PANEL OF EXPERTS

Current systems for immigration and customs in the UK were built nearly a half-century ago, limiting the progression of technology and hindering necessary information-sharing. Given the issue of Brexit-related soft borders, is it now time for new lines to be drawn?

TECH AND THE POST-BREXIT LANDSCAPE

SIMON DAYKIN, CHIEF TECHNOLOGY OFFICER, LEIDOS

Simon Daykin is chief technology officer for Leidos UK's Civil, Defence and Health business units, providing strategic business technology leadership for UK customers.

Motivated by the benefits technology can bring, Simon is passionate about supporting digital transformations through strategy, design and delivery to solve some of the most challenging problems in today's world. Before joining Leidos, Simon served as chief architect of NATS and CTO of Logicalis.

PAUL PARKER, SOLAR WINDS

Paul Parker brings over 22 years of IT infrastructure experience, having worked with multiple miltary, intelligence, civilian and commercial organisations.

Paul has received multiple military and civilian awards for service, support and innovation, having served as vice president of engineering for the federal division of Inflobox, an IT automation and security firm, as well as holding positions at CS2, Ward Solutions, Eagle Alliance and Dynamics Research Corporation.

In today's digital age, our borders are no longer simple lines drawn on a map and border crossings do not only take place at distinct points of entry along those lines. From a business and security perspective, to operate efficiently in this environment of fluid border crossings, border service organisations require visibility of who or what is entering the country, as well as ensuring that people who are meant to leave by a certain date do so. Sharing data is at the heart of this.

However, the problem that the UK faces, particularly as it prepares to leave the European Union, is that current systems for immigration and customs control have evolved over 50 years, layering legacy software system upon legacy software system. Organisations and government departments involved in the border process can find themselves working in information silos, meaning that data is being shared inefficiently.

Furthermore, a wholesale revamp of the UK's customs and immigration systems isn't practical or cost effective but visibility into these systems and their information sets is required. Border services organisations, such as Border Force, HMRC, intelligence services and law enforcement, among others, can leverage digital technologies and analytics to facilitate customs and immigration decisions regardless of which 'silo' the information was created in.

The good news, as outlined by Paul Parker, is that we can implement technology and connect different agencies with shared information faster and safer than ever before. In short, there is no technological reason that border security should be outdated. Organisations need to define what information and data is required, at what velocity and level of detail. Understanding the required information sets allows technologists to determine the data model and interfaces required to ensure secure, reliable and appropriate access with minimal necessary duplication.

INTEGRATED TECHNOLOGY SOLUTIONS

Simon Daykin is in agreement. Sharing his thoughts on the issue, he told *Counter Terror Business* that integrated technology solutions, such as advance passenger screening, virtual cargo screening and customs fee automation, as well as analytics that highlight people and cargo deserving closer inspection, are required. Such innovations will result in better flow management, improved intelligence and early decision targeting and interventions - essentially creating a safer more secure and efficient border.

From Parker's IT perspective, post-Brexit border security should be an easy process. You scan your passport at the border, and it should flag whether you are allowed to enter the country. Radio-frequency identification (RFID) and chips in passports, biometric scanners, and records databases are all there to enable this.

However, he identifies uptake, interoperability, and communication between different border forces and agencies as the main obstacles that need to be overcome: essentially, it's about the human factor. Overcoming the human challenges around culture and communication will take time and collaboration, and while that's going on, it may be worth considering some of the supporting infrastructure that can help.

Paul Parker highlights the example of an approach currently being used in the United States. Preauthorisation (TSA PreCheck) sees citizens pre-vetted to speed up the immigration process at the point of entry. In addition, thanks to collaboration between private entities and the US government, the CLEAR membership scheme collects additional biometric data on participating individuals in advance of passing through immigration, to speed up vetting and allow approved individuals 'fast-track' access.

In the UK, it will be important to enable this kind of interconnection between public and private, alongside more collaboration between the police and border forces. A big part of enforcing new border controls will be ensuring that people also leave the country when they are expected to do so. This means that entry visas, existing criminal records, and biometric information like fingerprints need to be cross-checked to reliably monitor the legal status of people entering and exiting the country.

IMPROVING THE BORDER
Sharing data can considerably simplify a task, such as clearing a cargo container through customs. When cargo described in a manifest appears to match the images of items from an X-ray screening of a cargo container, the probability of the cargo manifest being accurate rises. The need to open the container and perform time and resource intensive, hands-on inspections of the cargo upon arrival in port declines. Machine learning and AI software can be designed to fuse data from manifests, with images from X-rays, to flag shipments for closer inspection when the results do not appear to match. On a smaller scale, data from customs declarations by individuals can be similarly fused with x-ray data on luggage to accelerate travellers' passage through airport customs.

By permitting data to do more 'heavy lifting' for customs and immigration, we can share that data across departments and create operational cost savings for border services organisations. That way borders services organisations such as HMRC, Border Force, Immigration, and Port Authorities can continue to generate data using the software it chooses, but it would be shared to generate actionable intelligence.

However, this approach to data sharing will require new levels of standardisation, system reliability, and security. Any technology connecting public and private entities, like the one being implemented between the NHS and Private Healthcare Information Network, needs to be supported by well-monitored, well-maintained networks that enable different organisations to use one repository containing all necessary information relating to a person's immigration status. However, such a comprehensive system will require sophisticated access management, endpoint security, and event logging to ensure it's only being accessed by the right people for the right reasons. ■

EXPERT FINAL THOUGHTS
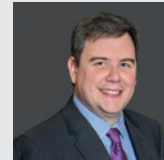
SIMON DAYKIN, LEIDOS
"Brexit negotiations have made the process of border management as the centrepiece of policy negotiations which has placed these set of processes as a major investment item for the UK government. At the operational level, agencies and departments now have the platform to debate and set out what investments need to be made and with what priority to support a safe, secure and better border. The challenge today in the UK is that this data is spread across many systems, layers of technologies and organisational boundaries.

"Ensuring smart people have access to smart data provides a more effective and lower cost operation and will provide a border that is fit for purpose. Now is the time, whatever happens with Brexit, to break down these silos and invest in our border management capabilities and processes."
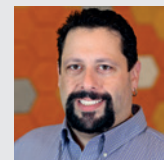
PAUL PARKER, SOLAR WINDS
"Utilising technology such as log and event management will be important to the success of cross organisation communication technology—much less flashy, perhaps, than deploying new iris scanners, but hugely important in maintaining the security and integrity of the shared services network. Having a method to track record access, access duration, and events related to the records will be critical for proving that the system is not being misused and is updated regularly by the right people.

"With a trusted network linking different endpoints from police forces, to border control agents, to immigration officials, down to the physical passport and biometric scanners, the UK can build a more comprehensive immigration and customs system that will be fit for the challenges of a post-Brexit landscape."