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The Design of Intelligent Integrated Control Software Framework of Facilities for Scientific Experiments

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Challenge

- Hundreds of thousands of irregular control points.
- System need worked last several days in normal conditions.
- The construction period of the project is very long, and the demand will constantly change in many fields .
- The control system must adapt quickly to the constantly changing and expanding demand.

Our work

- We has abstracted the common requirements of monitoring, control, data acquisition and storage of the control system.
- We are developing a distributed, hierarchical, object-oriented control software framework called iCOFFEE.
  - ✓ Realize device library(software device library, domain algorithm library, control flow library).
  - ✓ Provide a GUI configuration graphical human interface for the operator.

Use **iCOFFEE** to build a control system applications
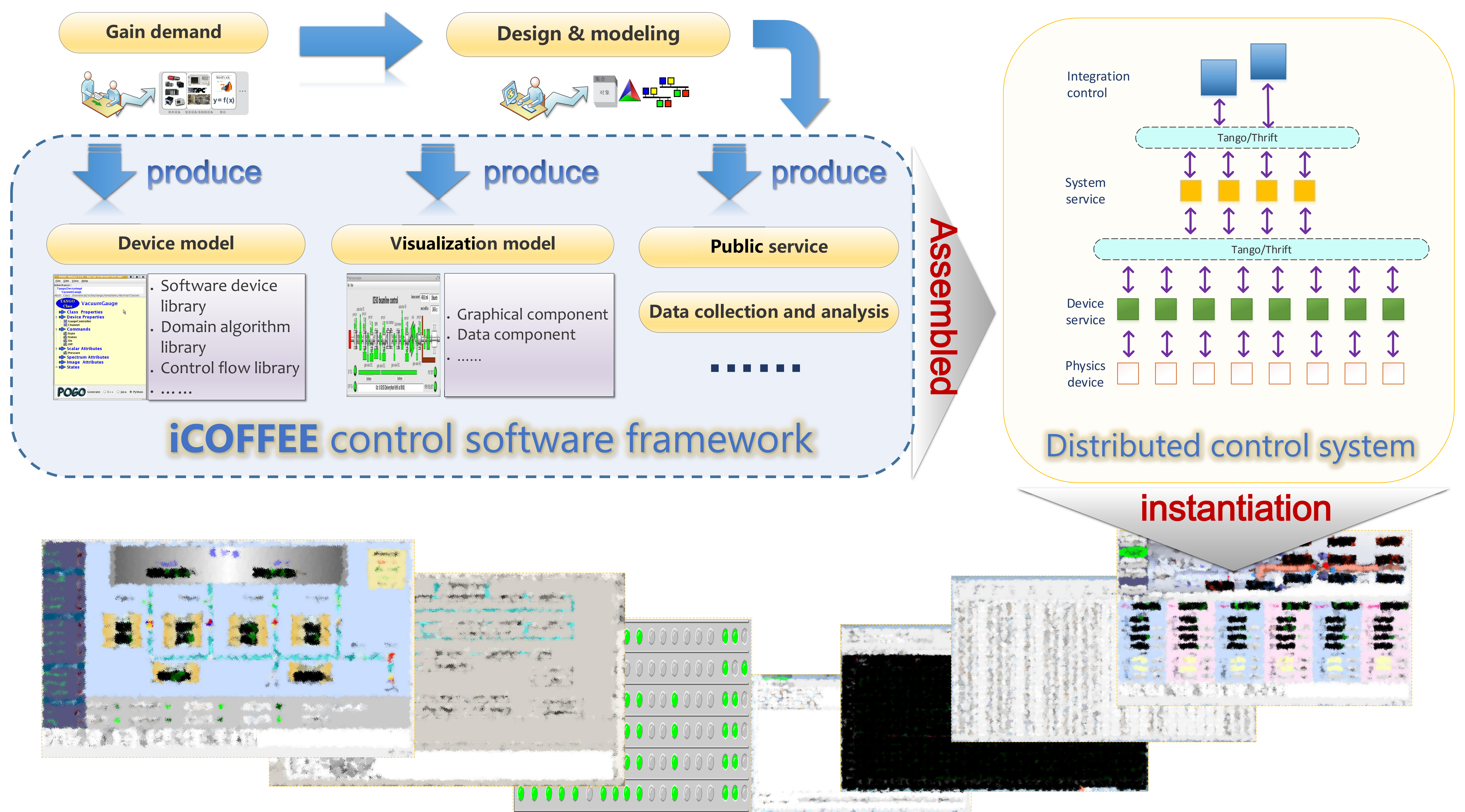
Conclusion

Construction of the iCOFFEE incorporates many of the latest advances in distributed computer and object-oriented software technology. Primary goals of the design are to provide an open, extensible, and reliable architecture that is used by many entities and provides long-term maintenance and upgrades. The original intention of the design was to reuse the software and quickly build the application software.

Based on the framework of Tango and Thrift, the framework uses the factory architecture and component technology to continuously make the software reuse to a higher level, and build a big data analysis platform based on data collection.