

# **TySSA – a Set of Means for Building of Distributed Software Systems for the Automation of Experiments by the User.**

## **Part 2. Unified Structure of the Complex Services**

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When changing the composition of drivers in an experiment control program built with the help of a translator as a whole, as a rule, more or less serious changes are needed in programs that have combining the components into the system by means of the translator, use special means of integrating the necessary components into the system. For this purpose, a unified experiment control program (TySSA) and a special driver structure were developed. Both the TySSA control program and the drivers are represented in executable format (.exe). The experiment technique is described with text in JSON format. The control program, in accordance with the implemented experimental method, dynamically accesses the necessary drivers. Such a technology of building a system by ensuring the continuity of the control program and drivers at the level of the executable format provides significant time savings when changing the experiment methodology.

### **There are 3 parts in the driver structure:**

1. A procedure that performs the main function of the driver in accordance with the parameters passed to it.
2. The procedure that performs calculates the time required to perform this function, using the specified parameter values.
3. The interface part that provides interaction with the control program.

The interface part is the same for all drivers in this technology. The interaction is carried out according to the protocols implemented in the SLP and the specially developed DiCME module. If the power supply allows, all the drivers that bring the hardware system to the state in which the data will be recorded can start at the same time. The hardware part of the system can include several computers connected in a local network to which the equipment used in the experiment is connected. In this case, the driver is launched on the appropriate computer and its control program is searched for automatically.