Distributed Experiment Control System (DECS) based on COM/DCOM technology.

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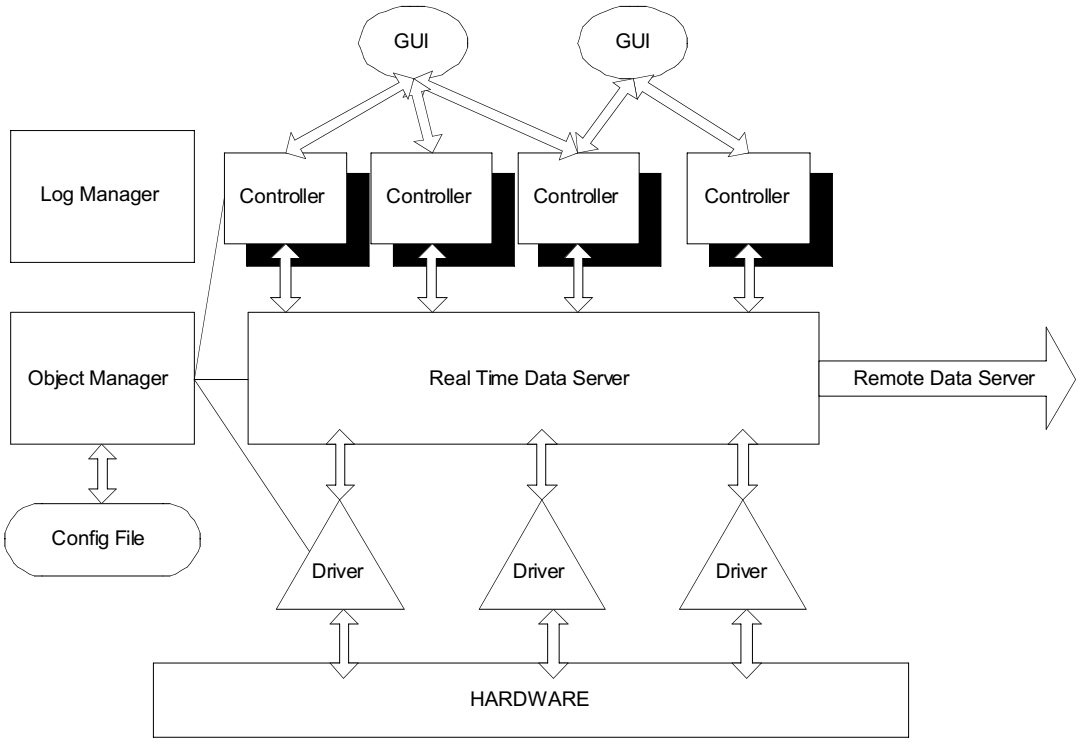
In order to improve required time for automation of scientific experiments was developed integrated modular system based on COM/DCOM technology. For each software module assign associated task. All modules interaction and synchronization based on placing data and command in proprietary Real Time Data Server (RTDS).

System divides in four main layers:

1. Graphical User Interface (GUI) modules.
2. Device Drivers (DD) - support communication and executing command to external systems devices.
3. Element Controllers (EC) – provide primary command evaluation, data analysis and synchronization between DD.
4. Utility – support batch processing, login, error handling, file and database experiment recording, modules and devices monitoring, communication support with external distributed controlling systems (DECS or EPICS).



Configuration of the system accordingly to research station specification described in XML file, there every module presented as set of initialization parameters and structured records (data tags).

This modular structure allows for greater flexibility and extensibility as modules can be added and configured as required. Since each module is COM/DCOM-based, the control system is truly distributable in a highly object-oriented fashion. All modules can be resident on a single computer or spread across multiple computers networked together.

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