Drivers License Systems
Meeting the Modernization Challenge

Yesterday’s driver’s license has become today’s universal identification card – valid for driving, but increasingly used to establish identity for everything from purchasing restricted goods, to preventing identity theft, to boarding a flight. Regardless of their stance on Federal programs such as Real ID or Pass ID, most states have begun efforts to revamp and modernize their driver’s licensing systems. Drivers license modernization programs must not only meet next generation identification requirements, they must also provide efficiencies to address shrinking budgets. In this important process, they inevitably face three challenges:

- Modernizing the underlying hardware and software system
- Cleaning up their data and preventing duplicate or fraudulent records
- Supporting increasingly interconnected government systems and citizen services

Here’s how WCC’s ELISE ID can help with each of these challenges.

**Modernizing and Migrating**

Even prior to the recent financial situation, states have been under budget pressure to provide more services with shrinking budgets. One way of reducing costs within DMVs is to retire older – often mainframe based – systems in favor of modern commodity hardware servers and software. Of course, it’s not that simple. Legacy systems usually hold important legacy data and light-switch transitions for mission critical systems are rarely practical. ELISE ID provides important enabling infrastructure that can help make the move smoother. With powerful and flexible database connectors, ELISE ID can easily help migrate any drivers license, vehicle, citizen, or law enforcement data to a new service oriented system. Since scaling up is based on industry standard, commodity servers, ELISE ID helps save on the total cost of ownership and supports managed transitions.

**Cleaning Data and Preventing Duplicates**

With the increased reliance on the driver’s license for secure identification, both legacy data and new enrollments must be accurate and complete. Errors in existing data, whether intentional or just accumulated mistakes, must be removed, and fraud or new data entry errors prevented. That’s where ELISE ID’s capabilities can improve DMV enrollment accuracy. ELISE ID can instantly locate duplicate driver profiles in a large legacy database and easily prevent a new enrollment from duplicating an existing entry. It uses a combination of fuzzy logic and extensive name databases to compensate for typos, nicknames, name changes, transpositions, and a variety of other common data entry errors. These same capabilities can also easily spot fraudulent enrollments and help keep the database free of criminal elements.
Interconnected Systems
Stand alone systems are quickly becoming a thing of the past. They’re expensive to build and maintain, and they impede the flow of information among disparate state databases that are vital in connecting the dots for complete identification purposes. But mission critical systems are often separated by politics, history and technology. Building today’s DMV system means bridging disparate systems while maintaining appropriate local controls and ensuring privacy. ELISE ID is a flexible system that can adapt to a variety of network topologies to offer unsurpassed identity searching and matching for both centralized and federated or distributed systems. Its smart identity search and match capabilities are ideal for facilitating accurate search even when different agencies have disparate data schemas.

CASE STUDY
Modernizing and Migrating in the Midwest
One large mid-western state, facing a budget crunch and watching the dollars disappear to pay for an aging mainframe, chose ELISE ID as the key component to help them migrate to modern – and much less expensive – PC server hardware. ELISE ID’s capability to clean up their database as they made the transition and to flexibly run in parallel with their legacy system for a period of months made it a very practical choice. With this change they gained a higher performance system that delivers de-duplication accuracy to improve the quality of their data – all while reducing their operating costs. They plan to extend the utilization of the system to support not only the drivers license system, but also their state police for real time lookup of driver and vehicle records.

CASE STUDY
Cleaning Data and Preventing Duplicates for Asylum Seekers
ELISE ID was recently deployed by a European government agency to identify asylum seekers and for example to detect “planted (i.e. similar) stories” for an asylum application. For this project, ELISE ID easily integrated into the Siebel-based case management system and it supports the modernization of the whole system architecture. As is so often the case, the legacy and modern systems are scheduled to run in parallel until the transition is complete.

CASE STUDY
Robert Half International: Supporting Global Growth
In the highly competitive staffing industry, the successful company is the one that delivers the best candidate the fastest. Similar to the usage model for the state of West Virginia, Robert Half International has used ELISE since 2002 for high volume, high throughput matching for jobs and candidates to find their clients the best possible temporary staff. With a database of over 10 million records, this $3 billion global corporation relies on ELISE technology to deliver sub-second matches that help increase their efficiency and their success rate. According to Sean Perry, CIO, “WCC continues to provide outstanding customer service. They are proactive, intelligent, extremely fast, and they treat our business goals as though they were their own. The customer focus from WCC is unparalleled.”

CASE STUDY
Interconnected Systems at Concentra
Both examples above involve interconnected systems with multiple, overlapping usage models. An even more dramatic example is Concentra, a health services company that uses the ELISE system (the heart of ELISE ID) to centralize patient look up records from across the US – from over 200 offices and 85 data centers. Now “an integral part of our patient admittance process,” ELISE provides sub-second lookups for patients from this consolidated system while overcoming data entry errors to accurately identify patients.

CASE STUDY
West Virginia: Workforce Innovations
Another example of ELISE’s ability to scale easily and handle state-sized jobs is the deployment in West Virginia for the state agency, WorkForce West Virginia, that is responsible for reducing
unemployment. In this case, smart searching and matching are used to quickly and accurately match the right job to the right job seeker. At the heart of the WorkForce West Virginia web site, ELISE allows easy navigation of available jobs and provides scored and ranked matches to help identify the best fitting job for a particular candidate.

CASE STUDY

**Washington Post: Driving Job Seeker Conversions**

Since 2005, the Washington Post has delivered fast, accurate matches to job seekers in the Jobs section of their web site. They achieved a 65% ROI on their investment through increased job applications (up 10%) and increased on-line recruitment revenue (up 22% CAGR over 3 years). According to Liddy Manson, VP of Jobs, Cars and Real Estate, the Washington Post “selected ELISE because it allowed us to offer unique services to our users.”

CASE STUDY

**Customer Identification Compliance for a European Bank**

Due to changes in banking regulations, a large European bank was required to link all of its electronic customer records with the identification documents that were provided when the account was set up. Their solution was to scan the documents and use ELISE ID’s fuzzy logic capabilities to compensate for optical character recognition (OCR) errors in the resulting text when matching against the customers’ electronic records. Sifting through a database of 10 million customers, ELISE ID was successful in bringing the bank into compliance with their customer record keeping.

CASE STUDY

**Pôle Emploi: Putting France Back to Work**

In partnership with Accenture, WCC deployed ELISE to support the national employment service of France, supporting their effort to reduce unemployment. This nation-wide system handles peak loads of 500 matches per second against a database of 5 million unemployed. During the first year of production use, the system fully met the stringent quality and uptime metrics that were mandated by the government to ensure successful deployment. And during that period, the system successfully handled over a billion matches!

**Performance Benchmarks**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Midwest State DMV system: Over 20 million driver records</th>
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<tbody>
<tr>
<td></td>
<td>Robert Half International: Over 10 million records</td>
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<tr>
<td></td>
<td>Concentra: Over 20 million patient identity profiles serving 200 offices, consolidating data from 85 data centers</td>
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<tr>
<td></td>
<td>Bundesagentur für Arbeit: Over 10 million records</td>
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<tr>
<td>Loading</td>
<td>Midwest State DMV system: over 1200 daily users</td>
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<tr>
<td></td>
<td>Robert Half International: 280-300 thousand searches per day</td>
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<tr>
<td></td>
<td>Bundesagentur für Arbeit: 130,000 concurrent users</td>
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<td></td>
<td>Concentra: 19,000 patient visits per day</td>
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<td></td>
<td>Pôle Emploi: Over a half billion matches in first 7 months of operation</td>
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<tr>
<td>Speed</td>
<td>Midwest State DMV system: 800 matches per minute</td>
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<tr>
<td></td>
<td>Bundesagentur für Arbeit: Over 40 million page views per day, sub-second response time</td>
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<tr>
<td></td>
<td>Pôle Emploi: Peak loads of 500 matches per second</td>
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### Specifications

| Matching modes                  | • Keyword – Search identity data bases using keywords with navigation tools (guided navigation, faceted search)  
|                               | • Match by Example to find similar profiles  
|                               | • Advanced Match - Find best matches based on multiple criteria with optional weighting  
| Navigation                    | • Supports guided or faceted navigation for optimum user experience  
| Analytics                     | • Score analytics for automation and efficient intervention  
|                               | • Result analytics for determining action  
|                               | • Result analytics for improving processes  
|                               | • Data quality analytics  
|                               | • Accuracy analytics  
| Data types supported          | • Supports both structured as well as unstructured data  
|                               | • Parses unstructured information to extract data for focused matching  
| Text Matching (unstructured)  | • Semantic as well as keyword search  
|                               | • Fuzzy matching through phonetics, OCR, typo matching, affinities  
|                               | • Full set of query operators - phrase, AND, OR, NOT, INT, +, -, parentheses, wildcard  
|                               | • Weighting by relevance groups  
|                               | • Graphic query interpretation  
|                               | • Highlighting of matches  
| Extensibility                 | • Supports custom match algorithm integration  
|                               | • Third party algorithms such as biometrics for enhanced identification security  
| Fuzzy Matching                | • Weighted Criteria - Importance can be pre-defined or set at query time  
|                               | • Gliding Scales - Flexible numeric ranges to find perfect fit and near fit values  
|                               | • Word/Concept Affinities - Scores defined for synonyms, related concepts, nicknames, etc  
|                               | • Enhanced name matching using third party name databases  
| Speed                         | • Massively parallel in-memory processing for high speed/high volume scenarios - sub-second response times possible  
| Scalability & Reliability     | • Cost-effectively scales from single server in stallation to multiple data centers  
|                               | • High availability, fully redundant architecture with no single point of failure; nodes may be co-located in physically separate data centers for maximum availability  

### Integration

- Real time data synchronization with any RDBMS or file system through configurable connection tool
- Supports client applications on any architecture or OS
- SOA/web services support
- Java and .NET APIs
- HR-XML support
- Optional web data harvesting tool available

### Hardware/OS requirements

- Microsoft Windows or Red Hat Linux
- Intel or AMD based servers
- Native 64 bit version and 32 bit version

### Management Tools

- **Reporting**
  - Dashboards and graphical reports on user behavior, system usage and data quality
- **Affinity Generator/Editor**
  - Automatically improves quality of match results by creating affinity sets from customer data.
  - Editor for reviewing and refining affinities. Saves time through automation
- **Monitoring**
  - Monitor every aspect of an ELISE installation, compatible with 3rd party tools such as HP OpenView
- **Development and Administration**
  - Analyze transactions, explore the data in the ELISE database, analyze system behavior, perform administrative tasks, refine match results
- **De-duplication Services**
  - The power of ELISE ID for de-duplication is also available as a service from WCC. Save on infrastructure costs and get a running start with the experts from WCC’s Consulting team

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