



DOOCS DAQ software for the EUDET prototype

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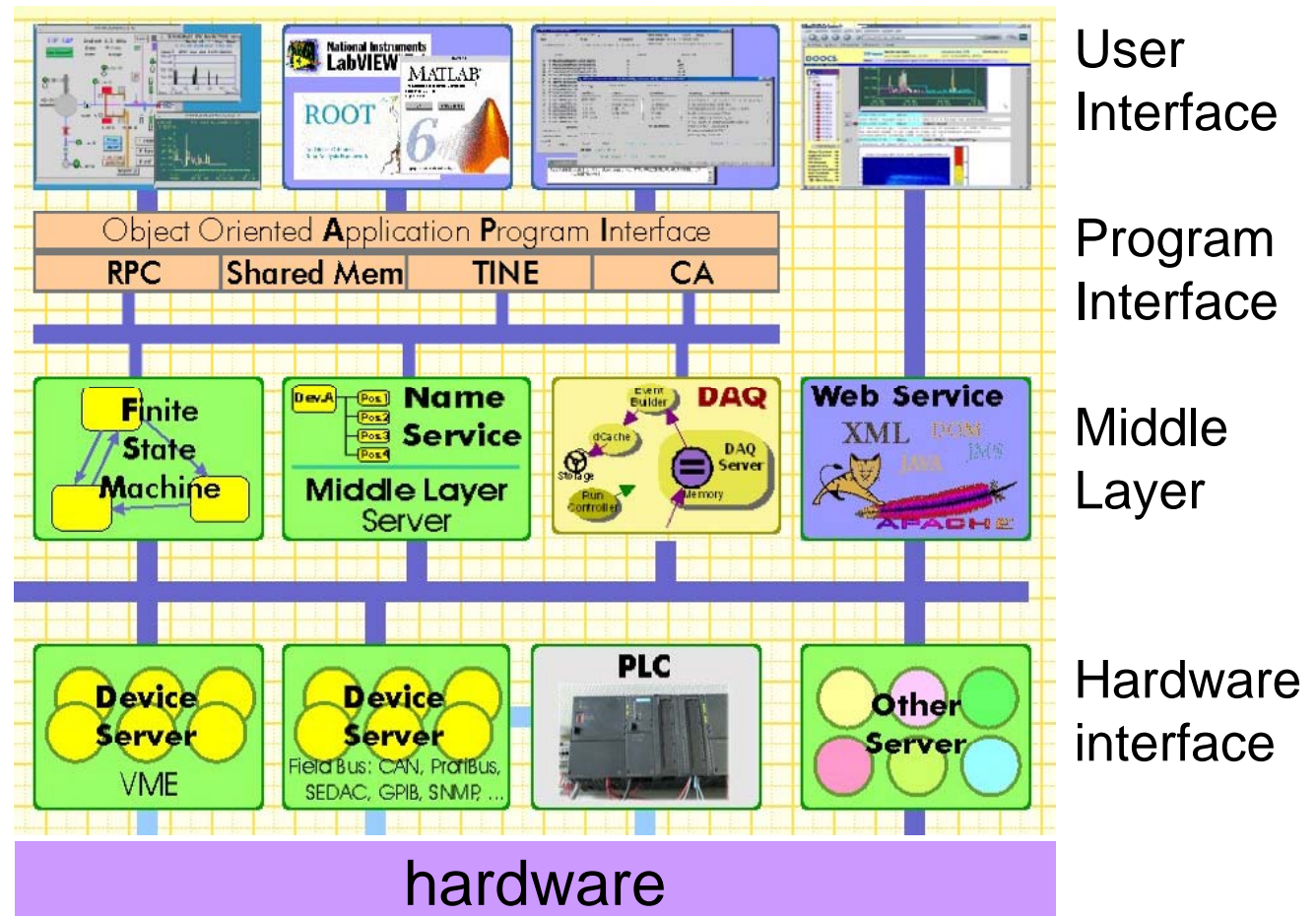
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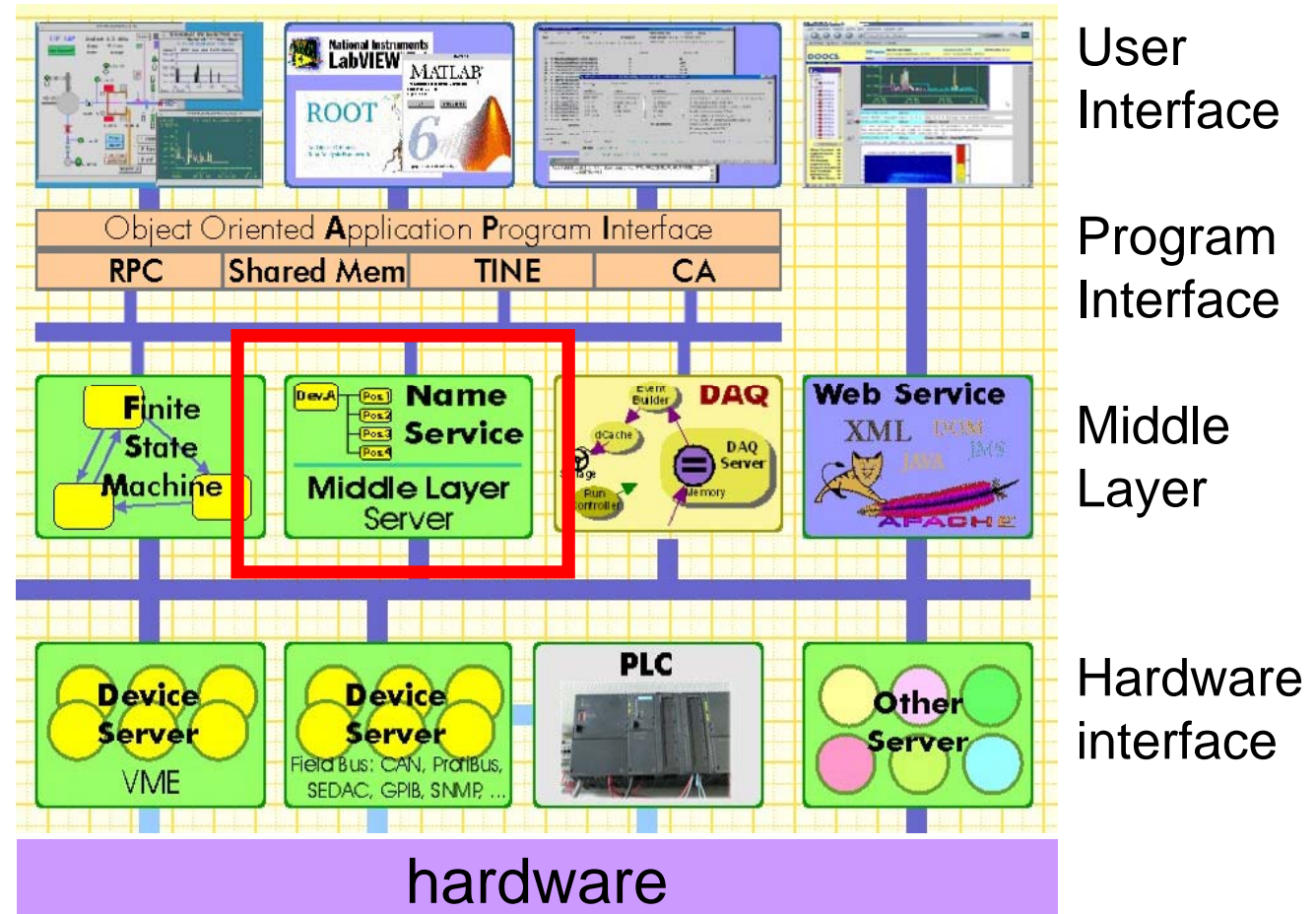
Overview over the task - DOOCS software -

<http://tesla.desy.de/doocs/doocs.html>



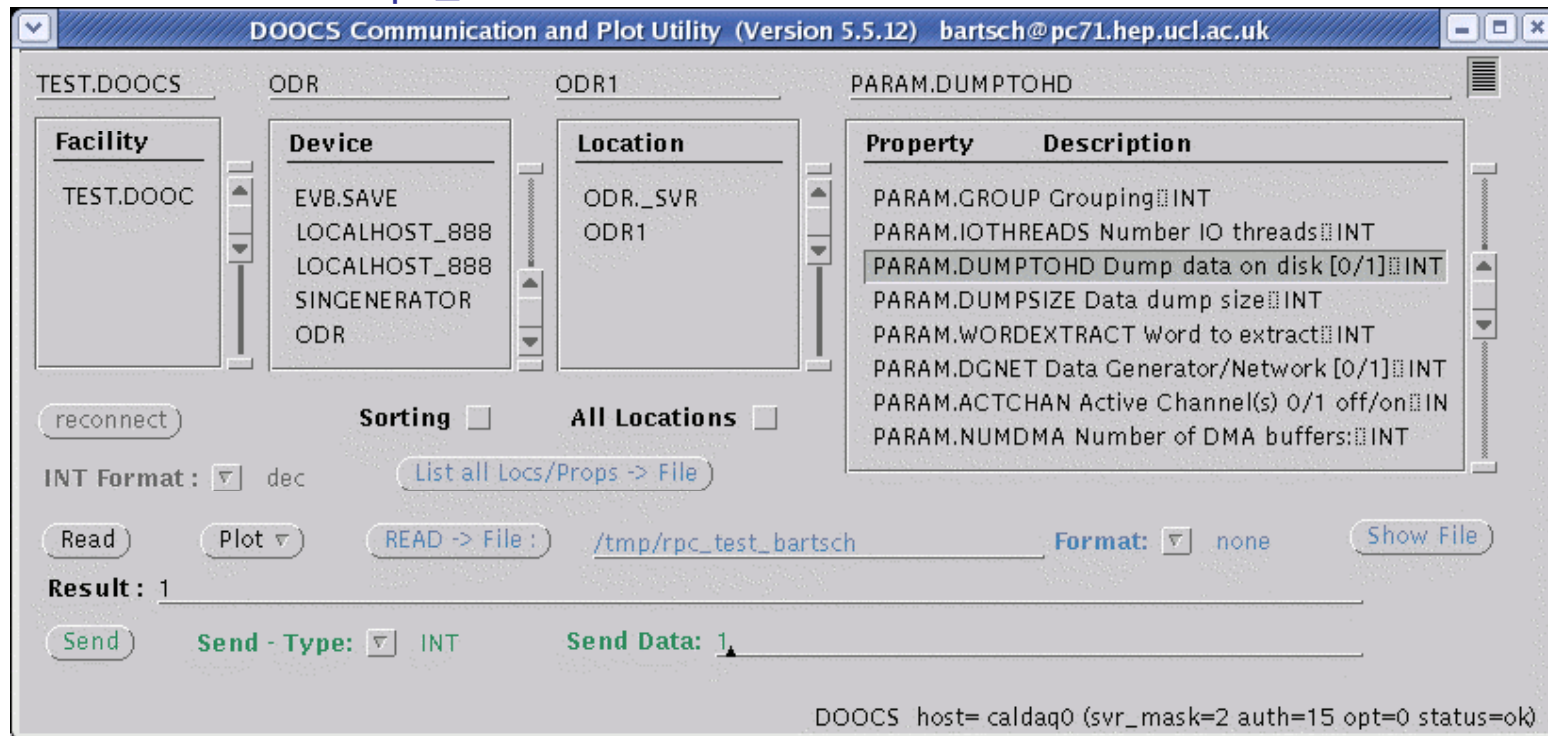
Overview over the task - ENS naming service -

provided by
DOOCS and
already in use
for RPC
communication
between client
and server



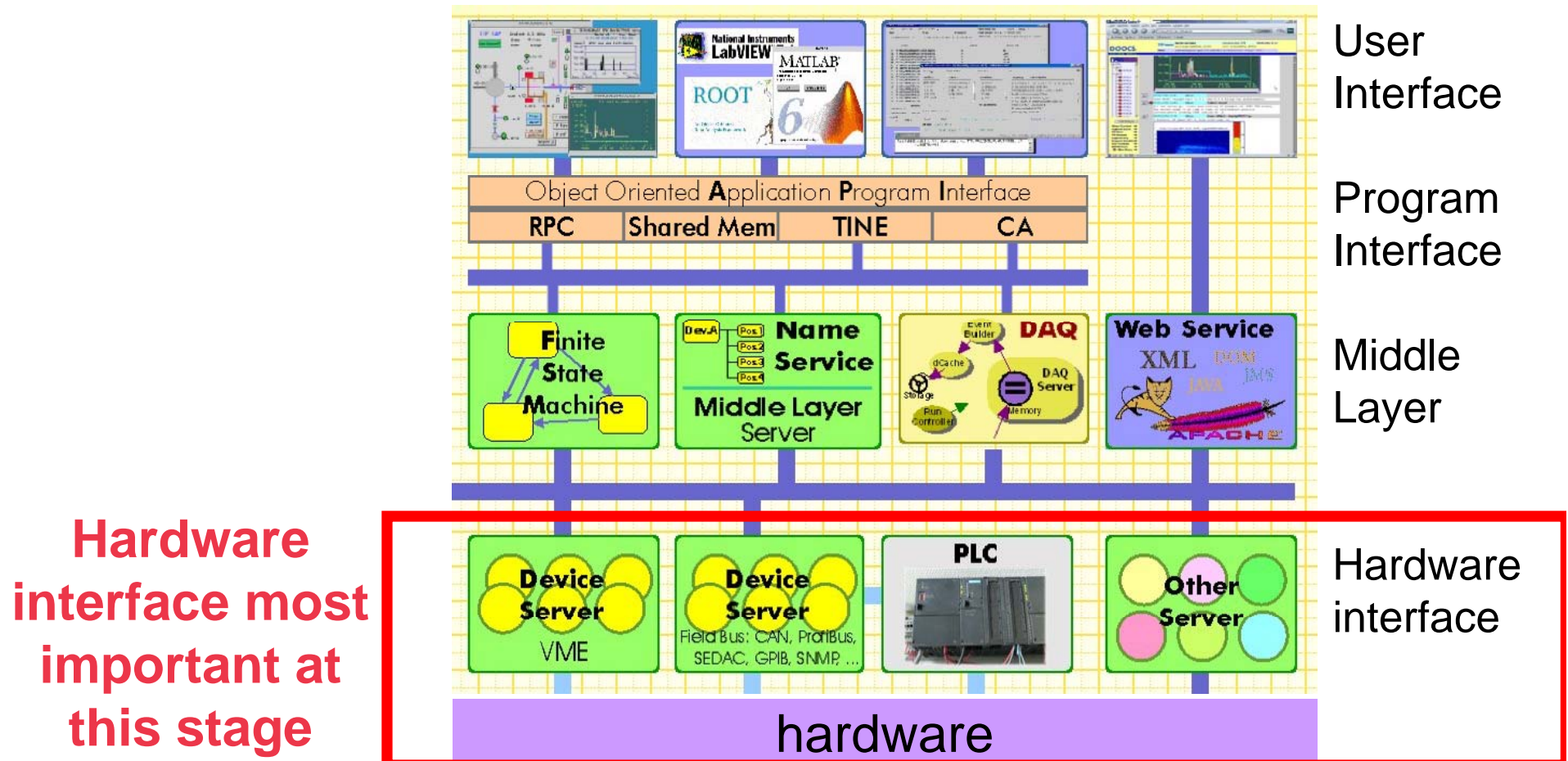
ENS Naming Service

Screenshot of the rpc_util GUI



- Naming convention is already specified (similar for LDA, DIF and ASICS)
- Properties need input from hardware programmers

Overview over the task



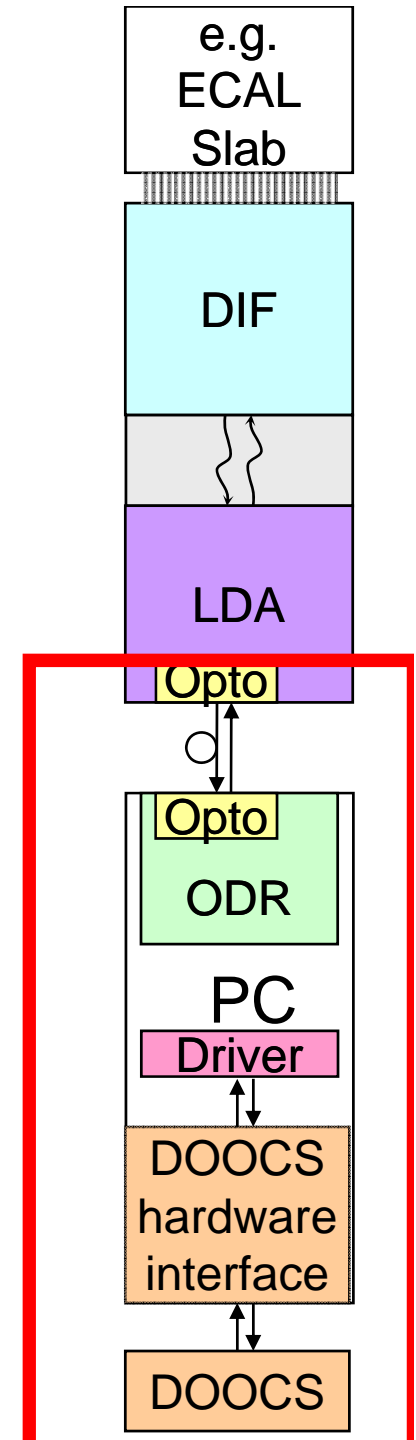
Hardware interface

Concentrating on the ODR interface:

- because it is the first hardware layer to talk to
- the device is close to be ready
- easy communication with colleagues at UCL and RHUL

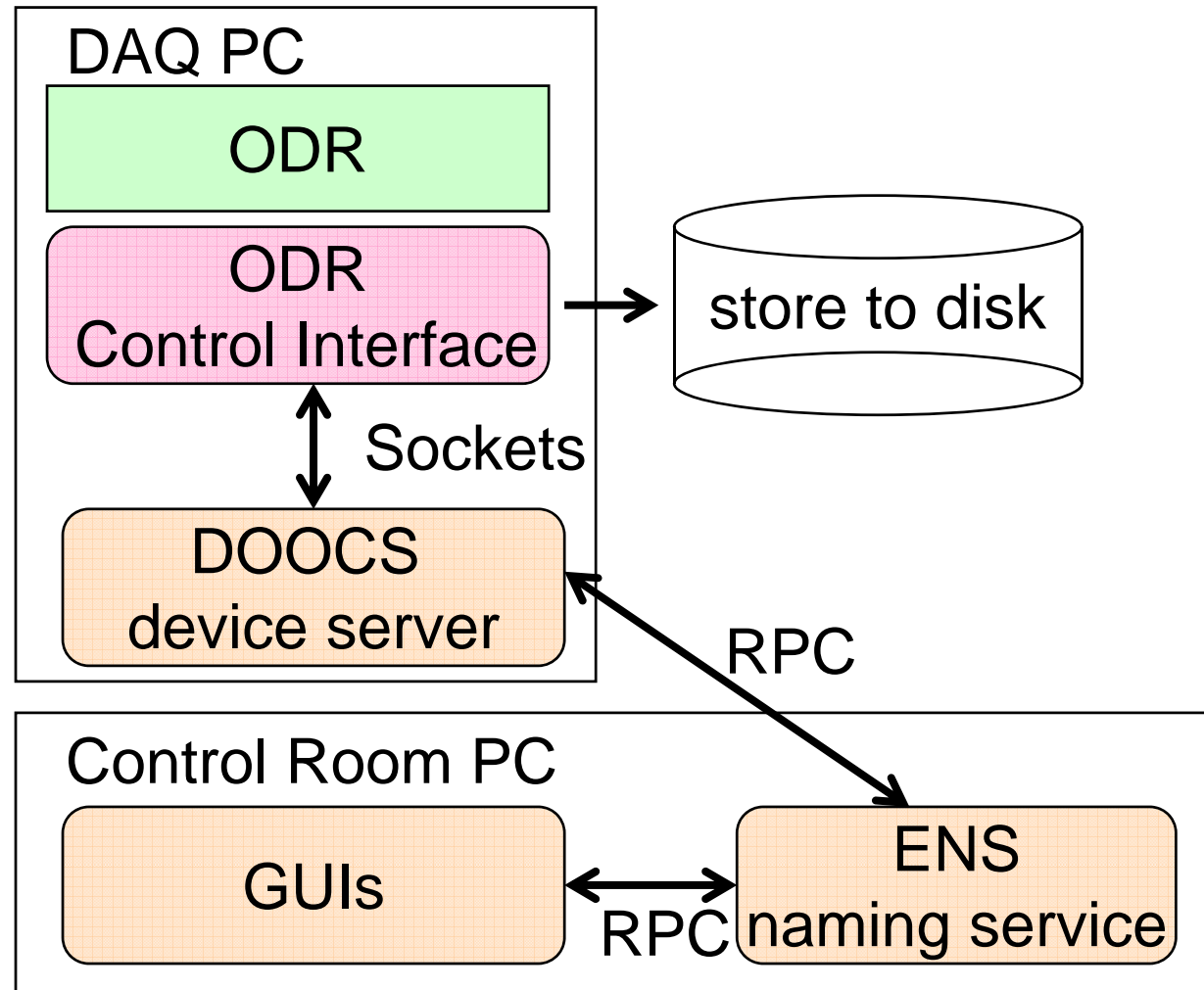
Plan:

- start with the LDA and DIF in September
- have the interfaces ready about end of the year



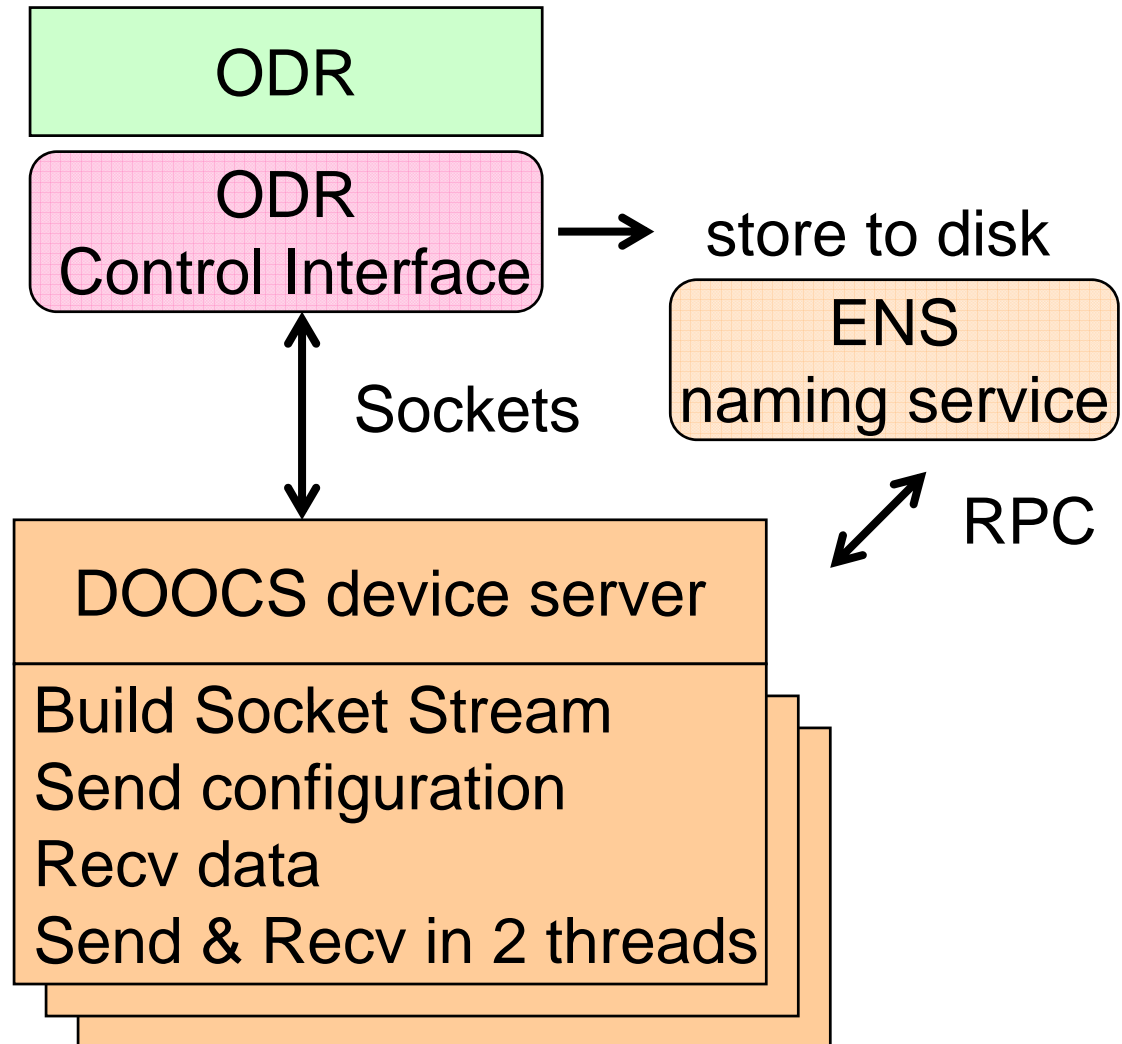
Overview over the ODR interface

- communication between different parts of DOOCS by RPCs
- configuration files used to find different parts of the system



Overview over the ODR interface

- one device server can have many instance all connecting to different ports and hostnames
- using 2 threads: one for receiving, one for sending on the socket
- sockets format chosen to build an interface to the ODR and the LDA



ODR interface at work

- screenshot -

The screenshot displays the ODR interface within a graphical environment. On the left, a terminal window shows the user's interaction with the system, including commands like 'cat MAC.txt' and 'caldata port 00:A0:CC:73:44:DF'. The main interface is divided into several sections:

- Parameter Table:** A table with 20 rows, each representing a configuration parameter. Each row includes a parameter name, a numerical value (mostly 0.00000), and a 'Send' button. The 'Number of IO Threads' parameter is set to 5.00000.
- Main Control Panel:** A blue-bordered box containing the text 'Main Control Panel'.
- ODR Commands:** A panel with five green buttons: 'Start', 'Get Statistics', 'Get Parameters', 'Stop', and 'Terminate Interface'.
- LDA Commands:** A panel with two green buttons: 'Start' and 'Stop'.
- ODR Plots:** A blue-bordered box containing the text 'ODR Plots'.
- Exit ODR Device Server:** A yellow-bordered button at the bottom right.

At the bottom of the screenshot, a red banner with a grid pattern contains the text 'Check out our demonstrator'.

Check out our demonstrator

ODR interface at work - screenshot -

The screenshot displays the ODR interface within a terminal window. On the left, a terminal window shows network statistics and session information. The main area is divided into a control panel and four data plots.

Main Control Panel

Data Size	+ 0.00000	Send
Number of messages	+ 0.00000	Send
Run time (s)	+ 0.00000	Send

ODR Average Data Rate

TEST .DOOCS/ODR/ODR1/DATARA

ODR Average Data Rate Hist

TEST .DOOCS/ODR/ODR1/DATARA.HIST

ODR Packet Average Size

TEST .DOOCS/ODR/ODR1/DATASZ

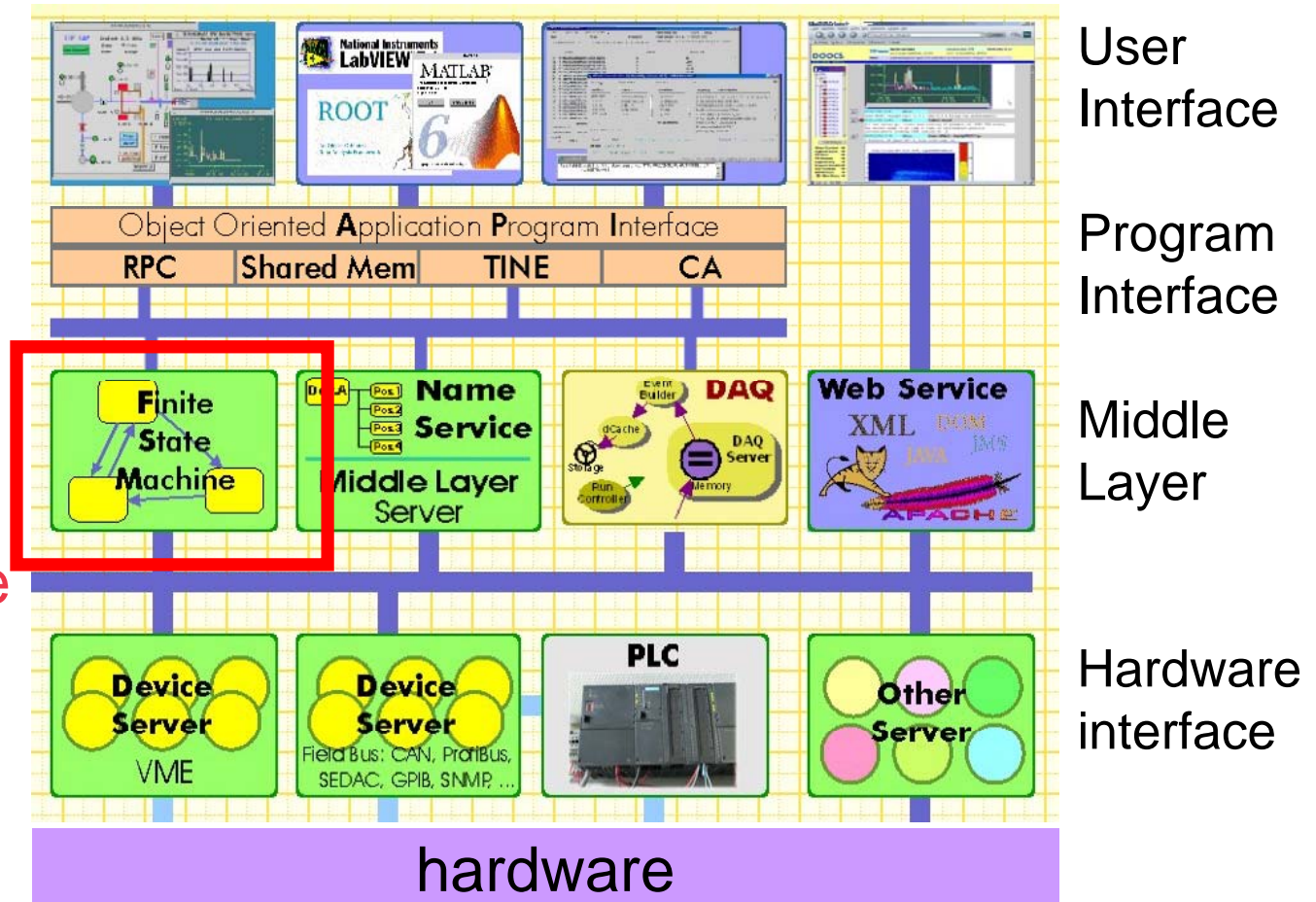
ODR Packet Average Size Hist

2008-09-01 18:23

Check out our demonstrator

Overview over the task

- important
- ramps the whole DAQ system up and down
- will be started after the hardware interfaces are ready (Jan-Mar 2009)



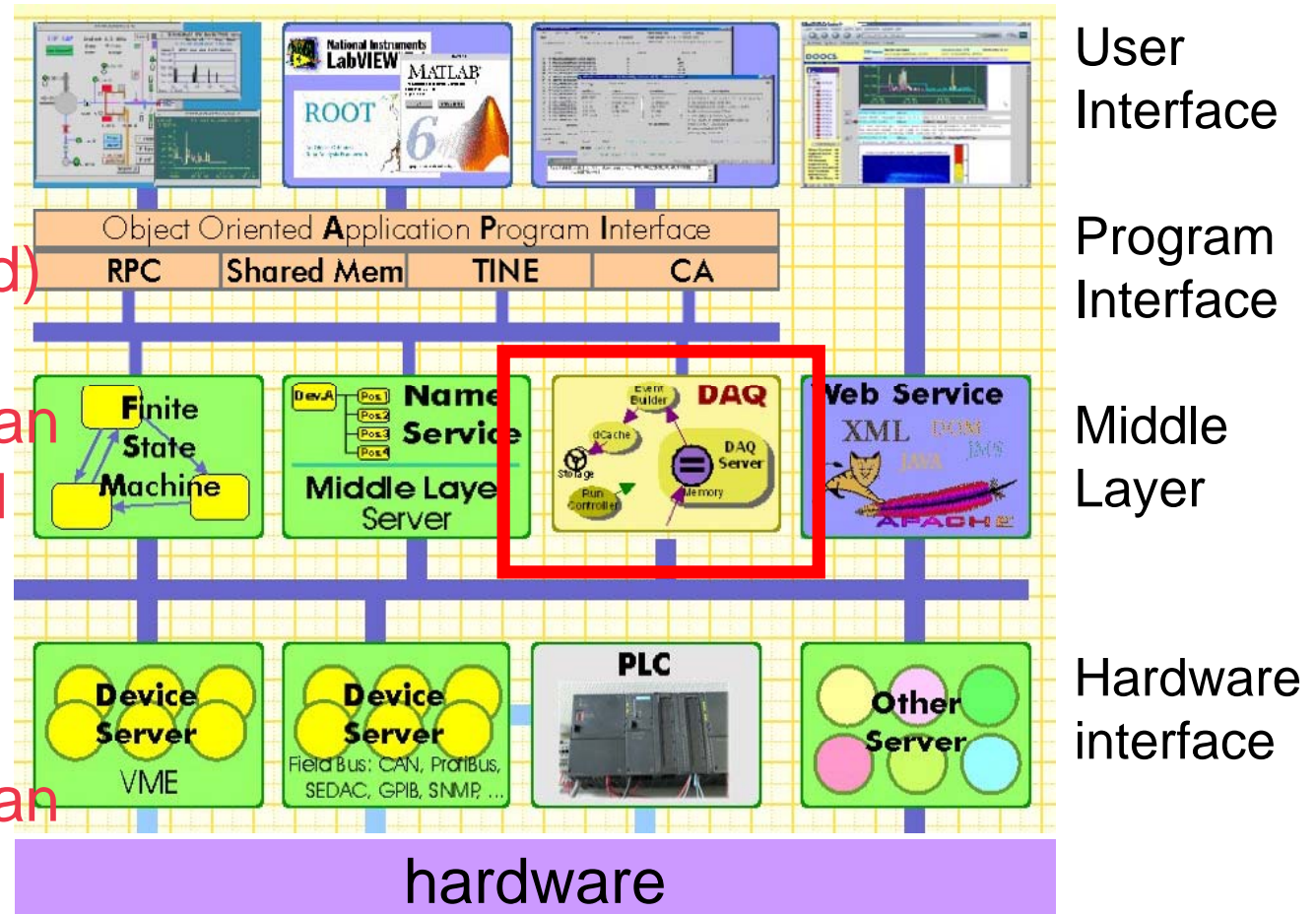
Overview over the task

DAQ:

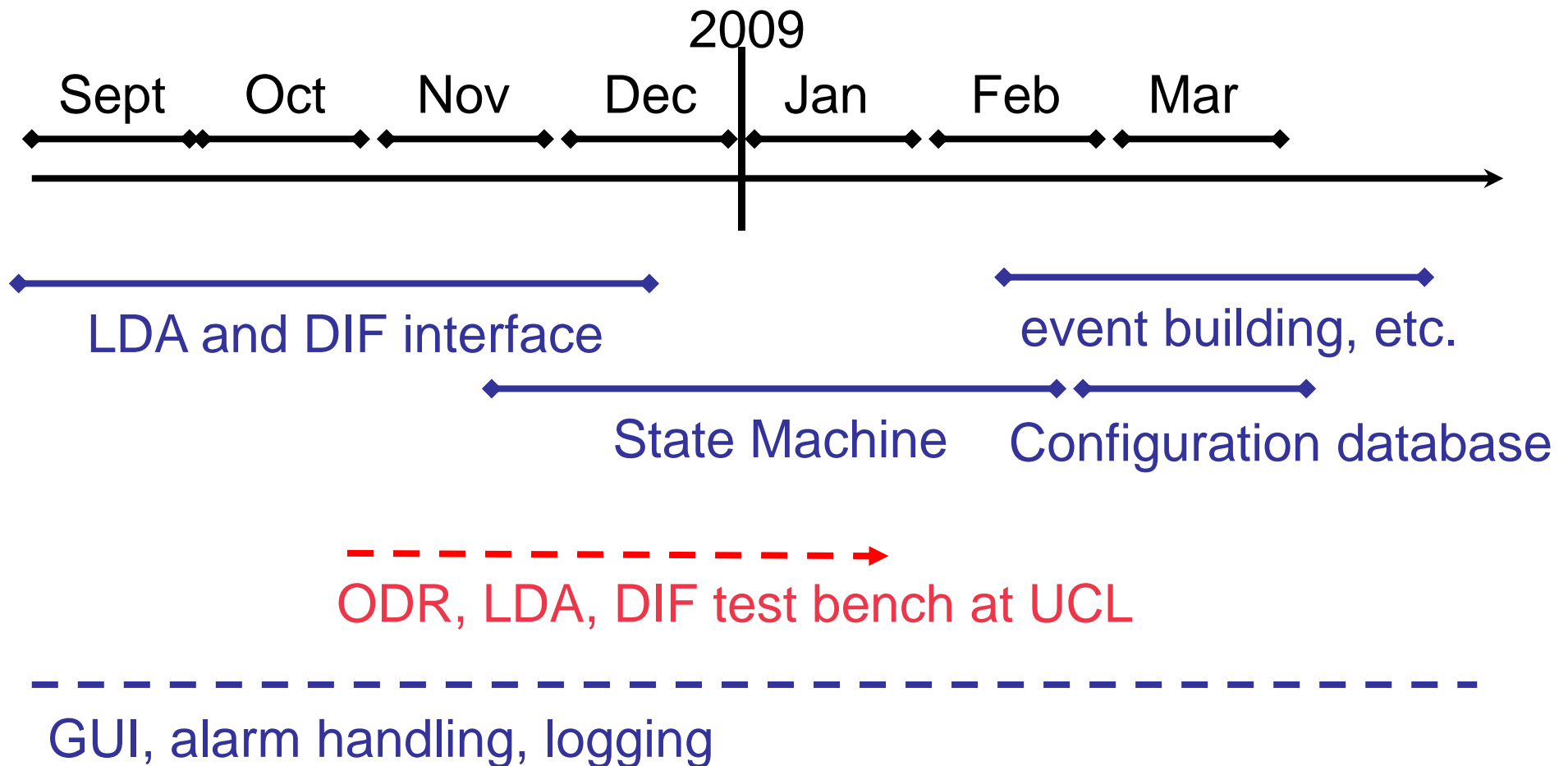
- Event collection
- Event building
- LCIO conversion (to be implemented)

Importance: low, can be done at the end of the software project;

Alternatively this can be done offline

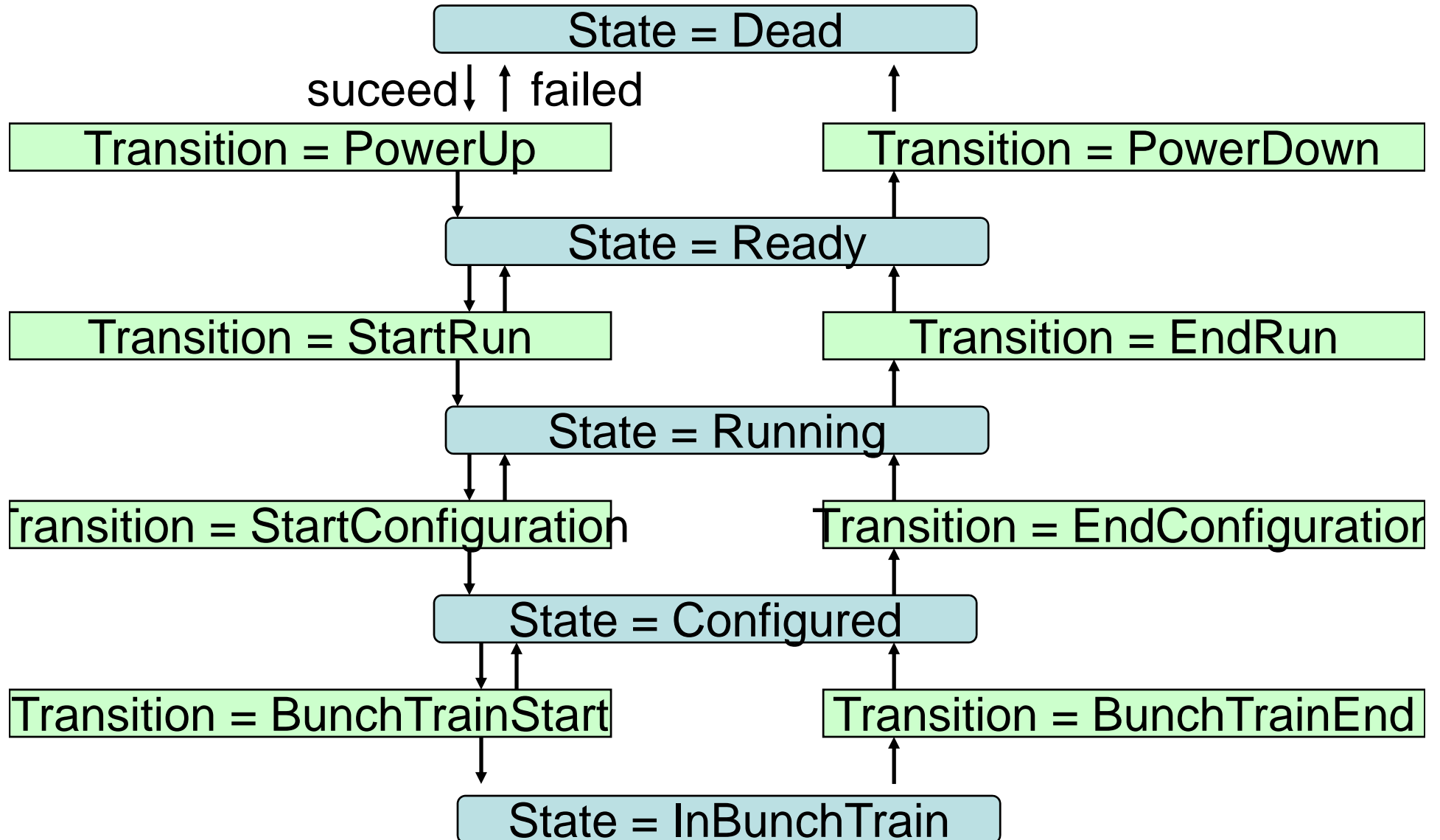


suggested timeline

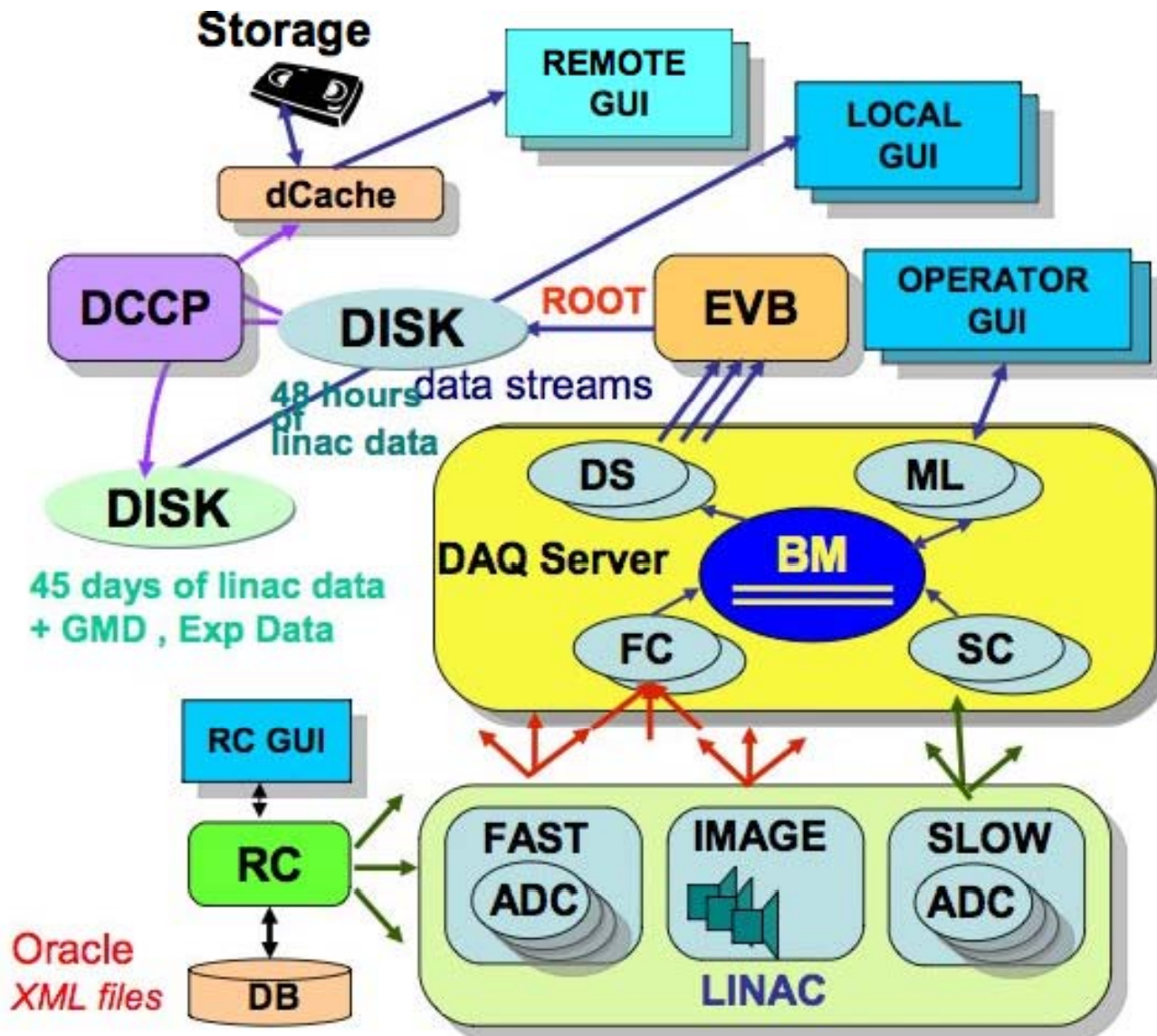


backup slides

State Analysis



DAQ system



FC/SC:
Fast/Slow
Collector

BM:
Buffer Manager

EVB:
Event Builder

Example with
dummy data has
been
successfully
tested

Alarm handling

XML based Alarm and Info Server Architecture

