

IDENT1[®] News

BUILDING A PLATFORM FOR THE FUTURE

Issue 10 - January 2007



Foreword - Colin Patton Director of Identification at PITO

May I take this opportunity to wish you and all your families a very Happy and Successful New Year.

In this issue, we update you on some of the successes of 2006.

During the past year, IDENT1

- delivered the palm searching capability (over 9,000 identifications so far!)
- brought Scotland fully onto IDENT1, providing for the first time a mainland UK national fingerprint system
- implemented multiple storage of ten-print sets
- made substantial moves towards the full

new system architecture for IDENT1 (due for final delivery in July 2007)

delivered a pilot of mobile finger-print searching (LANTERN) to ten forces during November, December and January.

Also during this period the partnership between the National Fingerprint Board (NFB), PITO, the Home Office and Northrop Grumman has seen the National Livescan implementation continue to be rolled out to forces on schedule.

The above successes have not come without periods of unwanted disruption. It is clear that they could not have been delivered without the exceptional professionalism, help and expertise of the

entire fingerprint community. My colleagues and I at PITO continue to marvel at the levels of success achieved by all the fingerprint service, and may I take this opportunity to express both my personal thanks and those of everyone here at PITO to you all.

We also update you on the new web page for the NFB (National Fingerprint Board).

IDENT1 enables the Scotland Business Process

In mid-October a team of users, including representatives from Scotland, witnessed formal acceptance testing of the Release 19 software which enabled the Scotland Business Process.

In November the software was deployed to the central sites and to all Scotland, England & Wales bureaux. This put into place the data migration software to enable the transfer of Scottish bureaux ten-print and scenes of crime marks data from the Scottish AFR system (SAFR) to IDENT1, in a series of 'data drops' followed by careful checking.

Scotland Livescan transactions have now begun direct entry into IDENT1, instead of transferring via the Scotland 'bridge' server. Northrop Grumman (NG) trained custody suite officers at four locations on the changes to Livescan operation.

Around 350,000 ten-prints have been migrated across to the unified collection. At the same time, migration of over 39,000 existing crime scene marks held in Scottish bureaux is taking place. Scottish bureaux can start adding marks from serious crimes to the IDENT1 Serious Crime Cache against which all ten-prints are searched automatically.

Scotland goes live on IDENT1

By Ian Todd (pictured), Acting Director of Scottish Criminal Record Office

I am delighted to announce that, following completion of software and hardware installation and staff training at Aberdeen, Glasgow, Edinburgh and Dundee fingerprint bureaux, all four bureaux went 'live' with IDENT1 as their operational system on 4 December 2006.

This is the culmination of several years' effort by our team at the Scottish Fingerprint Service (SFS), working closely with PITO and the supplier Northrop Grumman. Moving to the IDENT1 system and closing down our Automated Fingerprint Recognition system is a significant aspect of the work to amalgamate all finger and palm print data into a single, searchable database for the UK mainland and represents a significant achievement and benefit to operational policing.



We now have the ability to search marks and prints against a national database of 6.6 million ten-prints, and against the growing collection of palm prints. We have already begun searching Scottish ten-print records against the Serious Crime Cache (SCC) and the Unidentified Marks Database (UIDB).

PITO and the NPIA

The National Policing Improvement Agency (NPIA) is planned to become operational from 1 April 2007, supporting the police service to improve the way it works across many areas of its business. The NPIA will replace PITO and will take on significant areas of its operations. For more information about the NPIA please visit www.npia.police.uk



Ensuring data integrity

PITO carries out regular monthly reconciliation reporting to check the data on PNC Phoenix corresponds with data on IDENT1 and vice-versa. Scottish subjects whose arrest details have been added to PNC Phoenix will be subject to this existing process.

To support this, a regular quarterly reconciliation process between the Scottish Criminal History System (CHS) and PNC Phoenix is being set up by agreement between PITO and SCRO.

The methodology for this is that PITO will issue a list of the unique identifiers held on PNC and IDENT1 (PNCID and ASN), together with the identifiers (CRN and URN) it holds for corresponding records on CHS. SCRO will check these and provide corrections where necessary.

Achieving a unified, national collection of finger/palm prints and crime marks has been the result of sustained effort and collaborative working over many months co-ordinated by the SFS and the National Fingerprint Office.

Fingerprint bureaux in England, Wales and Scotland can now benefit from the ability to check prints and marks against each other's data, and solve cross-border crimes.

Release 18 is rolled out

IDENT1 Release 18 deployment to all bureaux was completed in September 2006, introducing several new capabilities.

The deployment 'breakpoints' approach was used successfully – PITO and NG stopped to take stock after each small group of bureaux physically received the software release.

Any issues that were not bureau specific were quickly resolved before moving on to the next group. A small number of bureaux experienced individual problems, but most found it a smooth transition.

Primarily Release 18 provides the building blocks for the future strategic identification platform.

These are:

- Plains – retention of plain impressions associated with each arrestee set
- Multiple registrations – retention of additional fingerprint sets for recidivists
- Migration of the bureau server database software from Informix to Oracle
- Migration of all bureau data from Informix to Oracle
- Implementation of Central Application Server and web services, to make it

possible to modularise capabilities for easy expansion and to prepare for new Livescan and bureau interfaces and functionality.

The principal new capabilities visible to users in Release 18 are:

- use of the SAGEM algorithm as primary encoding for all finger and finger-mark impressions
- use of the SAGEM algorithm as the primary search algorithm for all search types
- fusion of the SAGEM with the legacy NAFIS algorithm to enhance search accuracy for mark-related searches – see article below for more details

Multiple registrations and plain impressions are already being collected and stored, ready for when the ability to search them comes in during 2007 – multiples with Release 20, and plains in Release 21. The key benefit of searching both will be to improve search accuracy.

The driver behind collecting and storing these now is to increase the size of the database for when the search functionality goes live. The more records that have this additional data associated with them, the greater the search accuracy and the likelihood that bureaux will be able to achieve more identifications.

How the SAGEM algorithm helps identification

In October, following thorough background testing of each search type, the SAGEM algorithm was switched on as the primary encoding and searching algorithm used by IDENT1.

Previously, palms and palm marks were encoded using SAGEM encoding rules, but now all finger and mark images are also encoded the same way.

This single, consistent approach to encoding and viewing of feature markers for all friction ridge detail will simplify training of new staff and remove the burden on current staff who have to change their encoding style depending on what it is they are encoding.

In the background – transparent to

users – the system continues to encode and store minutiae detail using the secondary legacy algorithm, but users are not able to view this encoding. The system either automatically encodes from scratch any images such as print sets, or if the user has performed manual editing, it translates from the SAGEM encoding to generate the legacy encoding.

Users will also notice a new 'delta marker' displayed on fingers, and a change to the way pattern classifications for fingers are recorded. The SAGEM algorithm automatically generates the classification of finger patterns against each finger for a ten-print record, without requiring any additional input from the fingerprint officer.

The rationale for adding the new SAGEM algorithm onto IDENT1 is:

- to achieve more accurate searching and matching than is achievable with a single algorithm
- to use multiple algorithms to carry out parallel searches of a mark-related search and fuse the results to provide better accuracy than a single algorithm alone.

Benchmark testing carried out during the competitive tendering process demonstrated the increased accuracy from this approach. During Release 18 testing, the test data was re-run to confirm that the same accuracy improvement was delivered on the full-scale operational system.

NEW SITES

The NFB now has a web page for the criminal justice and police communities.

Here is the link:

<http://www.genesis.pnn.police.uk/genesis>.

Follow the links to Forensic Science – Fingerprint Board.

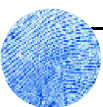
Visit our website at

<http://www.pito.org.uk/products/ident1.php>

To see how PITO's products and services are in action across the UK, use our new Interactive Map at

<http://www.pito.org.uk/region/index.php>

Visit the Identification micro-site www.pito.pnn.police.uk/microsite/identification



Contact the project team

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