Liforac - A Model For Live Forensic Acquisition

Thesis by

MARTHA MARIA GROBLER

M.Sc (Computer Science)
920200354

Submitted in fulfilment of the requirements for the degree

PHILOSOPHIAE DOCTOR in COMPUTER SCIENCE in the Faculty of Science

Johannesburg October 2009

at UNIVERSITY OF JOHANNESBURG

ABSTRACT

The candidate's research investigated the development of a model for Live Forensic Acquisition - Liforac. The Liforac model is a wide-ranging model that presents many of the most important aspects related to Live Forensic Acquisition, suggesting ways in which such an acquisition should take place to ensure forensic soundness. The study presents information on a relatively new field of expertise and considers the Digital Forensic discipline, forensic tools, practical problems experienced during acquisition, legal aspects and cyber crimes. It also looks at technology advances that eradicate the use of Dead Forensic Acquisition and promote the use of Live Forensic Acquisition. The study finally presents a comprehensive model for forensically sound Live Forensic Acquisition. This model is composed of four distinct dimensions (Laws and Regulations, Timeline, Knowledge and Scope) that look at the details of ensuring forensically sound digital evidence. At the time of writing, the Liforac model is the first document of this nature that could be found for analysis. It serves as a foundation for future models that can refine the current proposed processes.