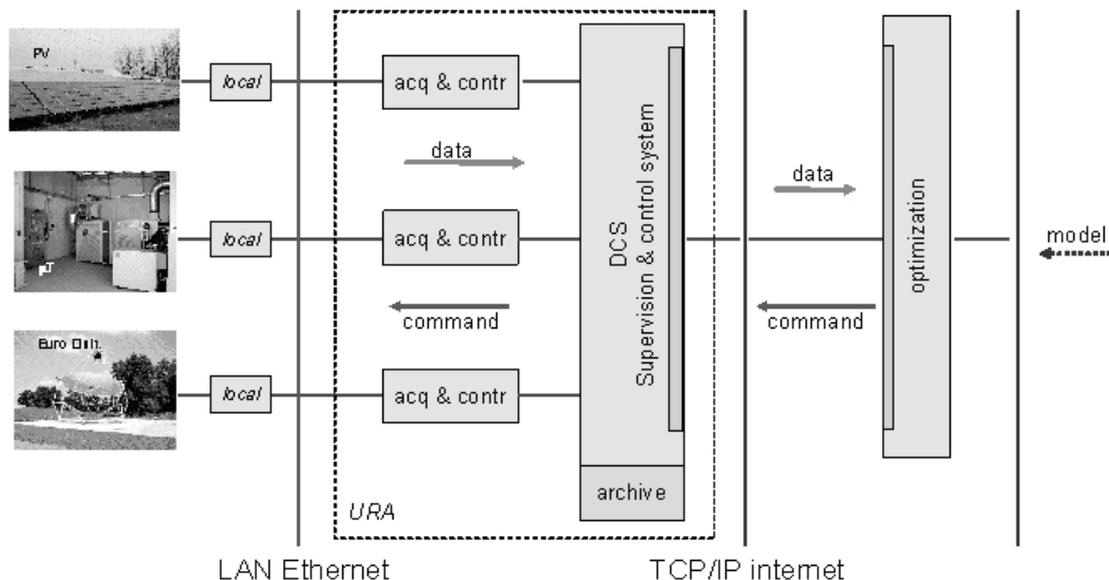


Services offered by RSE Installations

With reference to the following diagram, URA is a supervision and control system that provides several services:

- Interface with distributed resources (equipped with their local control systems): URA gets measurement and sends commands and set-points
- Archive functions: data storage and retrieval, in order to permit further analysis
- Standard TCP/IP interface towards optimization applications.



Optimization procedures shall get data and send commands using a communication library to exchange information with URA, through standard TCP/IP interface. This communication library will be supplied, in order to be integrated in a generic optimization application. Availability of the library and use of such a standard permits:

- Testing from both local and remote laboratories, thanks to the Internet communication.
- Remote testing of communication and SW optimization procedures before carrying out tests on the real facility.
- Remote access from different users, where specific profiles could be set. For example, depending on nature of research activity or working phase, some users could only read data from generators, whilst others may send command to a sub-set of resources.

A further improvement could be represented by a standard procedure to set algorithms into the optimization layer, for example by means of state-transition diagrams as in Matlab Stateflow® library.

For safety reasons, the users are not expected to operate the systems by themselves. Tests are carried out by the highly skilled and experienced RSE staff, who also gives support for the preparatory work and the data processing and analysis. The scheduling of the experiments will be done jointly with the users, according to the availability of the distributed energy resources on the planning of one of the experimental platforms.

The users will be provided with all measurement data, and with a report produced in collaboration with RSE staff.

The access being offered includes:

- preparatory work: installation of the devices, including electrical connections and specific instrumentation, preparation of a test procedure (if necessary) on the basis of the users requests, programming of the experimental conditions.
- realization and follow-up of the experiment,
- support for the data processing and analysis and for test report preparation.