

Pioneering the Future:

The Emergence of Digital Travel Credentials (DTC) in Streamlined Journeys



The continued growth in global travel presents novel challenges for border security, prompting a need for innovative solutions. This paper explores the evolving field of Digital Travel Credentials (DTC) and their potential transformative impact on the travel industry. A DTC is a digital representation of the traveller's passport which may be used alongside or instead of the physical passport booklet. The DTC is then validated to the same level of security as an ePassport to ensure integrity and authenticity is maintained.

Recognizing the evolving landscape of risks and the expectations of modern travelers, DTCs offer a promising avenue for creating seamless and secure journeys and traveller experiences. Delving into the concept of the DTC, this paper examines its various types, advantages and its pivotal role in shaping the future of travel.

INTRODUCTION

The surge in global travel and trade poses challenges to border systems, necessitating advancements in travel documentation. This article explores the rise of Digital Travel Credentials (DTC) as a digital representation of physical documents, revolutionizing the travel experience.

Understanding Digital Travel Credentials

DTCs, securely stored in a digital wallet app, aim to enhance the travel experience, reduce paperwork and maintain security. A hybrid concept for DTC, has been created to ensure the same level of security as an ePassport comprising of a virtual component (DTC-VC) which contains the digital representation of the holder's identity, and a physical component (DTC-PC). In each case the DTC-VC is cryptographically linked to the DTC-PC.

TYPES OF DTC IMPLEMENTATION

The DTC can be implemented via three types, each with distinct characteristics, ensuring flexibility and adaptability for various traveller preferences and scenarios.

1. Type 1: eMRTD bound DTC

- **What it is:** This type links the DTC to the electronic passport. Both documents have the same document number.
- **How it works:** The Issuing Authority creates a DTC by reading and using the data from the ePassport thus the physical passport acts as a proof of user's identity and must always be carried.
- **Key feature:** This integration ensures that the DTC is directly linked to an officially issued document, enhancing security and authenticity while providing a convenient digital option for travellers.

2. Type 2: eMRTD-PC bound

- **What it is:** This type also involves your electronic passport, but with an additional physical component (PC) for extra security.
- **How it works:** The DTC on the mobile device is equivalent to the physical passport.
- **Key feature:** The traveller uses their smartphone and biometrics to prove their identity through all touchpoints. Passport should be carried as a secondary measure of verification in the occurrence of challenges presented by border security

3. Type 3: PC bound

- **What it is:** This type is completely digital and doesn't rely on a physical passport.
- **How it works:** The DTC is stored on a smart device, such as a smartphone or a tablet and allows travellers to tap their device at the eGate and cross border seamlessly.
- **Key Feature:** Unlike Types 1 and 2, which are linked to a physical passport, Type 3 DTC leverages digital technology to securely store and present the traveller's identity and travel authorization information.

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EFFICIENCY AND CONVENIENCE

Efficiency and convenience emerge as primary drivers for DTC adoption. This section highlights the four benefits that the use of DTC is expected to bring

Seamless Travel

DTC allows travellers to securely share identity data from their mobile devices before they even arrive at the border reducing processing times. This expedites the check-in and boarding procedures at airports and ports, potentially allowing the traveller to pass through using only their biometrics and not be required to produce their documentation at any point. This has the potential to minimise queues, reduce staffing requirements and lower operational costs at the border.

By facilitating seamless travel experiences for individuals, the perceived performance of governmental bodies is likely to enhance as these advancements reflect a commitment to leveraging technology for public good and responding to citizens' needs.

Emergency Travel Documents

At last, having passports available on mobile devices, individuals will no longer need to concern themselves with the possibility of misplacing them adding to the seamless travel experience. With a secure process for the remote provisioning of the DTC-PC it may be possible for countries to issue type 3 DTC to traveller who have lost their travel document.

Improve Advance Travel Authorization

Many countries have implemented or are about to implement Digital Travel Authorization processes which require the traveller to share their data. Use of a DTC will enable the quick efficient sharing of this data for authentication and remove data entry errors.

Streamline border Management

Advanced sharing of a traveller's information allows much of the border processing such as checking watchlists to be done before arrival resulting in quicker transactions and fewer queues. Additionally, the use of DTC to provide Advanced Passenger Information via the travel provider will provide extra time to authenticate the data and eliminate data errors

Ongoing Challenges

Despite its potential, DTC faces challenges that need addressing for widespread adoption. Interoperability, security concerns and technological barriers are discussed as key obstacles, emphasizing the need for collaborative efforts to establish universal standards. When it comes to security, ensuring the security of DTCs against cyber threats, such as hacking, data breaches, and identity theft, is paramount. The digital nature of DTCs requires robust cryptographic protections and constant vigilance against emerging cyber threats. In addition, integrating DTCs with existing travel and border control systems can pose technical challenges to governments. There must be compatibility across diverse technology platforms used by airlines, border agencies, and other stakeholders in the travel industry. Another ongoing challenge that will affect the adoption is that not every border will be equipped with Gates that can read a DTC. Therefore, initially, it is more likely that governments will use the technology to enable their own citizens to re-enter the country and for bilateral agreements between two governments.

THE VITAL ROLE OF DTC IN SEAMLESS TRAVEL

Looking ahead, DTC is envisioned as a cornerstone for achieving seamless travel. By sharing DTC virtual components in advance, countries can enhance border efficiency and conduct risk assessments proactively, ensuring a swift and secure passage for travelers. The implementation of DTC requires the adoption of global standards for digital travel documents, ensuring that systems used by different countries can work together seamlessly. This interoperability is crucial for facilitating smooth travel across borders. DTC is more than just a digital version of traditional travel documents; it is a transformative tool that addresses the multifaceted demands of contemporary travel. From enhancing border security and efficiency to improving the traveler experience and supporting sustainable practices, DTC stands at the forefront of the movement towards a more connected, efficient, and secure global travel ecosystem.

THE FUTURE LANDSCAPE

As technology advances and global standards for interoperability take shape, the adoption of DTC is anticipated to become integral to the modern travel industry. There is an intricate connection between the digital transformation of travel documentation and the realization of a more efficient, secure and interconnected global travel landscape.

In conclusion, while challenges persist, ongoing technological advancements and collaborative efforts between governments and industry stakeholders pave the way for a future where "seamless travel" is synonymous with the integration of Digital Travel Credentials

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