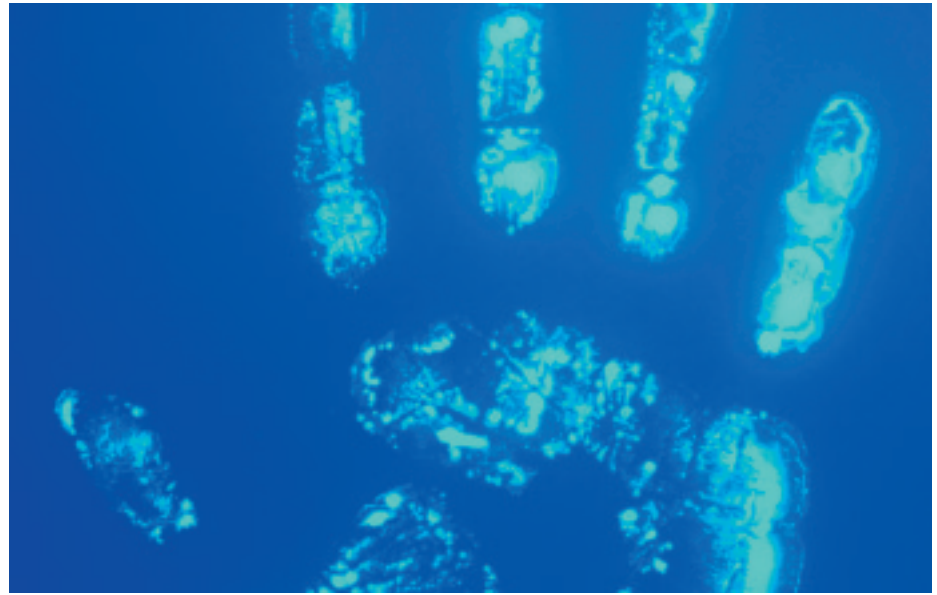


# MAJOR CRIME INVESTIGATION SUITE

## UNISYS



Major Crime Investigation Suite (MCIS) is an investigation management system for law enforcement organisations to manage the complex process of investigating serious crimes. It enables law enforcement agencies to improve effectiveness and productivity in crime investigations, helping them solve crimes more quickly and improve detection rates.

Since 1986 police forces in Great Britain have utilised a crime investigation suite, which they named: Home Office Large Major Enquiry System (HOLMES). This solution was used in all major incidents, including serial murders, multi-million pound fraud cases and major disasters (e.g., Lockerbie aeroplane disaster).

Whilst HOLMES was a very effective administrative support system for investigating major crimes, it had some major weaknesses. It provided very little support to the investigation of the crime and it was very difficult to link incidents together, particularly those that crossed police force boundaries. What the police forces needed was a new solution that assisted them in *exchanging information* as well as making *better use of information*.

**In 1994, the British police service launched a plan to replace the existing systems with a new, improved version. They also took the opportunity to bring the police service up to date with new technology and provide a flexible**

**system which would cope much more easily with changes in the future. This new solution is the Major Crime Investigation Suite – which the British police affectionately named HOLMES 2.**

The Major Crime Investigation Suite (MCIS) uses a combination of commercial off the shelf software components and purpose-built software to provide the most cost-effective system for the police service. Existing software technology in the form of Microsoft Windows and the Analysts Notebook from i2 Limited was used to provide familiar components to assist in the user acceptance of the system. New but maturing software technologies such as the Dynamic Reasoning Engine (DRE) from Cambridge Neurodynamics Limited, introduced computer intelligence into MCIS. DRE offers crime investigators the opportunity to combine their skill and experience with the acquired knowledge of the machine to identify new lines of enquiry.

The British police service approach to the investigation of serial and serious crimes is based on a standard process that has proved its success over the last two decades. The information management systems that support this process have also been standardised. The British police service and Unisys have made a significant investment in the HOLMES 2 project that underpins this standard approach. The result of this investment is the Major Crime Investigation Suite solution.

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This unique solution enables documents and tasks to be prioritised, as well as managing resources and costs. MCIS provides a flexible environment that allows the system to be tailored to the needs of each law enforcement organisation. The document workflow can be changed to suit individual work practices. Additional user definable fields are included to allow for local specific requirements.

## *The main aims of Major Crime Investigation Suite are to:*

- collect and manage vast amounts of information and intelligence data
- process and prioritise information to assist in the identification of suitable lines of enquiry
- manage the allocation and progress of tasks assigned to investigating officers
- analyse information through graphical representation
- produce documentation suitable for presentation in court

The Major Crime Investigation Suite (MCIS) automates the investigation processes without removing the control of the investigation from the user. In a typical major investigation many documents are collected and all of these have to be carefully processed to ensure that vital clues are not overlooked. This mass of information in text form can prove extremely difficult to analyse. MCIS includes a unique facility that presents information graphically alongside the original documents, so that users can easily highlight the important information and link key items together very quickly.

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## *The Major Crime Investigation Suite incorporates the following features:*

**Document Management** enables the flow of all documents to be monitored and controlled throughout the investigation. Senior investigating officers can view the state of each document and quickly identify any bottlenecks in the process.

**Workflow Management** allows law enforcement organisations to tailor MCIS to suit their individual work practices.

**Graphical Indexing** provides the facility to visualise the indexing by the automatic generation of a link chart. The user can also index directly from a marked up copy of the document, thus eliminating the need for the user to re-key the data.

**Record Management** enables all structured data to be quickly retrieved for research and analysis. Structured data is searched before creation to reduce the risk of duplication. Powerful search facilities include exact matching, truncated matching, synonym matching and wild card searches.

**Task Management** facilities allow the user to allocate actions to investigating officers and monitor the progress. Actions can be prioritised and the priority level of an action can be modified at any time. MCIS provides the facility to view a graphical representation of outstanding actions and officer workload to assist in the assessment of work outstanding, staffing levels and bottlenecks in the process.

**Exhibit Management** provides a facility to manage and track the movement of all crime-related property throughout the investigation. A full movement history is maintained for each exhibit. Whenever an exhibit is taken from its storage place, the details of the removal are recorded. This maintains an audit trail that can be presented to anyone questioning the integrity of the exhibit.

**Research and Analysis** provides the powerful facilities of the i2 Analysts Notebook and the Dynamic Reasoning Engine from Cambridge Neurodynamics to produce sequence of events charts and association (link) charts, and compare databases to identify potential links with similar investigations.

**Disclosure Management** manages the disclosure of unused material in an investigation. It allows the Disclosure Officer to perform primary and secondary disclosure to assess the material and produce the relevant schedules for the Crown Prosecution Service.

**Court Preparation** facilities allow all material required for court, including documents and exhibits, to be prepared efficiently and professionally. The graphical presentation allows the system to be used in court to show how complex information flows are linked.

## *Technical Architecture*

**In the Major Crime Investigation Suite, we have adopted the best of breed components to build a world-class solution. The client-server architecture is based on Microsoft Windows NT workstations with Unix servers. For database management we selected the Oracle relational database management system. System network communications use TCP/IP for both LAN and WAN communications.**

Rapid Application Development (RAD) tools were used to construct the purpose-built software components. The RAD product selected was USoft, which allowed prototyping at all stages of the development process, thus ensuring a high degree of user acceptance throughout the project.

One of the key aspects of the development process that this RAD approach introduced is the interaction with the users. Regular contact with the users is established from the beginning and decision making is devolved to the lowest possible level to speed the decision making process and to encourage a feeling of ownership in the user community from the early stages.

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