



RADAR 2.0

A drag and drop, cross platform control system design software

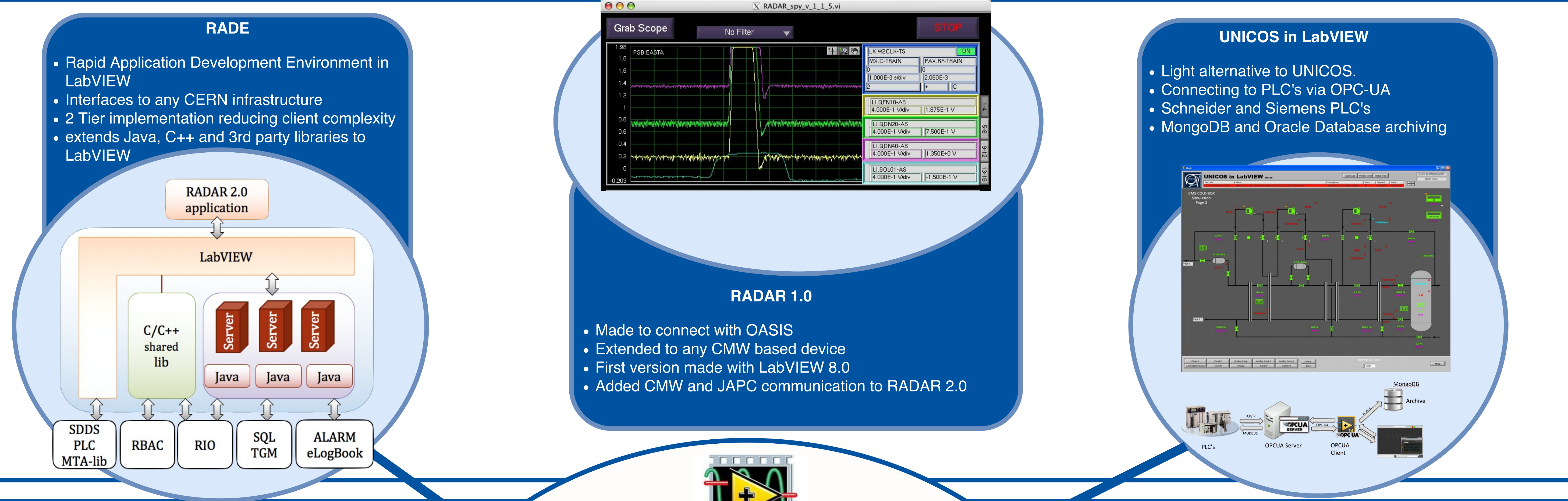
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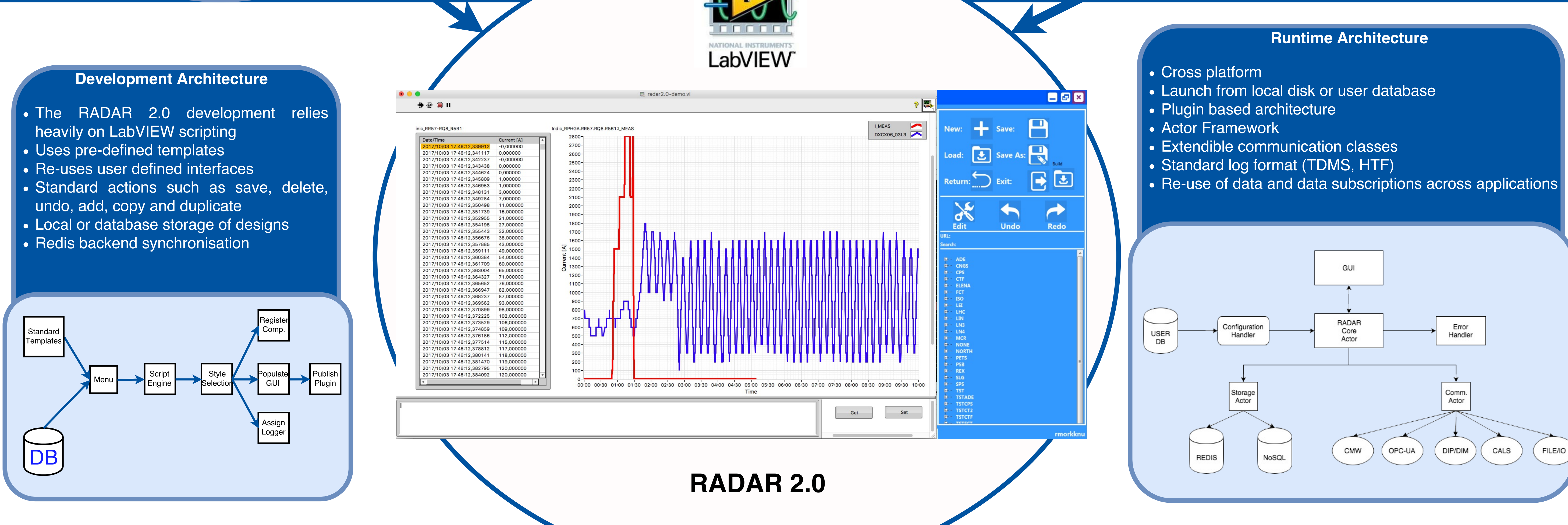
ABSTRACT

In the ever-growing control system at CERN, there is a need for having an easy to use, yet fast and flexible tool that interfaces with all the different middleware and communication interfaces in the accelerator, experiments and technical infrastructures. With RADAR 2.0 we wanted to address this issue, making a LabVIEW based, drag and drop visual tool that hides much of the system complexity from the user and within seconds gives the operator a ready to use, fully functional control system GUI. RADAR 2.0 interfaces with the CERN Middleware (CMW), the CERN Accelerator and Logging system (CALS), OPC-UA and DIM. With its class based implementation it can easily be extended to other data sources (Files, Databases, middleware) on demand. This paper reports how the implementation was done, the architecture, underlying technology and an outlook to other possible applications.

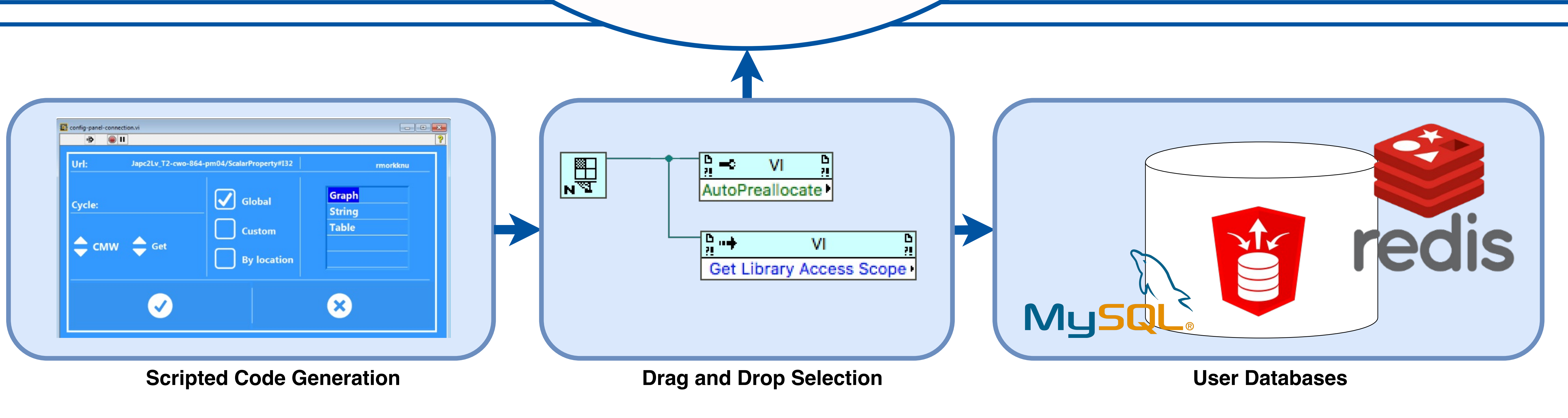
BACKGROUND



SOFTWARE ARCHITECTURE



USER INTERFACE



CONCLUSION and FUTURE

• Successfully deployed in the CERN Control Centre

• Drag and drop working in all environments

• 10 minutes to create fully functional data viewer

• Proof of concept done, moving on to field trials

• Support hundreds of simultaneous parallel connections

• Interface with any equipment (which is exposed) in the accelerator domain

• Extendible through plugin based classes

• Compatible with any middleware

• Automatically updated through RADE installer

RADE

PaaS

- Add CERN Timing support
- Increase catalogue
- Add other communication protocols
- Retrofit user widgets
- Add Alarm and remote error logging
- Set up as a PAAS service
- Support 3D graphs
- Extend to web panels
- Extend to mobile platforms

