



**TECHNICAL ADVISORY GROUP ON MACHINE READABLE  
TRAVEL DOCUMENTS (TAG/MRTD)**

**TWENTY-SECOND MEETING**

**Montréal, 21 to 23 May 2014**

**Agenda Item 2: Activities of the NTWG**

**TECHNICAL REPORT  
REVISION OF THE LOGICAL DATA STRUCTURE**

(Presented by the New Technologies Working Group)

**1. INTRODUCTION**

1.1 Approval was given by the TAG-MRTD/21 to continue the on-going work of the New Technologies Working Group (NTWG) relating to the revision of the Logical Data Structure (LDS) – known as ‘LDS2’- and the development of a Technical Report for subsequent consideration and adoption.

1.2 The Technical Report, which is entitled LOGICAL\_DATA STRUCTURE 2.0 – Optional Expanded Chip Functionality has been drafted and is being used as the basis for the NTWG’s ongoing work.

1.3 This Working Paper describes the present status and requests endorsement to proceed.

**2. BACKGROUND**

2.1 Approval was given by the TAG/MRTD/19 in 2009, TAG/MRTD/20 in 2010 and TAG/MRTD/21 in 2012 to continue the work of the NTWG for revision of the Logical Data Structure (LDS) and the development of a Technical Report Draft for subsequent consideration and adoption.

2.2 The LDS2 Sub-Working Group conducted several meetings (2009-2012) to develop drafts; however, since a meeting in July 2012 the LDS2 Sub Working Group little progress was made to advance the initiative.

2.3 The Technical Report provides a technical and practical overview of LDS2, and was the result of involvement from various government members who took key policies and technical considerations surrounding implementation, capabilities and uses of electronic machine readable travel documents (eMRTD) into account when drafting the document.

2.4 The working group based its work on two major considerations:

- LDS1 focuses on the electronification of the interoperable elements of the data page.
- The LDS2 TR reflects the adoption of the principle that LDS2 will electrify **visas** and **travel stamps** and provide for **additional biometrics**. Accordingly, the use of LDS2 will require provision to allow writing to the chip after personalization.

2.5 LDS2, which is optional for States to use or not, will allow receiving States to add data to eMRTDs, furthering lawful, efficient and secure travel while protecting the privacy of the traveller. It also emphasizes protections against vulnerabilities such as counterfeiting, copying and unauthorized reading.

### 3. CURRENT STATUS

3.1 The NTWG re-formed the LDS2 Sub-Working Group, lead by the Netherlands, in October 2013.

3.2 The LDS2 Sub-Working Group (government and non-governmental participants) met in January 2014 in The Hague, The Netherlands, where tangible progress was made on the initiative

3.3 At the meeting, the LDS2 Sub-Working Group confirmed that it will continue outreach to government entities (in particular colleagues in borders, visa and immigration departments) to expand understanding of the optional applications, subject to agreement of policy objectives. The sub-group also agreed to continue collaboration with TF5 to develop the policy and technical specifications.

3.4 The LDS2 Sub Working Group confirmed, with reference to previous decisions, the following work items and timelines:

- Develop a global certificate policy for the LDS2 Public Key Infrastructure, the certificate exchange would be based on the EU's Single Point of Contact (SPOC) mechanism (2014).
- Develop Business Cases with the objective to raise awareness of the benefits of LDS2 adoption by States. The Business Cases should provide an overview of the concept, benefits and barriers to implementation (including privacy considerations) with suggested mitigation strategies and use cases (2014).
- The design and implementation of a 'demonstrator' on LDS2 to test technical specifications and the practicality of LDS2-enabled documents. Based on draft technical specifications and draft policy, a demonstrator session will take place with the objective to gain experience with technical and policy aspects in mind. The results will contribute to the final versions (2015).

- 3.5 The LDS2 Sub Working Group charged TF5 with the continuation of drafting the technical specifications for LDS2. TF5 discusses LDS2 data structures, security protocols for LDS2 applications, as well as the complementary public key infrastructure.
- 3.6 The LDS2 Sub-Working Group updated the NTWG on LDS in April 2014 in Paris.
- 3.7 The LDS2 Sub Working Group sought and received NTWG endorsement to postpone the operational timeline completion date from late 2014 to late 2015.
- 3.8 The LDS Sub Working Group sought and received NTWG endorsement to change the table with access rights as included in the Technical Report LOGICAL DATA STRUCTURE 2.0 – Optional Expanded Chip Functionality.

- Table in Technical Report

Description	Read	Write/Append	Update	Delete
Electronic Visas	All	eMRTD issuing State authentication required	eMRTD and Visa issuing State authentication required	Disallowed
Travel Stamps	All	eMRTD issuing State authentication required	Disallowed	Disallowed
Additional Biometrics	eMRTD issuing State authentication required	eMRTD issuing State authentication required	eMRTD issuing State authentication required	Disallowed

- Table as determined by NTWG, with access rights outlined below:

Description	Read	Write/Append	Update	Delete
Electronic Visas	1	1 (incl.e.g.cancellation)	n/a	n/a
Travel Records	1	1 (incl. e.g. correction)	n/a	n/a
Additional Biometrics	2	2	2	2

1. States and defined organisations: as long as they are identified, they would have access. However, there is a possibility of denying access by a default allow policy with selective denial policy by States.
2. Defined states and organisations, default deny policy, requires specific authorization from Issuer or holder, a default deny policy with selective allow.

In this table 'cancellation' means that the data is appended with a record which indicates that a certain visa is cancelled.

- 3.9 The LDS2 Sub-Working Group will meet in Malaysia in October 2014, during which time an update will be provided to the NTWG based on progress made over the summer months

4. **ACTION BY THE TAG/MRTD**

- 4.1 The TAG/MRTD is invited to approve and endorse the continued work on LDS.

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