INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO Regional Seminar on MRTDs, Biometrics and Border Security

27 - 29 November 2012

Elephant Hills Resort,
Victoria Falls, Zimbabwe

New Doc 9303 developments and latest Technical Reports

Tom Kinneging
Senior expert standardization, Morpho, Netherlands
Convenor ISO/IEC JTC1 SC17 WG3

The Doc 9303 standard

- Part 1 - Machine Readable Passports, Sixth edition - 2006
  - Volume 1 - Passports with Machine Readable data stored in OCR format
  - Volume 2 - Electronically enabled Passports with Biometric Identification Capability
- Part 2 - Machine Readable Visas, Third edition - 2005
- Part 3 - Machine Readable Official Travel Documents, Third edition - 2008
  - Volume 1 - MRtds with Machine Readable data stored in OCR format
  - Volume 2 - Electronically enabled MRtds with Biometric Identification Capability
- Supplement to Doc 9303, Release 11 - 2011
- Technical Reports

http://www.icao.int/security/mrtd/pages/default.aspx

Doc 9303 revision

- Three activities
  - Clean up Supplement
  - Incorporate Technical Reports
  - Re-structure Doc 9303

Clean-up Supplement

- Supplement Release 11 - 2011
- 146 issues
  - Clarifications
  - Interpretations
  - Fixes
- Doc 9303 readability
- Incorporate Supplement issues into Doc 9303

Incorporate Technical Reports

- TR - CSCA Countersigning and Master List issuance
- TR - Supplemental Access Control for MRTDs
- TR - LDS and PKI Maintenance
- TR - Machine Assisted Document Security Verification
- TR - Machine reading options for td1 size MRTDs

Incorporate Technical Reports

- TR - CSCA Countersigning and Master List issuance
  - Version 1.0 - June 23, 2009
- Bilateral exchange of CSCA certificates
  - Lack of specified mechanisms
  - Inefficiency
- CSCA certificate distribution/publication mechanism
  - Electronically
  - Publication of signed list of received & validated certificates
  - PKD

Incorporate Technical Reports

- TR - Supplemental Access Control for MRTDs
  - Version 1.01 - November 11, 2010
- Basic Access Control recommended feature
  - Anti skimming (access control)
  - Anti eavesdropping (session encryption)
  - Strength limited by design
  - 5 & 10 years passport validity periods
- Supplemental to Basic Access Control
  - PACE V2 (Password Authenticated Connection Establishment)
  - Strength of session keys independent of password
  - Password: Document Number, Date-of-Birth, Date-of-Expiry
  - Password: Card Access Number

Incorporate Technical Reports

- TR - LDS and PKI Maintenance
  - Version 1.0, endorsed September 2011
- Evaluation of the standard
  - Accuracy
  - Security
  - Especially cryptographic security features and PKI
- Updated specifications
  - LDS version number electronically signed
  - Updated certificate profiles
  - Access Control
  - Active Authentication with Elliptic Curve Cryptography

Incorporate Technical Reports

- TR - Machine Assisted Document Security Verification
  - Version 1.0, endorsed September 2011
- Updates/Replaces Doc 9303 Informative Appendix
  - Machine-assisted document security verification
- Machine authentication of document security features
  - Materials
  - Security printing
  - Copy protection techniques
- Advice on reader technologies

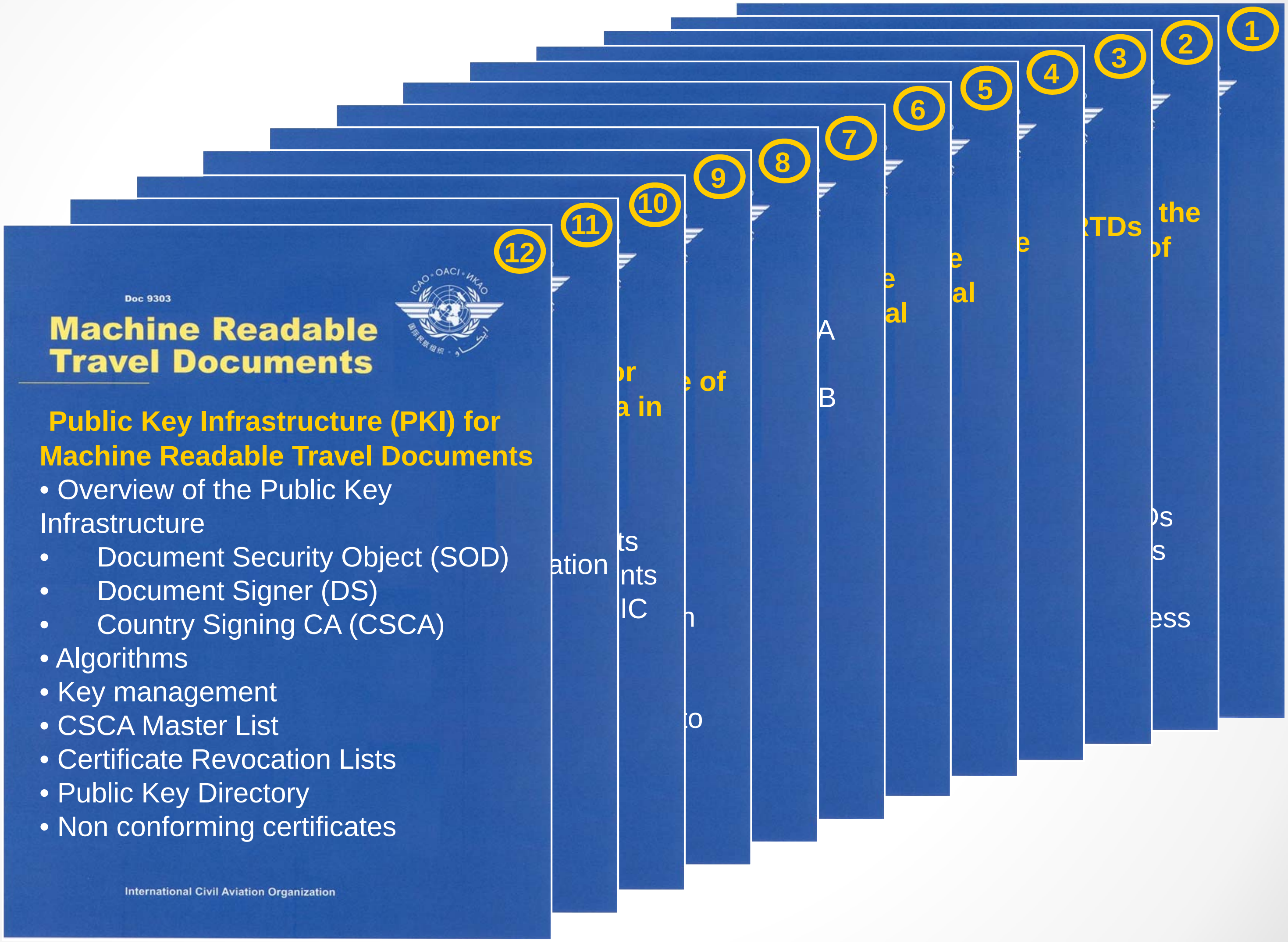
Incorporate Technical Reports

- TR - Machine reading options for td1 size MRTDs
  - Version 1.0, endorsed September 2011
- Machine reading issue
  - MRZ on rear side
  - Biographical profile (including photograph) on front side
  - Document related features on front side
  - Card turning
- Study on options for one-side reading
- Non-chip enabled
  - One-line MRZ
  - (2D) barcode
  - Further study
- Chip enabled
  - Chip access
  - CAN position specified

Re-structure Doc 9303

- Different publication dates for different parts
- Until 2009 paper based
  - Separate (complete) standards for part 1, 2 and 3
  - Duplicate, mainly general, information
  - Volumes 2 of part 1 and 3 almost identical
- Since 2009 electronic (pdf) format
  - Maintenance
  - Readability
  - Efficiency
- Restructuring
  - Specifications appear only once
  - Grouping of general as well as form factor specific specifications
  - Set of (pdf) files
  - User composes relevant subset

Re-structure Doc 9303



Doc 9303

Machine Readable Travel Documents

Public Key Infrastructure (PKI) for Machine Readable Travel Documents

- Overview of the Public Key Infrastructure
- Document Security Object (SOD)
- Document Signer (DS)
- Country Signing CA (CSCA)
- Algorithms
- Key management
- CSCA Master List
- Certificate Revocation Lists
- Public Key Directory
- Non conforming certificates

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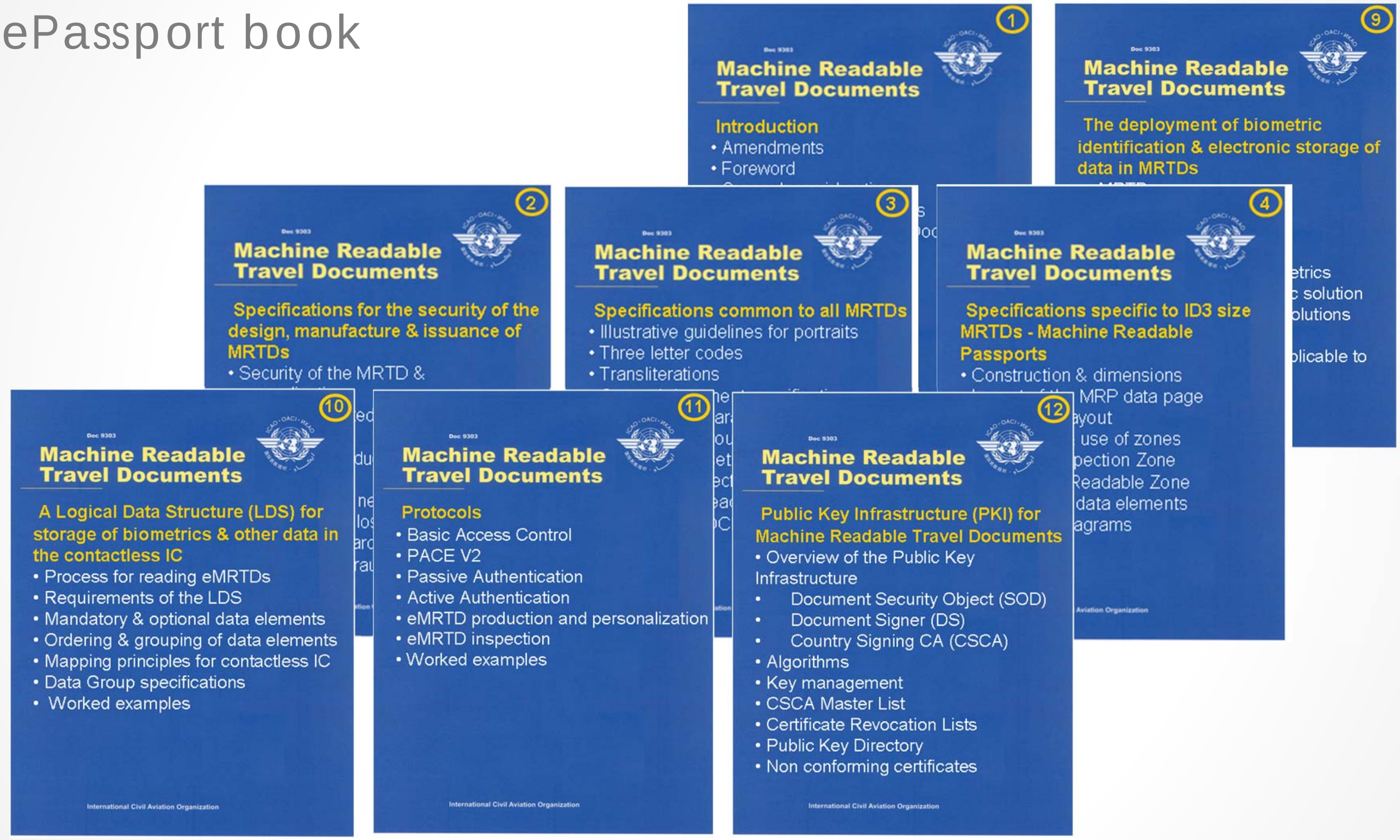
Re-structure Doc 9303

- ePassport book



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Doc 9303

Machine Readable Travel Documents

Introduction
- Amendments
- Foreword

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Doc 9303

Machine Readable Travel Documents

The deployment of biometric identification & electronic storage of data in MRTDs

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Doc 9303

Machine Readable Travel Documents

Specifications for the security of the design, manufacture & issuance of MRTDs
- Security of the MRTD &

3

Doc 9303

Machine Readable Travel Documents

Specifications common to all MRTDs
- Illustrative guidelines for portraits
- Three letter codes
- Transliterations

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Doc 9303

Machine Readable Travel Documents

Specifications specific to ID3 size MRTDs - Machine Readable Passports
- Construction & dimensions
- MRP data page
- ayout
- use of zones
- pection Zone
- Readable Zone
- data elements
- agrams

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Doc 9303

Machine Readable Travel Documents

A Logical Data Structure (LDS) for storage of biometrics & other data in the contactless IC
- Process for reading eMRTDs
- Requirements of the LDS
- Mandatory & optional data elements
- Ordering & grouping of data elements
- Mapping principles for contactless IC
- Data Group specifications
- Worked examples

International Civil Aviation Organization

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Doc 9303

Machine Readable Travel Documents

Protocols
- Basic Access Control
- PACE V2
- Passive Authentication
- Active Authentication
- eMRTD production and personalization
- eMRTD inspection
- Worked examples

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Machine Readable Travel Documents

Public Key Infrastructure (PKI) for Machine Readable Travel Documents
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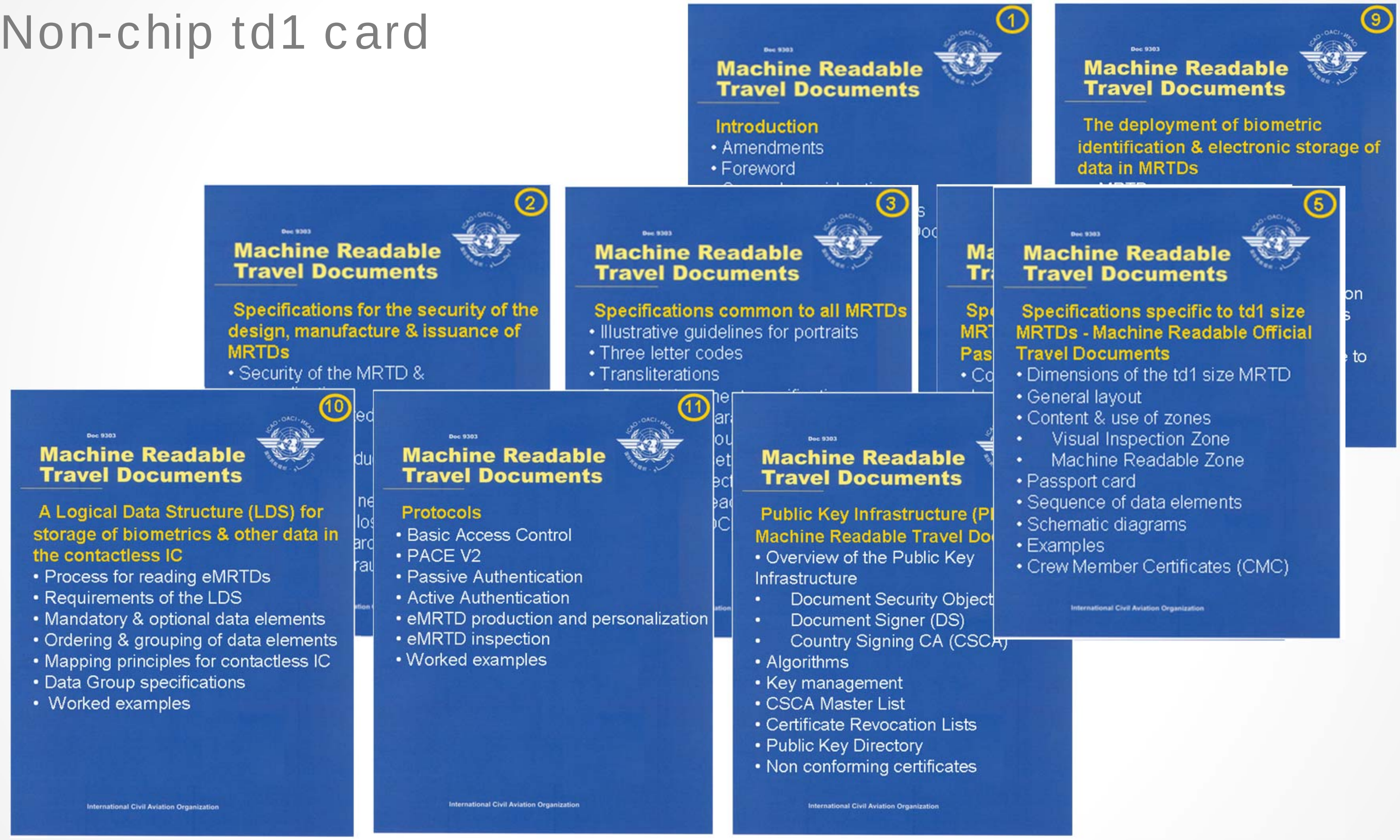
Re-structure Doc 9303

- Non-chip td1 card



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Doc 9303

Machine Readable Travel Documents

Specifications specific to td1 size MRTDs - Machine Readable Official Travel Documents
- Dimensions of the td1 size MRTD
- General layout
- Content & use of zones
  - Visual Inspection Zone
  - Machine Readable Zone
- Passport card
- Sequence of data elements
- Schematic diagrams
- Examples
- Crew Member Certificates (CMC)

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Doc 9303 revision project

- Three activities - Three phases
  - Phase 1 - Re-structuring
  - Phase 2 - Supplement incorporation
  - Phase 3 - Technical Reports incorporation
- Timeline
  - New structure design - Q4 2011
  - Re-structuring finalized - Q3 2012
  - Supplement issues incorporated - Q4 2012
  - Technical Reports incorporated - Q2 2013
  - Ready for translation / publication - Q3 2013

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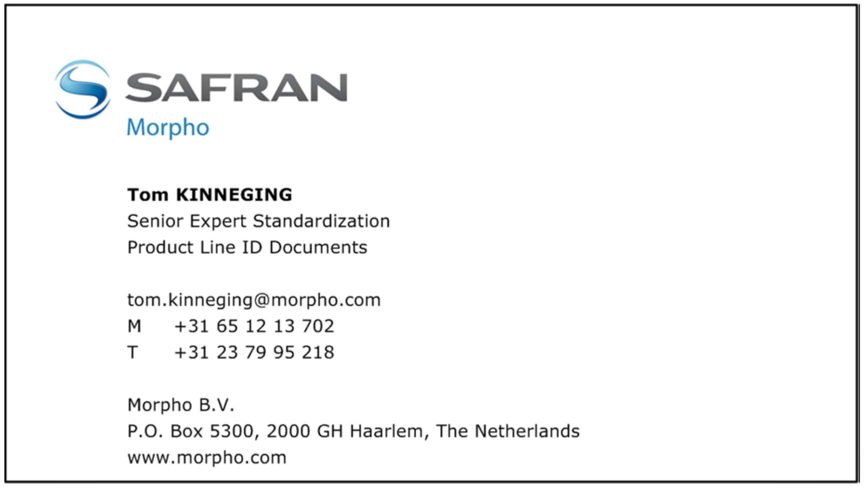

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