Remote Pre-Enrolment for eTAs, eVisas and Trusted Traveller Systems: Now is the Time for a Digital Transformation

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Travellers have grown accustomed to using automation via e-Gates and kiosks at border control and immigration, utilising digital ePassports and facial recognition. The concept is no longer novel, and this digital route is already readily accepted by most. Indeed, airlines and airports have increasingly been adopting the same technology, aligning with initiatives such as IATA's OneID, to increase passenger flow and reduce bottlenecks on outbound traffic in airports.

However, the way Governments currently interact with foreign nationals remotely, at a distance and before they arrive at their border, is ripe for innovation and digital transformation. Given the significant level of cooperation, standardisation and effort made by passport agencies worldwide to embed a chip containing secure and rich data into almost every passport, the opportunity to enable a remote digital identity verification channel is too great to ignore.

The Potential Benefits are Significant

Benefits can broadly be categorised as:

- ***Reduced Friction and Cost***

    Reducing friction and cost in the process of interacting with travellers, before their journey starts. Less expensive for the government, less of a burden on the visitor.

- ***Enhanced Security through Remote and Early Capture of Biographic and Biometric Data***

    Capturing accurate, secure and verified data earlier, before the visitor arrives at the border and often before they leave their country of origin.

- ***Maximum Flexibility in Defining Passenger Segmentation and Processing Policy***

    Allows rapid and flexible policy adjustments based on earlier access to trusted and secure traveller details including biometrics; enables enhanced ability to segment and facilitate processing at the border.

Technology has the potential to digitally transform the way in which governments interact with the public. Indeed, a public familiar with interacting with financial services and commerce online, is increasingly demanding convenient, remote, digital service provision from Government.

Traveller Segmentation

Though by no means exclusive or exhaustive, the following serves as a broad categorisation of how travellers may be segmented by a nation:

Citizens

Either returning residents or citizens travelling or living abroad. These travellers have no restrictions on their ability to enter and generally are not subject to any pre-processing. They are entitled to unconditional entry.

Beneficiaries of a Free Travel Zone

Citizens of another nation participating in an international treaty allowing freedom of movement with the receiving nation. These travellers are not subject to the normal restrictions on their ability to enter and generally are not subject to any pre-processing.

Examples include:

- The Republic of Ireland / United Kingdom Common Travel Area.
- The Australia / New Zealand (ANZ) Trans-Tasman Travel Arrangement.
- Member States of the European Union.

Visa Nationals

Individuals whose nationality requires them to apply for a visa to enter, even for short periods. The visa application process can be onerous, often requiring the applicant to travel and attend an in-person interview at a designated Visa Application Centre (VAC) where detailed biographic and biometric data are captured before the application is forwarded to the receiving government for adjudication.

Non-Visa Nationals

Individuals whose nationality does not require them to apply for a visa to enter for short periods of time (often 3-6 months) for purposes of tourism or visiting. Historically, no pre-processing or advance collection of information is required by border agencies and refusal of entry for specific reasons (e.g. criminality) is the exception rather than the norm.

Trusted Travellers

Individuals from other countries who have enrolled into Trusted Traveller and expedited border control programmes designed for pre-approved, low-risk travellers, for example the USA Nexus programme. There are also examples where the requirement to pre-enrol may be eliminated and individuals may be deemed to be authorised to avail themselves of the expedited clearance facilities. For example, the United Kingdom has recently allowed citizens from Australia, Canada, Japan, New Zealand, Singapore, South Korea and the United States to use the UK's immigration e-gates.

The Advance Capture of Passenger Details Before Travel: eTA Programmes

However, Governments are increasingly looking to capture information about Non-Visa Nationals prior to their departure from their originating country, using Electronic Travel Authorisation (eTA) programmes. This eTA data is used to assess the immigration risk before a traveller leaves their country of origin, in order to reduce the costs and bureaucracy for all parties associated with the refusal of leave to enter at the receiving border.

Examples include:

- The USA Electronic System for Travel Authorisation (ESTA).
- Canada, Australia, and New Zealand eTAs.

Additionally, other Governments have announced their plans to implement eTA programmes, in conjunction with enhanced entry-exist systems. Examples include:

- The European Commission's European Travel Information & Authorisation System (ETIAS).
- The United Kingdom's eTA programme.

Most existing eTA programmes were implemented before the capability to remotely open ePassport chips and capture biometrics existed. As they rely on manual data entry by the traveller, they are highly prone to data quality issues. ***Today, however, new eTA programmes have significantly enhanced capability available to them.***

Expect More: The Current State of Technological Capability

New eTA systems can now benefit from newly available technology and experiences learned from recent deployments into significant Government programmes.

Recent advancements now easily and affordably enable a digital transformation of remote traveller enrolment capability, using nothing more than travellers' own mobile phones and ePassports. This is due to the rapid innovation and alignment of multiple distinct areas, such as:

- Pervasive availability of NFC to read ePassport chips on most common mobile phones.
- Readily available, scalable, highly secure and affordable cloud computing resources.
- Remote facial biometric capture capability and genuine presence assurance.
- Significant real-world experience in workflow orchestration and user experience design.

WorldReach Software, with their extensive background in passports and immigration, has for years been working on solutions to enable travellers to unlock the power of the chip embedded in their ePassports, using their own mobile phones.

eTA, eVisa and Trusted Traveller systems can today benefit from the remote pre-enrolment of trusted, validated and secure digital biographic data sourced from ePassports coupled with genuine presence assured biometric data.

Overview: Different Levels of Reliability and Security of eTA Systems

eTA systems entail the traveller supplying their passport data to the destination government before they travel.

Legacy eTA Systems: Manual Entry of Data

Most legacy eTA systems do not rely on automated and secure data retrieval from the passengers' travel documents.

- Passengers typically type in their own biographic data via a web form.
- There is minimal data validity checking.
  (e.g. no date format checks).
- There is no capture of biometric data.
- It is highly prone to data entry errors (as high as 20-25%).
- Inaccurately entered or invalid data results in a failure of the check-in process.
  (as the airline data does not match government eTA data).
- This results in high exception handling cost and bad PR for governments and airlines.

Level 0 Mobile Phone Digital: Passport MRZ and Data Page Capture

To resolve data accuracy issues resulting from manual data entry, early digital systems involved the remote optical capture of a passport's data page coupled with optical character recognition (OCR) of the Machine-Readable Zone (MRZ). Initially deployed in other sectors, such as financial services, this has not been significantly deployed by immigration and border agencies.

- This resolves many data quality issues.
- It significantly reduces exception handling issues at airline check-in.
- It is not secure as it is prone to fraudulent document manipulation, including data page and photograph tampering.
- Fraud is potentially not detected until inspected by a qualified border guard at the border of the destination country (if at all).
- It is more expensive than a Level 1 or Level 2 due to higher rates of manual adjudication required.

Level 1 Mobile Phone Digital: Remote Digital Chip Read Using NFC

Though the ability to remotely read an ePassport's embedded chip has existed for some time on Android phones, this has not been a viable solution until recently since the advent of this capability on iPhones. There is now an immediate and widely available capability to remotely and securely read a passenger's details directly off the ePassport's chip, using the passenger's own mobile phone.

- This resolves almost all data quality issues. Data is read directly from the ePassport's chip.
- It eliminates most exception handling issues at airline check-in. No mismatch of passenger data from data entry or OCR read errors.
- Document authenticity is assured. Digital signatures on the chip are the most assured way to determine document validity and detect fraudulent document tampering attempts.
- Allows as-early-as-possible opening of the chip, before the passenger's travel, resulting in much earlier and more accurate traveller information.
- It allows the capture of the passenger's biometrics from the chip rather than from a scan of the data page, resulting in more accurate biometric matching.
- BUT there is no capture of a live biometric and thus no assurance that the person applying is the valid owner of the document. This can only be ensured upon the passenger's arrival at the receiving border.

Level 2 Mobile Phone Digital: Remote Digital Chip Read + Genuine Presence + Live Biometric

The strongest possible assurances are achieved by coupling the capability of Level 1 Digital with the ability to capture the passenger's live biometrics and ensure the passenger's genuine presence during the application process.

- It incorporates a genuine presence test to provide confidence the right person was present while applying.
- It captures a live biometric in addition to reading the biometric from the chip.
- This provides significantly increased assurance that the applicant is the genuine owner of the document that has been validated.
- It provides the highest possible level of checks at the point of remote application.
- It detects possible fraudulent applications as early as possible before the applicant travels.
- It enables cross-reference of live-captured biometrics across multiple applications.
- This allows maximum flexibility in policy definition, passenger segmentation and expedited border control programmes for pre-approved, low-risk travellers.

Watch it in Action

(https://vimeo.com/331228478)
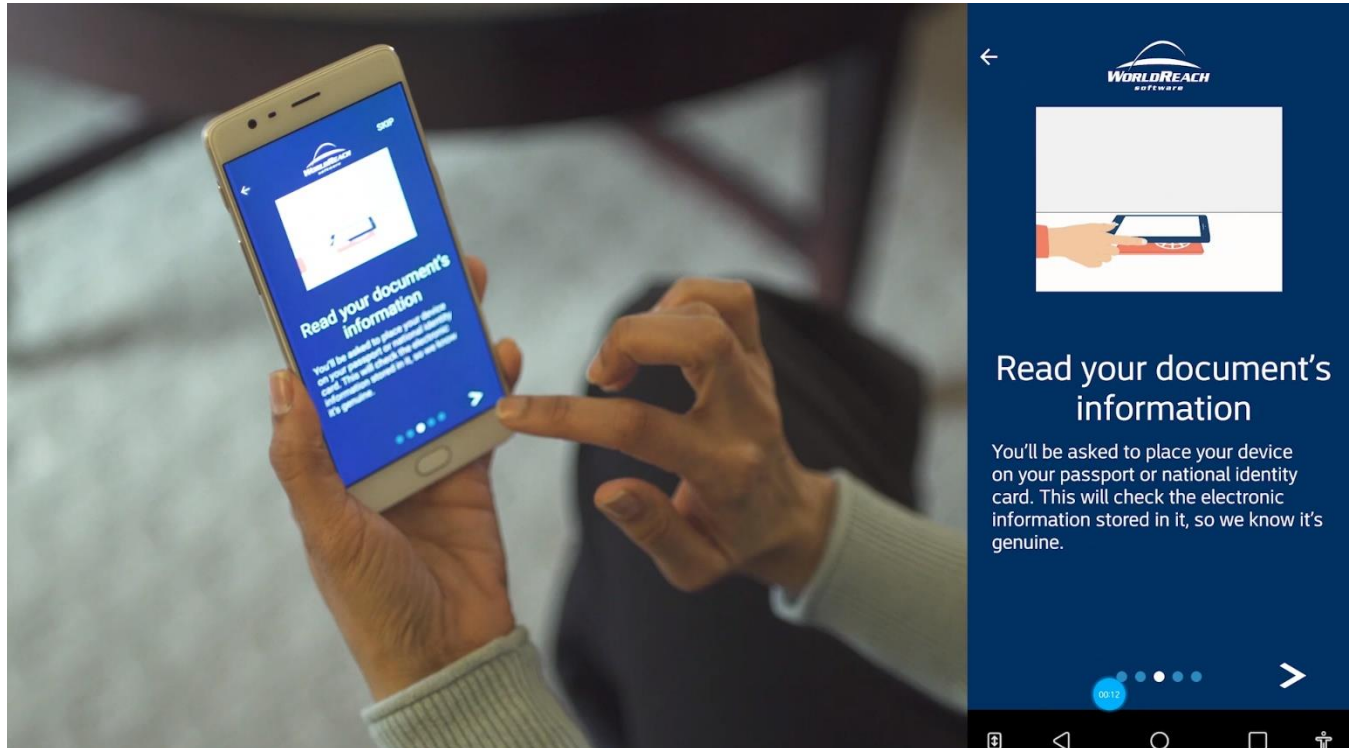
Is it Viable?

One of the favoured mechanisms of Governments to determine the viability of proposed new systems is the "has it been done before?" test. In this respect, WorldReach Software has been directly involved in the deployment of relevant systems.

Canada's Chain of Trust Demonstrators

The two Canadian government agencies with lead borders responsibilities, IRCC (Immigration, Refugees and Citizenship Canada) and CBSA (Canada Border Services Agency), have been building a demonstrator prototype called the Chain of Trust. Using WorldReach's eIDV service, low-risk travellers will be able to register remotely using only a mobile phone. By pre-registering and providing authenticated passport and biometric information, travellers will be able to use automated border clearance systems upon arrival.

UK Home Office EU Settlement Scheme (EUSS)

Because of Brexit, some 3 to 4 million EU Nationals residing in the UK need apply for a new "Settled Status" to continue to live and work in the UK. This policy presented the UK Home Office with a significant operational challenge: how to process this number of applicants without the need for physical in-person document checks? The Home Office chose to offer an entirely digital application process using WorldReach's eIDV service.

Following the full release of the service in March of 2019, the Home Office in October announced that more than 2 million applicants had already applied for settled status in mere months.

Writing in The Guardian on 6 September, the Home Office Minister, Brandon Lewis, said of the eIDV service: "More than three-quarters of applicants are choosing to use a specially created app to prove their identity". The high rate of digital adoption of this service is a testament to its ease of use and the public's trust and acceptance of the digital capability.

The Home Office's EUSS eIDV service is likely the single largest digital programme in the world to date enabling an individual to remotely assert and supply their identity in a self-service manner using their own mobile phone and government issued document. This experience provides a unique insight into what makes the most sense from a security and data integrity perspective for any country building a new eTA system from scratch.

In Summary

Travellers are familiar with automated, self-service immigration systems using their ePassports and facial recognition and they are increasingly demanding convenient, remote, digital service provision from Government. Border Agencies already benefit significantly by operationally segmenting travellers arriving on their border. Many are increasingly looking to capture information about Non-Visa Nationals prior to their departure from their originating countries, using Electronic Travel Authorisation (eTA) programmes.

New eTA, eVisa and Trusted Traveller systems can now benefit from currently available technology and experiences learned from recent deployments into significant Government programmes. Remote pre-enrolment of trusted, validated and secure digital biographic data sourced from ePassports coupled with genuine presence assured biometric data provides significant benefits. These include earlier and more trusted API data, improved efficiency and the ability to more rapidly and flexibly refine passenger segmentation policy to facilitate processing at the border.

You may also be interested in:

- The time is ripe, thanks to apple: why now is the time for digital identity verification.

- Facial Recognition Accuracy: A Worked Example

#eta #esta #evisa #bordercontrol #immigrationpolicy #immigration #airports #epassport #airlines #aviation #oneID #remoteid #IDV #eIDV #passenger #pax #liveness #facialrecognition #genuinepresence #nfc #mobile #cloud #traveller #iPhone #Android