

# MCR STUDIO



MCR STUDIO is part of MCR Voice & Data Monitoring Center developed by AREA to support LEAs investigations through Lawful Interceptions.

## THE GOALS OF COMMUNICATION DATA ANALYSIS

Nowadays, communication data analysis can require different degrees of complexity since Law Enforcement Agencies and Governments collect data from various sources and with different formats.

These formats depend on local standards, telecom operators and information systems. As a result, the analysis activity can be very long and difficult.

The ideal instrument should therefore integrate in a single environment all the incoming data giving LEAs the chance to use multiple analysis tools in a single workplace.

MCR Studio has been developed with the specific aim of providing operators a single, enhanced application to fasten preliminary activities, perform complex queries and reduce the risk of affecting the acquired information. MCR Studio can import, process, show and store all the existing communication data, and its intuitive graphical user interface allows operators to organize analysis procedures with easy drag and drop functions.

## MCR STUDIO ANALYSIS MODEL

MCR Studio is based on the concept of "Analysis Model".

An Analysis Model is the whole set of data processing activities which determine a query, whose complexity in some case may demand several hundreds of steps.

MCR Studio is designed with a new Analysis Model enabling users to create customized tools, without being forced to follow pre-defined models.

Thanks to its flexible configuration, queries with MCR Studio are potentially unlimited.

A driven procedure helps the operators choose the right parameters to set any needed query. The Analysis Models can be saved, stored and shared by all users.

## INVESTIGATIONS DATA MANAGEMENT

To effectively organize and use the collected data, MCR Studio can create an improved Investigation Data management system, containing folders where all the files related to a single investigation can be stored.

Advanced research functions are available among texts, picture, datasheets etc., and keywords may be used to find out information or analyse complex relations among subjects or sets of contents.

## DATA IMPORT

MCR Studio provides a complete set of tools to import data from different sources.

In addition to full compatibility with MCR Server, the most common standards are supported:

- Data sheets in Microsoft Excel" format
- Documents in Microsoft Word" format
- Electronic Document in Adobe PDF" format
- File in XML format
- Database Microsoft SQL Server"
- Database Postgre SQL
- Database on OleDb sources (i.e. Microsoft Access")
- Database on Odbc sources

Furthermore, the system can acquire the most common formats of call printout supplied by telecom operators.

MCR Studio also offers an advanced data import module, able to analyse text files with arbitrary structures and create the most suitable automatic import scheme.

MCR Studio is designed to easily add new import functions for unexpected formats, and all the functions offer a quick preview.

## DATA ANALYSIS

Once data are imported, operators can perform the following analysis:

- Data selection with arbitrary filters
- Projections of tables
- Relations between tables
- Frequencies count on every field



- Grouping on arbitrary fields

As a consequence, it's possible to obtain significant reports and statistics, such as:

- Data filtering to eliminate non relevant information and get a subset of data, easier to be interpreted
- Calls count and their distribution through selected time ranges
- Macro-analysis on calls counts, such as frequency and distribution of relationships between monitored targets and subscribers
- Multi-level analysis of frequencies about called/calling party numbers to find relationships among targets
- Analysis of called /calling party numbers relationships, to detect both sequences of "chained calls" and "contact level" among targets

In addition to the typical analysis tools of a database application, MCR Studio provides operators with data mining tools, including the extrapolation of association rules and probabilistic models of cause-and-effect-relations.

## DATA PRESENTATION

The execution of analysis models can be checked during the process using specific presentation functions. When data are available the system shows them, in order to control the results in real time. A clear and effective way to present data is the geographical rendering, through which targets are shown on maps and dynamic diagrams display relations and links among subjects. The geographical representation is particularly suitable to show data concerning Internet interceptions, which take great advantage from a dynamic rendering of targets position, fluxes, physical location of server and Internet Providers, etc.

Other possible ways to present the stored information are:

- Grids
- Customisable reports
- Standard graphic diagrams
- Gantt reports
- Relational diagrams

## DATA STORAGE

MCR Studio can permanently store the results of any analysis operation .

Data and models can be used for further analysis or consultation.

Any standard format of file is supported.

## SECURITY

MCR Studio can only be accessed through authenticated login and password. To ensure data security, different authorization levels such as read, write, delete and functions execution can be set, according to user typology.