

Open and Trusted Health Information Systems (OTHIS)
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Social, political and legal imperatives are emerging worldwide for the enhancement of the privacy and security of health information systems (HIS). A high level of "information assurance" is now seen as the necessary baseline for the establishment and maintenance of both future and current HIS.

The Open and Trusted Health Information Systems research group, within the Information Security Institute and Faculty of Information Technology, in Queensland University of Technology (QUT) aims at bringing together system and network researchers, application domain and security specialists to achieve the aim of such enhanced security. The group, which has been developing for the last 3 years, has already had success in defining and developing an overall trust architecture based around the identification of the separate domains of concern. As a result, preliminary results have been obtained and publications have been achieved.

To achieve a high level of information assurance in HIS, our research to date has indicated that an overall trusted HIS involves the definition of structures at a number of levels in computer hardware, firmware, operating system design and facilities, network management system, middleware, database management system and healthcare applications. OTHIS aims to address privacy and security requirements at each level within a general HIS architecture to ensure the protection of data in a holistic manner.

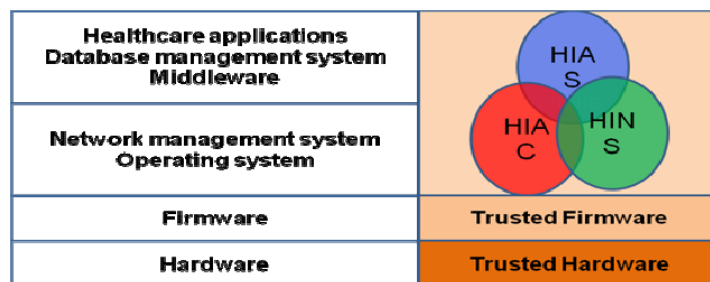


Figure 1: OTHIS structure and modules

Appropriate data security management involves the protection of such data in storage, during processing and when transmitted. The proposed OTHIS structure addresses all of these areas consisting of three of distinct modules:

- Health Informatics Application Security (**HIAS**)
- Health Informatics Access Control (**HIAC**), and
- Health Informatics Network Security (**HINS**).

HIAC is data centric dealing with information at rest; **HIAS** is process centric dealing with information under processing; and **HINS** is transfer centric dealing with information under transfer

Future research activities will be discussed based around current and developing trends in overall information systems development and deployment and growing international concern for information assurance in such critically important, network based systems of major significance to society in general.