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# Digital Travel Credentials

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# The Digital Travel Credentials (DTC) Sub-Group

- The ICAO Traveler Identification Program (TRIP) recognizes and is continually working to address the following pressures:
  - Growing passenger numbers
  - Limited physical infrastructure
  - Enhanced security requirements
  - Aging/legacy processes and systems
- These pressures have generated incredible innovation from government and industry; however, these responses lack consistency, and can create unpredictability across the traveler's experience
- As a result, the ICAO New Technologies Working Group (NTWG) has established a specialized sub-group, the NTWG DTC Sub-Group, to develop technical specifications and define international policy for the issuance of virtual forms of traveler identification.
  - The DTC Sub-Group operates under the leadership of New Zealand, and is supported by State representatives from government and the international standardization organization (ISO).



## DTC Sub Group mandate

“.....the ePassport must be used as the benchmark – it offers a secure, portable, verifiable and unclonable token. Anything that is pursued by the working group ***must*** match this offering, while maintaining a balance between security and facilitation”



# ePassport benchmark

		DATA ELEMENTS		
REQUIRED	ISSUING STATE OR ORGANIZATION DATA	Detail(s) Recorded in MRZ	DG1	Document Type
				Issuing State or organization
				Name (of Holder)
				Document Number
				Check Digit - Doc Number
				Nationality
				Date of Birth
				Check Digit - DOB
				Sex
				Data of Expiry or Valid Until Date
				Check Digit DOE/VUD
				Optional Data
				Check Digit - Optional Data Field
				Composite Check Digit
OPTIONAL	ISSUING STATE OR ORGANIZATION DATA	Encoded Identification Feature(s)	Global Interchange Feature	DG2 Encoded Face
			Additional Feature(s)	DG3 Encoded Finger(s)
		Displayed Identification Feature(s)	DG4	Encoded Eye(s)
			DG5	Displayed Portrait
			DG6	Reserved for Future Use
		Encoded Security Feature(s)	DG7	Displayed Signature or Usual Mark
			DG8	Data Feature(s)
			DG9	Structure Feature(s)
			DG10	Substance Feature(s)
			DG11	Additional Personal Detail(s)
			DG12	Additional Document Detail(s)
			DG13	Optional Detail(s)
DG14	Security Options			
DG15	Active Authentication Public Key Info			
DG16	Person(s) to Notify			

**Data Group 1 (DG1)**

- Issuing Organization
- Name of Holder
- Document Number
- Nationality
- Date of Birth
- Sex
- Date of Expiry...

**Data Group 2 (DG2)**

- Face

**Data is added and encrypted at the time of issuance**

- Approximately 135 ICAO Member States issue ePassports; 65 States participate in the ICAO Public Key Directory.
- The ePassport contains digitized identity information, including two mandatory elements (i.e. DG1 and DG2).
- Data can be authenticated and used to support passenger (e.g. facial matching, watchlist checking, etc.)

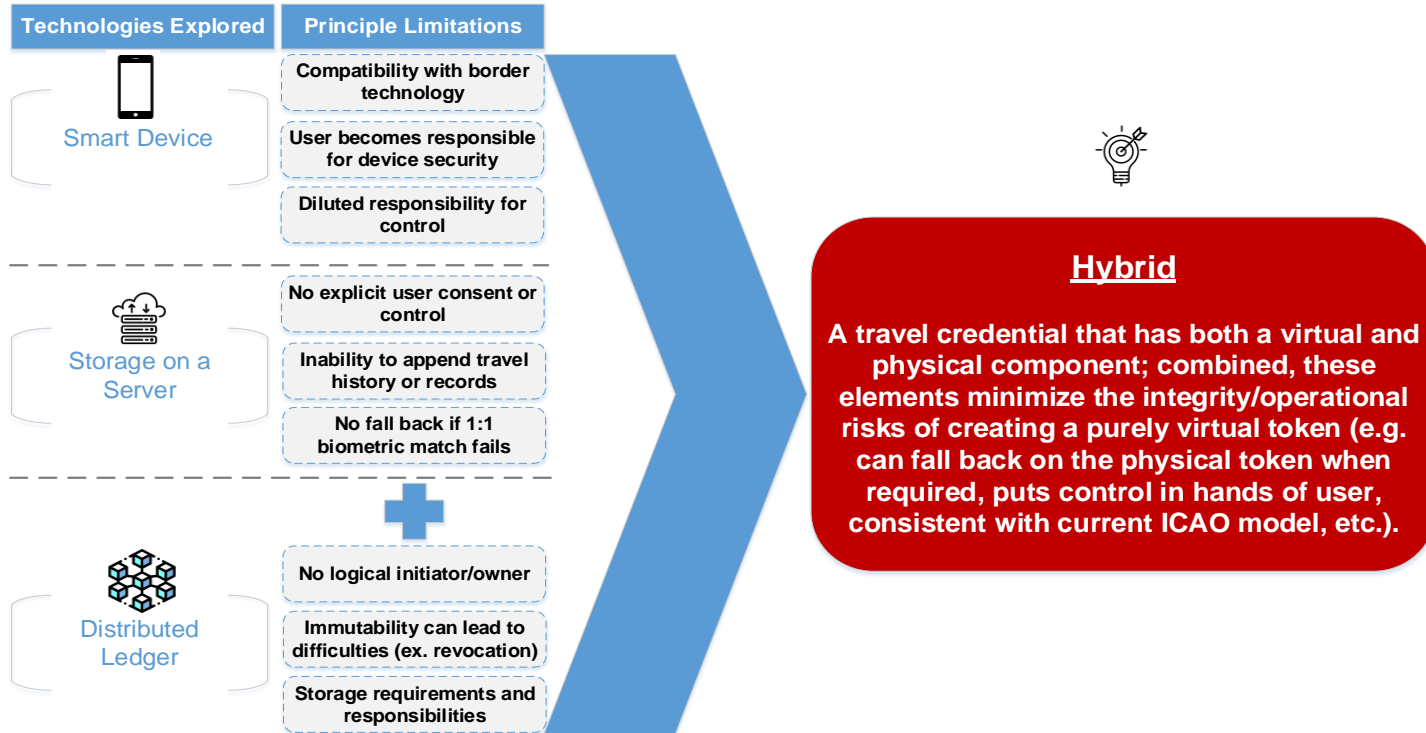


# Technologies Explored





# Technologies Explored (2)





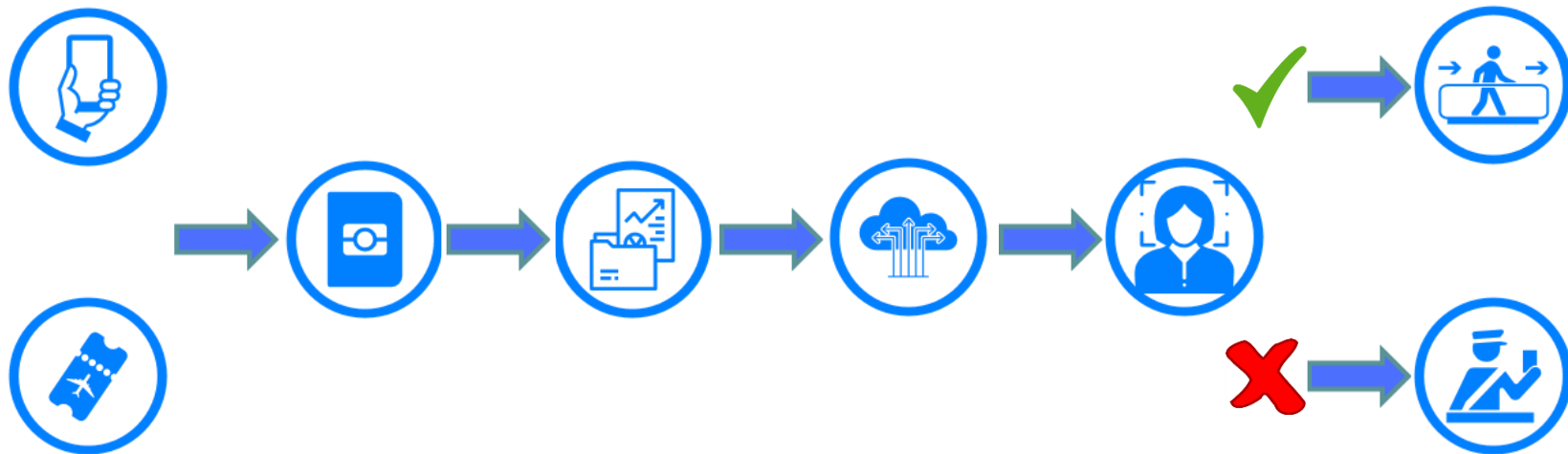
# High-Level Explanation



- The sub-group has determined that a DTC could be created in two ways: as a derivative of the ePassport (i.e. extracted data); and/or issued in parallel to or in replacement of a physical ePassport.
- The DTC would contain the facial image, the holder's personal details, and the security features to support authentication.
- All generations of the DTC will be backwards compatible.



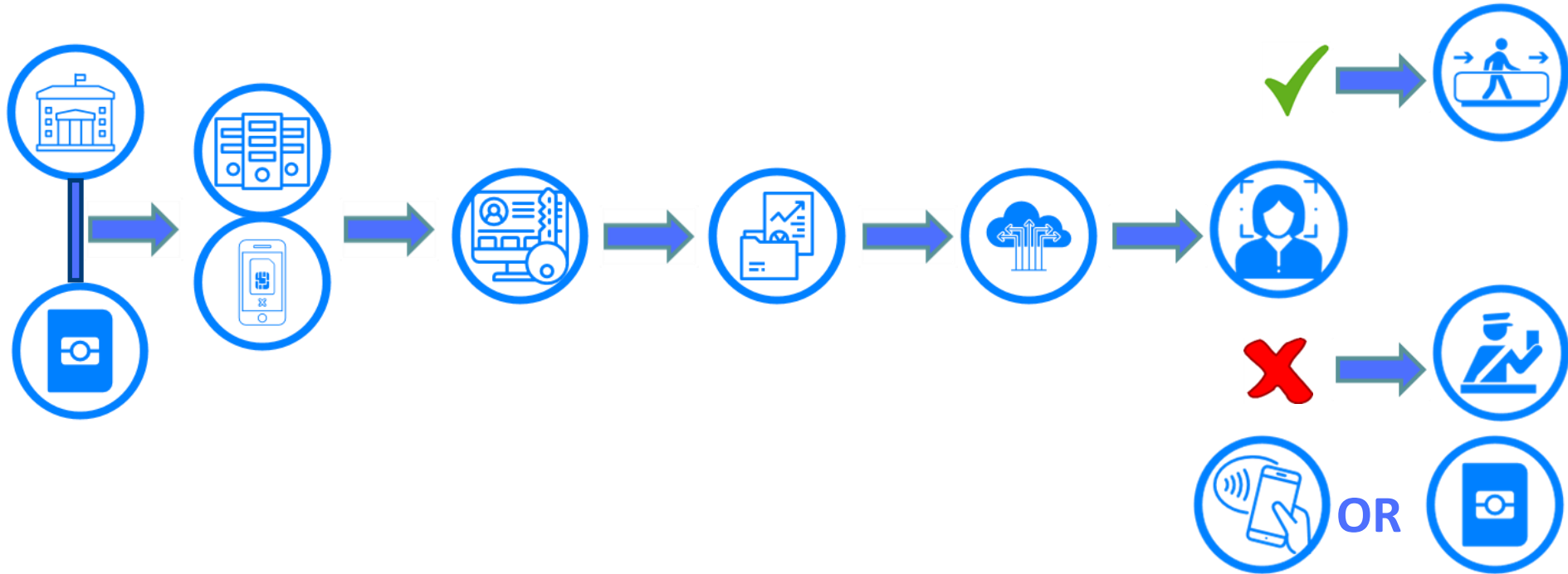
# Type 1. Self Derived DTC





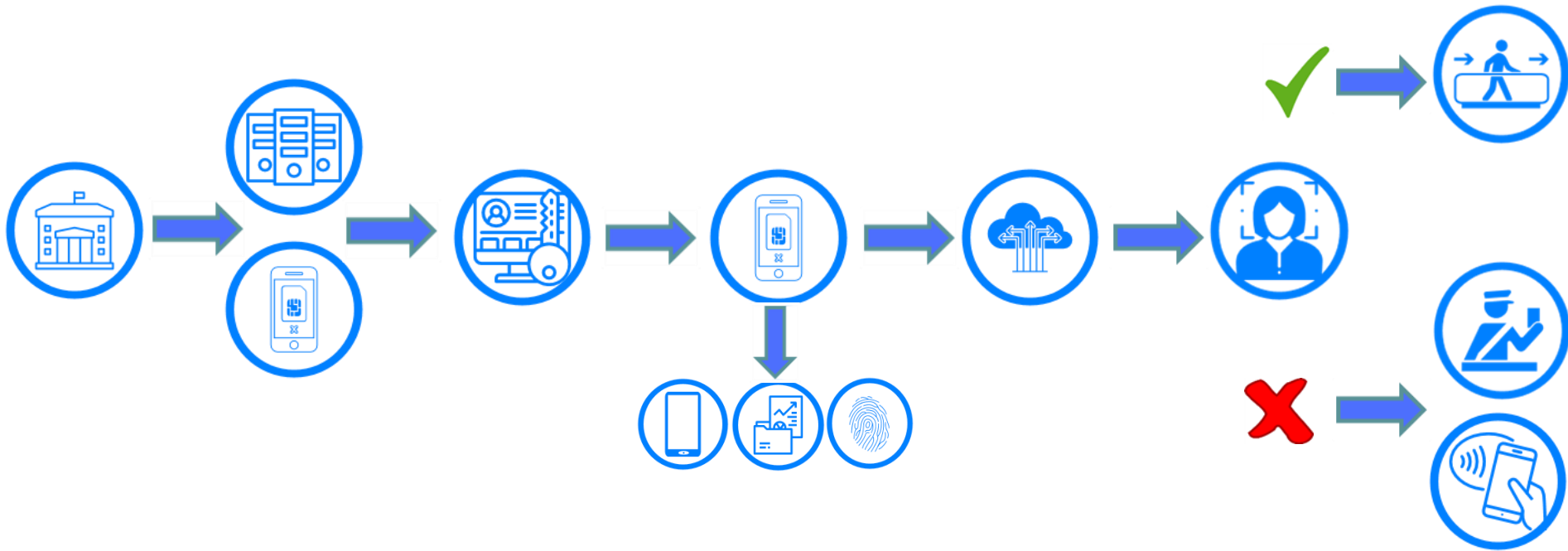


## Type 2. Authority Derived DTC





## Type 3. Authority Issued DTC





## What Considerations Limit DTC Use?

- Current passenger data exchange systems are limited to biographic data.
  - DTCs would have to flow from State to State.
- State privacy frameworks are built around existing passenger data exchange
- Access to the ICAO PKD is limited to States
  - Industry cannot confidently use the DTC without authentication
- DTC will only include the traveler's identity information
  - Other pertinent data (e.g. visas) are not included in the DTC





# What benefits could be gained from DTC use?

## Border Control and Immigration:

- Improved identity validation
- Improved data quality (e.g., less traveler data errors and cases of intentional data manipulation)
- Enhanced pre-arrival screening (passport is reviewed, authenticated and validated prior to arrival)
- Reduced congestion at border control
- Border officer resources redirected to high-risk travelers
- Enhanced traveller experience

## Airports:

- Unique touchless client experience (e.g., repetitive “pain points” eliminated)
- Improved connection times
- Reduced congestion
- Enhanced traveller experience

## Airlines:

- Improved identity validation
- Improved data quality (e.g., less passenger info errors)
- Opportunity to remove document/boarding pass presentation
- Reduced malfeasance (e.g., boarding pass swapping)
- Staffing efficiencies or redirected resources
- Enhanced traveller experience



# Status of Work

- The proposed Policy Paper to inform Specifications Development has been endorsed by NTWG and will seek endorsement from TAG/TRIP. This paper defines Member State policy interests and the three DTC types.
- On behalf of the DTC Sub-Group, ISO has applied the Policy Paper to develop specifications for DTC Type 1; the specifications will be finalised by the ICAO NTWG in November 2019 with a view to usher Generation 1 specifications to the Technical Advisory Group to the TRIP (TAG/TRIP) for final approval in 2020.
- Once approved by the TAG/TRIP, approval from the Air Transport Committee will be sought in 2020.
- Members of the TAG/TRIP and its working groups will begin socializing the initiative to encourage adoption where appropriate.
- The ICAO NTWG will continue to explore advancements to the DTC model, including updates to the specifications and integration of other related travel document technologies (e.g. 2nd generation ePassport technology).



# Final Thoughts

Achieving the benefits of the DTC for your State depend upon:

- Robust ePassport validation practices
- Strong collaboration with Aviation Industry Partners



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THANK YOU