

# **Biometrics in** government:

Three case studies demonstrate how agencies around the world use Aware's BioSP™ to process and share biometric data



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### Introduction

Biometric search workflows require many processes across multiple systems, especially when several government agencies are exchanging biometric information between different countries.

For example, enrolling fingerprints to a biometric database for law enforcement is a very different workflow than enrolling them into a civil database for immigration purposes.

Even biometric systems that serve the same function can have different data formats. For example, a biometric search service provided by a U.S. federal law enforcement or border management agency might not have the same data formats as one in France, or even as one in another U.S. federal or state agency, which complicates biometric data interchange between the two.

However, the ability to exchange data for collaboration between multiple agencies is crucial for enabling external biometric search services.

It requires a platform that can integrate and talk to various systems, and act as a hub between multiple services—whether between immigration and law enforcement in one country, or two entirely separate law enforcement agencies in different continents. Aware's highly flexible biometric services platform makes this interchange possible, as demonstrated through three real-world use cases.

#### What is **BioSP**?

BioSP is a biometric services platform that, among other functions, implements workflows that exercise a set of data processing and distribution rules, such as for storing identity enrollment data and performing a biometric search.

BioSP performs workflow, data management and formatting, and other important utilities for AFIS, ABIS biometric identity systems, or any large-scale system used for biometric authentication, access control, identity management, etc. This market-leading biometric services platform is the most feature-rich, scalable, and fault-tolerant of its kind. More importantly, it's the easiest to configure and integrate.

BioSP can communicate seamlessly with systems that execute different functions, such as storage or identity check. It fetches the results of a biometric process, communicates them back to the user performing the enrollment, and enables further processes such as archiving.





Another example is responding to an identification request, "Who is this person?" or "Is this person who they say they are?"

### UK Home Office: Unifying law enforcement and immigration biometric systems

The UK Home Office used to employ separate biometric systems for law enforcement, border management, and immigration. However, they've recently consolidated them into one platform.

To achieve this goal, they used BioSP to coordinate large-scale business process rules between their law enforcement and immigration biometric systems. BioSP acts as a hub for the unification of multiple biometric search and match systems at the edge of the network, supporting many different types of workflows.

For instance, law enforcement and immigration-centric enrollments use two very different sets of data. Both would need demographics such as height, weight, date of birth, and place of birth.

However, law enforcement enrollment during a booking would require information about the arresting offense. An immigration workflow, on the other, such as a visa request, needs a very different subset of data. The UK Home Office needs data communication infrastructure that's fluent in both workflows.

Another example is responding to an identification request, "Who is this person?" or "Is this person who they say they are?" BioSP lets Home Office stakeholders dictate exactly which galleries they want to search in these queries—criminal, civil, immigration, or all of them if the goal is to cast the net as wide as possible.

By providing the data communication and processing infrastructure that bridges multiple biometric matchers and other subsystems, BioSP enables large scale data interchange within the UK Home Office. BioSP's role is to ensure that data translations are accurate so the two systems can talk to each other without needing to know each other's format or leading to errors.

# INTERPOL: Enabling international biometric search services

Within the biometric industry, there are hundreds of ways to exchange data and many minor but important differences for how data is stored. This can become problematic for the International Criminal Police Organization (INTERPOL), a multinational organization that works with domestic agencies all over the world.

The Washington D.C. INTERPOL field office needed the ability to automatically switch biometric data formats so that it could share information with U.S. federal agencies such as the FBI to run a search in its biometric database. For example, an INTERPOL office in Europe may be attempting to identify a certain individual. They'll send out communiques to field offices all over the world that include a set of fingerprints for that individual. The D.C. field office might then submit that sample to domestic agencies such as the FBI. They then need to receive results, and send them back to the main office in Lyon, France.

Something as simple as a discrepancy in name order ("last name, first name" vs. "first name, last name") between the D.C. field office and a domestic agency could lead to an inaccurate data translation causing a false non-match. BioSP's role is to ensure that data translations are accurate so the two systems can talk to each other without needing to know each other's format or leading to errors. This lets INTERPOL extend its biometric search capabilities to domestic agencies in the U.S. and have complete confidence in the results from external search services.

The ATF then turns ink-on-paper card fingerprint samples into a digital record for the purpose of performing background checks on the applicants.

# ATF: Performing background checks for federal firearms licenses

The U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) issues licenses to explosives suppliers and users, firearm dealers, and individuals attempting to purchase specific types of firearms such as automatic weapons (in states that allow them). A criminal background check is part of this licensing process.

Applicants must get their fingerprints recorded at a local law enforcement agency and then submit it to the ATF as part of this process. The ATF then turns ink-on-paper card fingerprint samples into a digital record for the purpose of performing background checks on the applicants. Before these digital images are sent to the FBI to search biometrics databases, they're sent to BioSP.

The platform allows an ATF user to record demographic and biographic information associated with each fingerprint (name, address, date of birth, place of birth, etc.). BioSP will then send the complete record to the FBI. The FBI performs an identity check on the set of fingerprints and then sends back a result:

- No record found.
- Record of individual for prior civil enrollment.
- · Record of individual for prior arrest.

Further action is then taken depending on the outcome. Without a platform like BioSP, custom workflow tools and complex integrations would have to be built from scratch to enable this process. BioSP's role is to ensure that data translations are accurate so the two systems can talk to each other without needing to know each other's format or leading to errors. This lets INTERPOL extend its biometric search capabilities to domestic agencies in the U.S. and have complete confidence in the results from external search services.

#### BioSP: One platform, many biometric workflows

BioSP is flexible enough to be configured so that it can exercise the workflow rules for each use case—even when multiple data formats and many systems are involved.

All three of the above use cases are examples of BioSP helping agencies leverage an external biometric process as a service. The biometric workflows and processes are governed by very different sets of rules and involve various systems and data formats. However, BioSP is flexible enough to be configured so that it can exercise the workflow rules for each use case—even when multiple data formats and many systems are involved.

This flexibility has ultimately made it possible for BioSP to act as the linchpin for biometric data-sharing efforts in multiple countries, and for multiple purposes.

To learn more about how BioSP's leading-edge capabilities are being used by governments around the world, contact Aware today.



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