Development of a full disclosure anesthesiological recording system:

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Developments in medical knowledge in the middle of the eighties led to an increasing demand for software designed for multichannel storage of ECG, blood pressures and other parameters. Issues which needed to be addressed were the number of parameters (the dataset) to be registered, the display of the parameters, the acquisition-, processing- and storing methods of the data. Specific software which met all demands was not yet developed, and the available hardware comprised stand-alone solutions using "total design" hardware with limited functionality at best. Increasing its functionality was only possible by buying new equipment. A beta-version data storage and motoring program was written by our department meeting present day demands[1]. First data records of monitor signals in the form of unprocessed original data provided reproducible digital results.

The newly developed program provided:
-   Possibility of adapting the number of parameters to be registered, with digital output and plug and play performance.
-   Simple maintenance of display lay-out and alarm settings
-   Up to date connectivity to other hardware and software, interfaces based on universal standardization and an open architecture: *the open system*

This led to the following developments and features:
- Development of an information system (IS) with afferent and efferent data streams constructed with standard commercial available software or freeware, adjustable to several hardware platforms. (Efferent: operating the equipment; afferent: acquisition of data).
- Processing of the data in the IS when needed or wanted (adapted to the wishes of the user) and recording the data with the proper sample frequencies and automatically storage in an unprocessed form: facilitating playback with displaying all (chosen) parameters
- Bringing the transducers out of the IS facilitating changing the number and the type of parameters
- Easy adaptation of the display and alarms to the individual wishes
- Simple connection to the outside world: other computer systems, PDMS, internet, libraries, other theatres, decision support / expert systems, management systems etc. As much as possible using standard interfaces to keep things really simple.

Because of the legal problems connected to the use of efferent signals for operating equipment by software, the decision was made to concentrate on the afferent part of the IS, and to emphasize the open architecture of the system with the possibility to add new functions in the future. Avoiding the dispute about the dataset led to the philosophy of *full disclosure*: all signals and parameters available are recorded and stored in the original format.

The program, now named the AIS (the anesthesiological information system), consists of a network of locally in the monitor operated recorder programs which in connection with a local situated computer send data to 2 other servers for storage with standard network technology. During the lecture we will present a demonstration of the system.

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[1]   Initiated by the late Henk Ros and written by Nico van Schagen