INTEGRATED FORENSIC DNA DATA MANAGEMENT, STORAGE AND ANALYSIS – A SCALABLE ENTERPRISE SOLUTION FOR FORENSIC DNA LABORATORIES

Allan T. Minn, Bob Kays, Jie Deng, Gloria Lam, Sharada Vijaychander, Makesh Karpagavinayagam, Carolina Dallet, Jacki Benfield, Jennifer Schroeder, Human Identification, Life Technologies

Forensic DNA laboratory workflow management and data analysis are daunting tasks that share a common requirement: efficient extraction of useful information from related--but disjointed—data sets, stored across a variety of laboratory instruments and systems. Furthermore, as the scale and size of a laboratory increases, so, too, does the complexity and sheer amount of data requiring storage, management and analysis. Life Technologies has developed a new enterprise software solution suite that seamlessly integrates volumes of raw data, processing information, analyzed profiles and analysis reports that are generated throughout the DNA processing workflow during sample accessioning, extraction, quantification, amplification to CE, fragment and profile analysis. The software solution is highly configurable to fit specific laboratory workflows, standard operating procedures, chemistries, as well as, analytical and reporting requirements. The system allows for automated data transfer and integration with various forensic DNA laboratory instrumentation and systems including Life Technologies' real-time PCR and Capillary Electrophoresis instrumentation, as well as, its Genemapper™ ID-X analysis software. The software supports the generation of scalable local DNA profile databases capable of holding millions of profiles that can be searched using a standard identity by state method, as well as, a novel familial search algorithm developed by Life Technologies. Additionally, the system enables user interface and output report configuration, as well as, includes many features to insure data security and integrity. The characteristics, configurability, and analytical search capabilities of the software will be presented.

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