

## **BUSINESS CASE**

### **GOVERNMENT: SOCIAL AND WELFARE BENEFITS PROGRAMS**

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**EFFECTIVE IDENTITY RESOLUTION STRATEGIES AS A MEANS TO MAXIMIZE  
AGENCY RESOURCES AND INSURE PROGRAM SUCCESS**

**merkatum**  
**Biometric ID Management**



# GOVERNMENT: SOCIAL AND WELFARE BENEFITS PROGRAMS

BUSINESS CASE - EFFECTIVE IDENTITY RESOLUTION TO MAXIMIZE AGENCY RESOURCES

## Background

Government agencies in countries around the world consistently assign, on a yearly basis, very large amounts of resources such as money, services, subsidized products, and tax credits in order to implement and manage social and welfare programs for specific segments of its civilian population that face challenging or unique conditions. Some examples of these programs include:

**Food Ration Cards**  
**Unemployment Benefits**  
**Coupon Programs**

**Medical and Health Benefits**  
**Education Scholarships**  
**Gasoline and Equipment Subsidies**

Whether at a federal, state, or local level, all government agencies must effectively distribute and control the way in which these resources are provided to recipients to insure maximum social coverage and impact in accordance to the program's chartered objectives.

## Benefits Program Challenges

1. **Resources Scarcity:** Social benefits provided (cash, services, food, etc.) are limited and typically not-sufficient in order to maximize program coverage.
2. **Large Populations:** The civilian population base entitled to receive government benefits is numerous (hundred-thousands or millions) and demographically disperse.
3. **Program Continuity:** The program is evergreen in nature, thus requires the continuous "replenishment" of resources and political goodwill to assure permanence.
4. **Fraud and Operational Complexity:** Considering the overall economic and social value of the benefits provided, it is not uncommon for identity fraud and corruption to surface. Furthermore, complex program deployment conditions combined with limited supervisory controls generate serious operational inefficiencies.

## Opportunity – The Identity Resolution Approach

Identity fraud manifests itself in social and welfare programs when a portion of a civilian population that is not entitled to receive government benefit "tricks the system" via false impersonation, identity fabrication or by exploiting program/system loopholes.

**By effectively determining a single and valid identity of all entitled program recipients, suspending benefit privileges to imposters, and systemically managing the operational intricacies of the program, all of the aforementioned challenges can be substantially addressed and resolved.**

## Solution

### Identity De-Duplication

The first step of the process is validating that the database of civilians entitled to receive the benefit is clean and non-redundant from an identity perspective. An “Identity De-Duplication Process” is performed against the database to identify duplicate records assisted by advanced biometric and biographic mathematical algorithms. The target identity database is comprised of records that include the demographic profile of the recipient plus a picture and/or fingerprint image of such person. Duplicate identity records are flagged when the biometric and/biographic characteristics of two records are very similar between them.

Records identified as conflictive require a post-processing “cleansing” process either by an offline auditing procedure and/or by specific database correction activities. Once a cleansed database is available, the identity resolution system is ready for full production mode.

### System Roll-Out

A staged solution deployment process is recommended in order to maximize value, while minimizing investment costs, process risks, and complexity barriers. This stage implies setting-up a system (server infrastructure) and integrating it to other existing applications (records management, medical services, benefits management service offices, pharmacies, etc.) for seamless interaction among them. Furthermore, fingerprint scanners and/or digital cameras are installed at points-of-service to interact with the identity resolution system. A recipient re-enrollment process may be necessary to validate identity characteristics.

Once the system is configured and calibrated, the benefits of deploying the biometric identity system emerge. Each duplicate record resolved by the system potentially represents thousands of dollars of savings per recipient for the government agency over time.

## Economics: High-Level ROI Analysis

### Program Profile: Health Benefits Program for Primary Medical Care Services

- (1) **Volumetrics:** 400,000 entitled recipients receive a \$1,000/year credit for primary care consultation services. Benefit deposited in a personalized smart card for individual use.
- (2) **Direct Cost Structure:** Benefit Cost > \$700, Smart Card > \$4, Indirect > \$30/recipient
- (3) **Process:** ID data de-duplication resolves 7% of detected ID-Fraud; effectively removed
- (4) **Solution Investment:** Turnkey ID System > \$1.8 million, Field Deployment: \$3.6 Million
- (5) **Savings:** \$20.5 million per year plus productivity, control, and compliance benefits
- (6) **Return on Investment:** 279% for Year 1; Payback at 90 days once fully implemented

## THE SYSTEM: EMFIVA F/FRS®

Merkatum's emfiva F/FRS® is a robust, modular, scalable, and flexible biometric and biographic resolution and identity management platform, "out-of-a-box", that utilizes multi-biometric technology (fingerprint, facial, iris) and textual algorithms (name recognition, phonetic, keystroke, etc.) as a means to physiologically and biographically determining the identity of an individual or data duplicity among records sets. Furthermore, it permits the end-user to enable, manage, and/or control the activities of such individuals as they intend to interact with other people, physical assets and/or information systems.

The emfiva F/FRS® appliance is plug-and-play, simple to use and affordable, thus reducing technological complexities and heightened project implementation costs. It can be configured for different vertical segments including: civil identification, law enforcement and justice, healthcare, banking, and benefits management, among others.

Key benefits associated to the proper implementation of an emfiva F/FRS® -based solution include: risk mitigation, security control, fraud detection and prevention, operational costs reduction, and labor productivity increases.

## ABOUT MERKATUM CORPORATION

Merkatum Corporation ([www.merkatum.com](http://www.merkatum.com)) develops biometric and biographic identity resolution systems that effectively determine, interpret, and manage the identity of individuals in order to deter identity fraud and safety/security risks. Merkatum's core product, its patent-pending "**emfiva F/FRS®**" biometric resolution and identity management system, searches and compares the identity of individuals in databases and on the field by utilizing fingerprint, facial, and/or biographic recognition algorithms leveraged by an open, scalable, and business process driven, service-oriented architecture (SOA).

The Company's objective is to develop and market modular, "out-of-the-box" systems that are easy to install-deploy-maintain at a lower total cost of ownership by pre-configuring and deploying emfiva F/FRS® servers for determined vertical market segments. Furthermore, our Company provides transaction-based identity resolution managed services for high-volume operational environments for specific vertical markets. Merkatum also develops and markets modularized identity enrollment kits ("Eagle Kit") comprised of integrated biometric capture devices (fingerprint, facial, iris, and signature) and data encoders (barcode, document scanners) for military, public safety, and civil identification applications.

The Company has successfully deployed our products and services for relevant customers and high-profiled projects over the past 10 years. Merkatum's target customers include government agencies, healthcare payers and providers, financial institutions, and enterprises worldwide.