SIMULINK is a powerful tool for modeling and simulating complex dynamical systems. It opens to using it as a substitute of real plants by industrial or educational trainers. Two general problems have to be solved in this case. The first problem is how to ensure the real-time simulation and second one is how to transfer data from a simulation to a user program. This paper briefs reader about two eventualities of the problem solving by using OPC.

OPC (Open Process Control) has become a standard of data exchange in industry. The education should follow the industrial development, that’s why OPC is good choice of data transferring protocol for educational trainers.

MATLAB OPC toolbox ensures pseudo real-time simulation and OPC communication and so it represents a direct solution, but it’s using means an additional cost. The SIMULINK acts as OPC client in communication and hence an OPC server is necessary. OPC servers which mediate data between OPC clients are available and some of them can be driven free as demo version.

An alternative is based on DDE (Dynamic Data Exchange) technology, which is supported in MATLAB. DDE is an old data exchange technology based on server – client architecture, but it is supported in MATLAB. MATLAB DDE functions are accessible from SIMULINK by S-Functions. Programs providing DDE server – OPC client conversion are offered and some of them can be used as demo version. But our goal is to exchange data between SIMULINK and user programs hence it is necessary to use an OPC server. Described communication based on DDE technology is illustrated on figure 1. Real-time simulation is ensured by real-time toolbox in this case. Real-time toolbox should be paid extra, but schools have the license bought often.

Figure 1: Schema of communication between SIMULINK and user programs by using DDE