of the importance of maintaining a Logical Data Structure that meets the needs of Contracting States and international organizations, the TAG/MRTD is requested to:

- a) approve ongoing efforts to continue development of Version 2.0 of the Logical Data Structure.

APPENDIX
TECHNICAL REPORT
LOGICAL DATA STRUCTURE (LDS)
VERSION 2.0

DRAFT TABLE OF CONTENTS

Scope

Why document is needed

To maintain compatibility with other standard developments

To improve functionality (performance, security) of existing passport application

To accommodate additional applications

What document contains

Differences from Version 1.7

References

Normative

Informative

Definitions

Overall requirements for LDS

Applications

Usage

Interoperability requirements

Access privileges, privacy and security requirements – With reference to PKI report

Passport Application (Differences from Version 1.7 highlighted)

Detailed description of data structure

Data elements – definitions, tags, etc

Changes necessary to maintain compatibility with ISO SC37

Changes to access protocols

Compatibility with ISO/IEC 7816 changes

Compatibility with ISO/IEC 14443 changes

Improved performance

New Application 1 (E.g., e-Visas)
Detailed data structure description
Data elements
Access privileges, data security, and privacy

New Application N
Detailed data structure description
Data elements
Access privileges, data security, privacy

Note: The Logical Data Structure was defined from the start to accommodate multiple applications. Passports are the first application. Other applications such as e-Visas, Travel Records, border-crossing agreements can be accommodated from a technical perspective. Policy issues must be addressed prior to adding additional applications.

It is highly unlikely that an issuing State will permit another entity (State, Airline, etc.) to unlock its passport. It may be possible that the issuing State might load an application that controls the addition of information such as visas or travel records. If so,

- Who would write this application?
- Who would approve this application for the issuing country?
- What data elements would be permitted and would issuing countries be satisfied that other covert data was not being added?
- What key management would be required to permit a visa issuing country to access this application?
- What data integrity safeguards would be needed to preclude alteration of this data?

Interoperability
Contactless IC requirements
Operating System Requirements
Command set
Application interfaces
 Commands
 Responses