

ELISE ID

The Platform for Multi-Modal Fusion

The Challenge

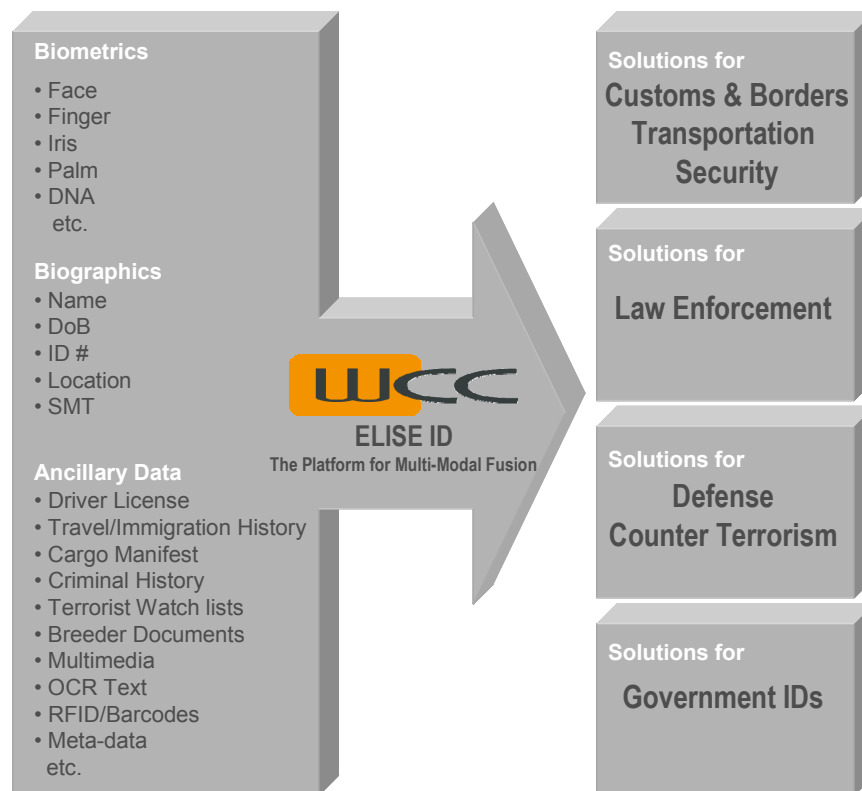
Identity is the foundation of national security. Without it, our government does not know who to let across the borders or onto an airplane, law enforcement can't find the criminals or terrorists, corporations can't determine the citizenship of workers, and disaster victims and missing persons remain nameless or lost.

Government organizations responsible for security and law enforcement need tools to quickly, easily, and reliably determine identity based on all available factors.

The Solution

WCC's ELISE ID – The Platform for Multi-Modal Fusion delivers smart identity matches by using multi-modal fusion across multiple data sources including biometrics, biographic data, and ancillary data that might include video capture, unique traits or features, criminal or travel history or even PIN, barcode, or RFID data. ELISE easily incorporates multiple criteria in a search to achieve the best identity matching possible for border verification, criminal investigations, trusted travelers, cargo manifests, employee security and many other identity matching solutions. ELISE's open industry standards-based platform allows multiple third-

party biometric, text searching algorithms and other data formats like video to be integrated easily and cost effectively. That means no vendor lock-in and the ability to keep up with innovations in biometrics and other searching technologies. But best of all, using multiple biometrics combined with



available biographics provides the highest degree of accuracy and reliability at very high speeds - key for success with very large federated databases. ELISE's advanced matching techniques allow for the integration of disparate identity databases, easily handling missing or inaccurate data in a way that traditional searches simply can't.

ELISE Differentiators

Legacy Database Integration

- Integrates easily with almost all repositories through real-time or near-time replication technology, making it easy to use and maintain legacy databases with different missions and business rules.
- Combines or federates data from these databases - even from different organizations or different platforms - for a more complete and accurate multi-modal search over the combined data.

Low Total Cost of Ownership

- Component-based, reusable infrastructure, less expensive than “rip and replace”
- Standards based, COTS platform, minimizes support and operational impacts
- Open framework ensures continuing value for money

Architecture–Policy Based – SOA compatible

- Built for 100% uptime. ELISE’s high availability architecture provides redundancy, even accommodating redundant hosting on disparate networks in geographically separate facilities.
- Built for large database volumes. ELISE scales to handle billions of records.
- Built for scalability. Utilizes cost-effective industry standard servers for growing database needs. Scaling can take place without any downtime.
- Handles federated searches across multiple ELISE installations, allowing different organizations to maintain and control their own data while still participating in a federation for unified search results.
- Built for performance. ELISE’s massively parallel architecture provides the fastest possible results.

Powerful and Flexible

- Multi-Modal platform for the seamless integration of biometric algorithms from virtually any vendor. This offers a single search platform for identity solutions, enables score-level multi-modal fusion, reduces vendor lock-in and accommodates innovation.
- Weighting of each criterion. Not all criteria are equally important. ELISE lets you define default weights or allow your users to influence weights at query-time.
- Built-in functionality for unstructured text matching, name matching, contextual search, text feature extraction, and other innovative capabilities. Dynamically control the importance of location and proximity in your search and show your users exactly how their query was interpreted. Keyword highlighting makes it easy to see results in context.
- Fuzzy logic matching on words, concepts and numeric quantities. Flexible numeric boundaries allow finding of distances, heights, weights or any quantitative values that are just outside the ideal range. Affinity matrices allow finding similar or related concepts, words or even names.
- Use of metadata to enhance scoring. Metadata, such as the date of information acquisition, the department acquiring it, or even the capture device, can be used to influence match scores according to user-definable business logic.
- Deterministic and repeatable match scoring. Calculations of match scores are based on known algorithms so results can be repeated and refined.
- Analytics to understand match scores and result ranking. Easily show the calculations behind the match scores for added insight into result ranking.

ELISE ID features

Speed

- Delivers sub-second response times for combined biographic / text / numeric matching, or
- Biometric matching speed dependent on third party algorithm(s), but typically matches within seconds

Scalability

- Handles billions of records

Hardware requirements –COTS

- Intel/AMD based servers
- Server platforms – COTS
- Operating Systems: Microsoft,
- Red Hat Linux

Biometric Standards support

- Supports BioAPI and CBEFF

Highly Configurable Multiplatform SDK

- Java, .NET, C++ interfaces
- SOA support
- XML support

Legacy Database Integration

- ELISE replication technology supports all relational database systems

Thick and Thin Client integration

- Supports clients on any architecture/OS

Flexible Import/Sync Repository tools

- Real-time import / synchronization with source data repositories

Unsurpassed Reliability for Maximum Uptime

- High availability, fully redundant architecture with no single point of failure
- Proven Reliability - many nation-wide, mission critical deployments over the past ten years.

Un-matched efficient Architecture

- Massively parallel processing for high speeds/high volume scenarios

Task-specific customization

- Fuzzy logic matching on text (Affinity Matrices), and numeric data (Gliding Scales) as well as setting weights for criteria importance.
- Capture business logic as the default or set at query-time
- Fully configurable fusion engine

Platform Designed for Custom Algorithms

- Create custom algorithms for non-standard tasks (e.g. dental record or scar/tattoo matching,)
- Includes special algorithms for OCR'd text, for character transpositions, and for "fat finger" typos on data input.

All Biometric Algorithms Welcome

- Integrates third party biometric algorithms to prevent obsolescence and increase flexibility

Powerful Unstructured-text Matching

- Full set of query operators
- Graphic query interpretation
- Weighting by relevancy groups
- Exact, phonetic, and OCR/typo matching
- Automatic highlighting of results text

Identity Results Transparency

- Detail match shows how identity score calculated for transparent match logic

Management tools/interfaces

- Full suite of tools for logging and monitoring as well as data analysis