



(My) Vision of where we are going

WP4 workshop, 10/12/2002

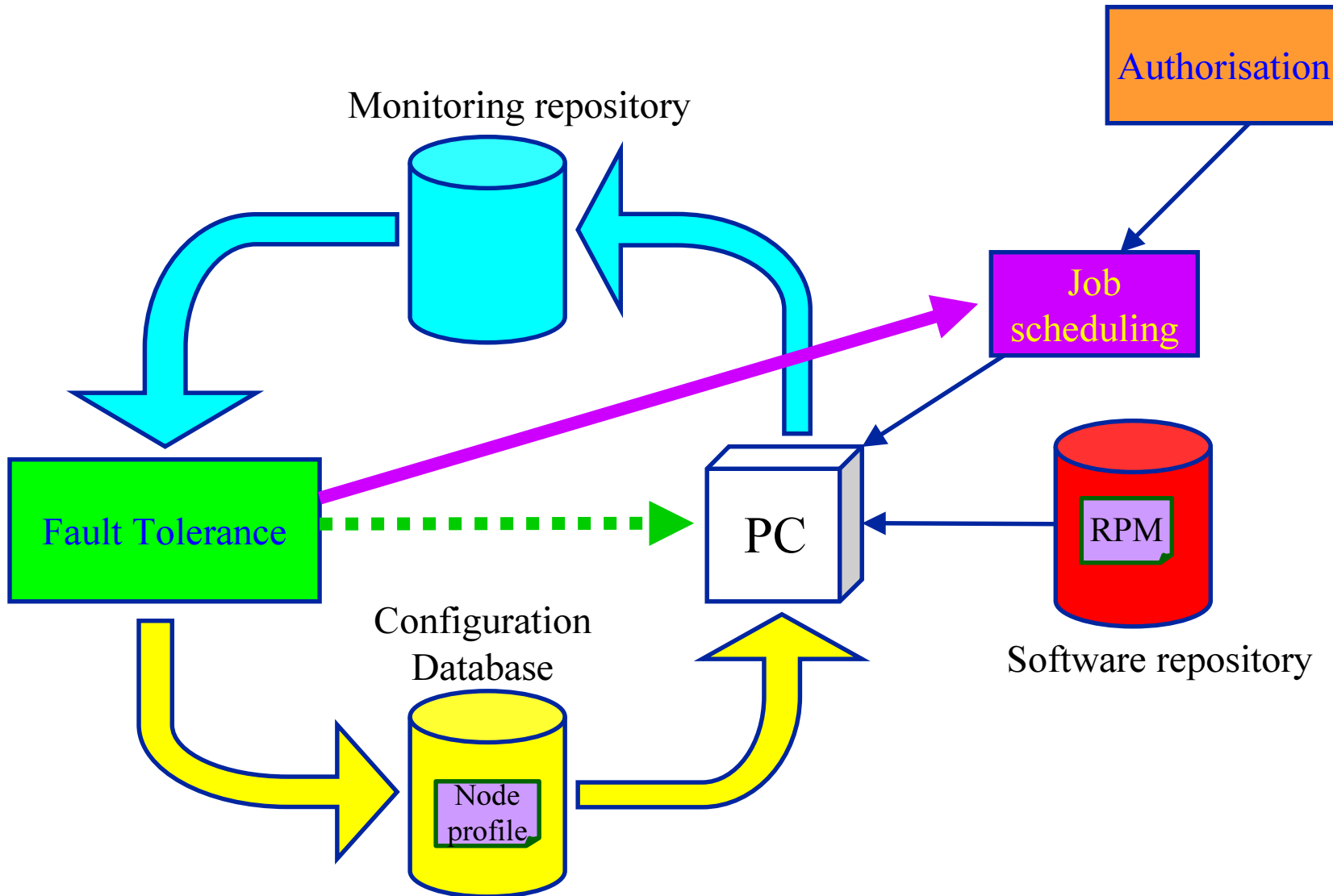
Olof Barring

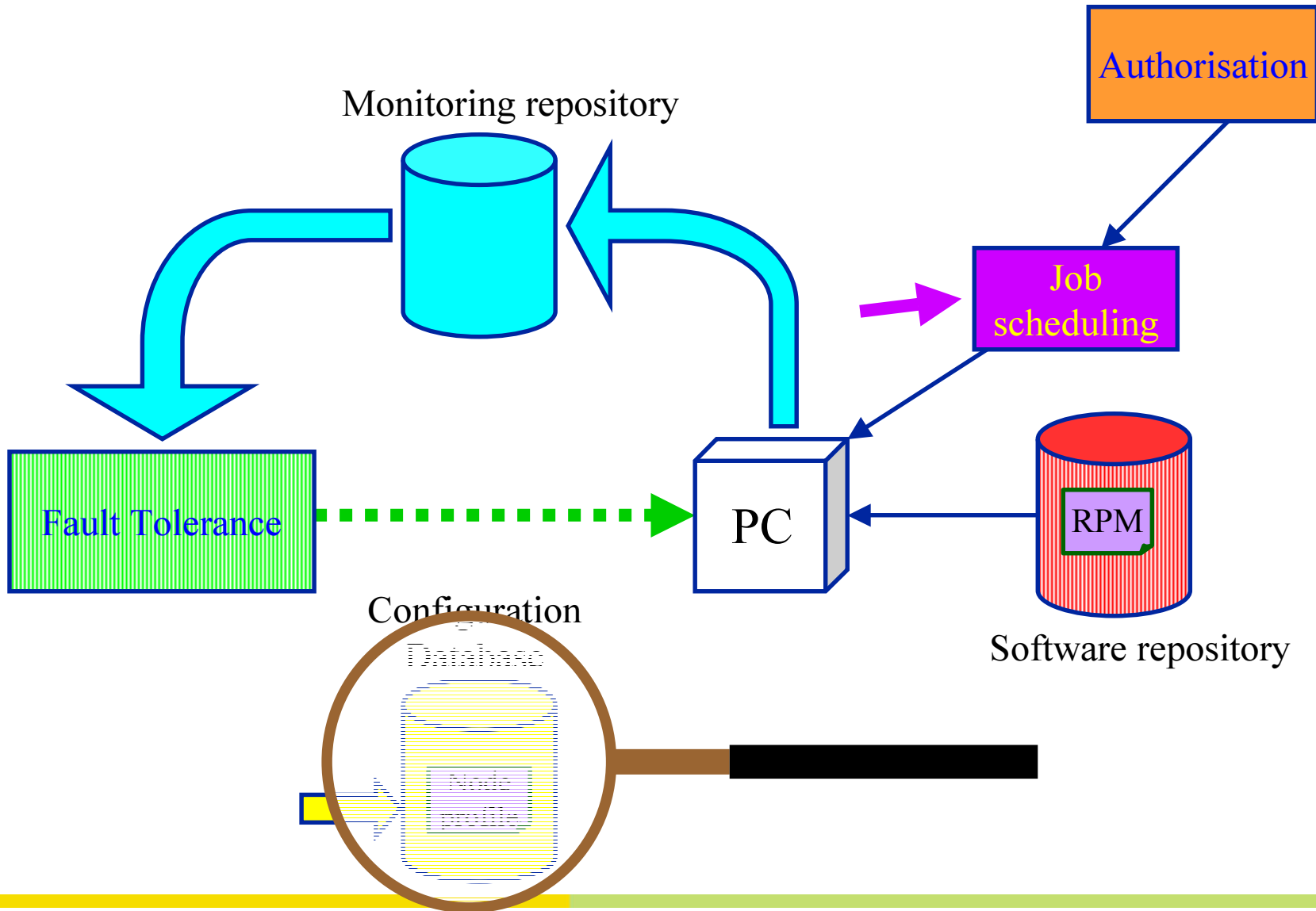
The logo features the word "Data" in orange above "GRID" in black, with a blue globe icon behind the letters. To the right, the word "Outline" is written in blue.

Data GRID Outline

- ◆ Fabric automation architecture
- ◆ Today and tomorrow subsystem by subsystem
- ◆ Important steps towards tomorrow
- ◆ How to use this workshop

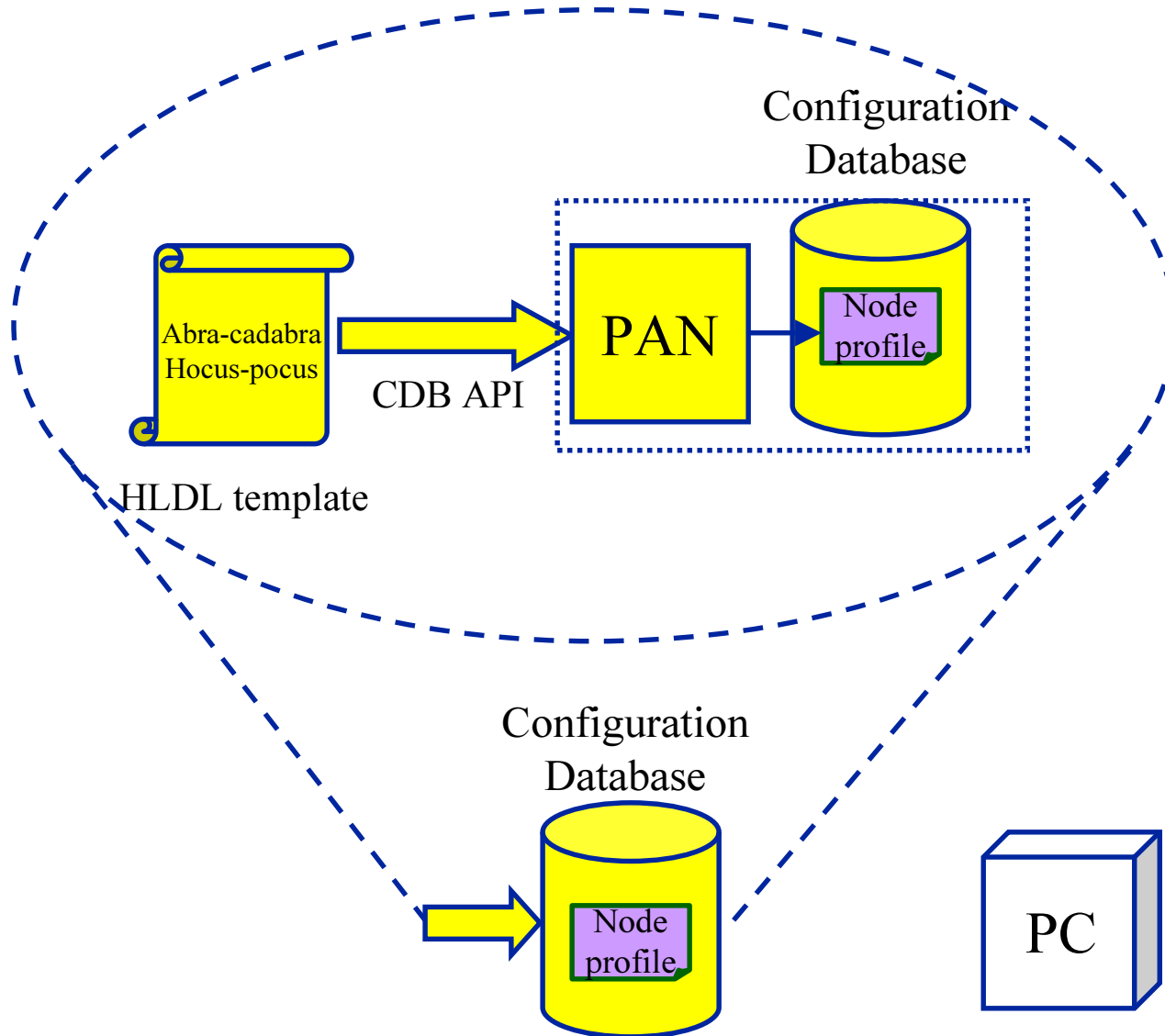
Data GRID Automation Architecture





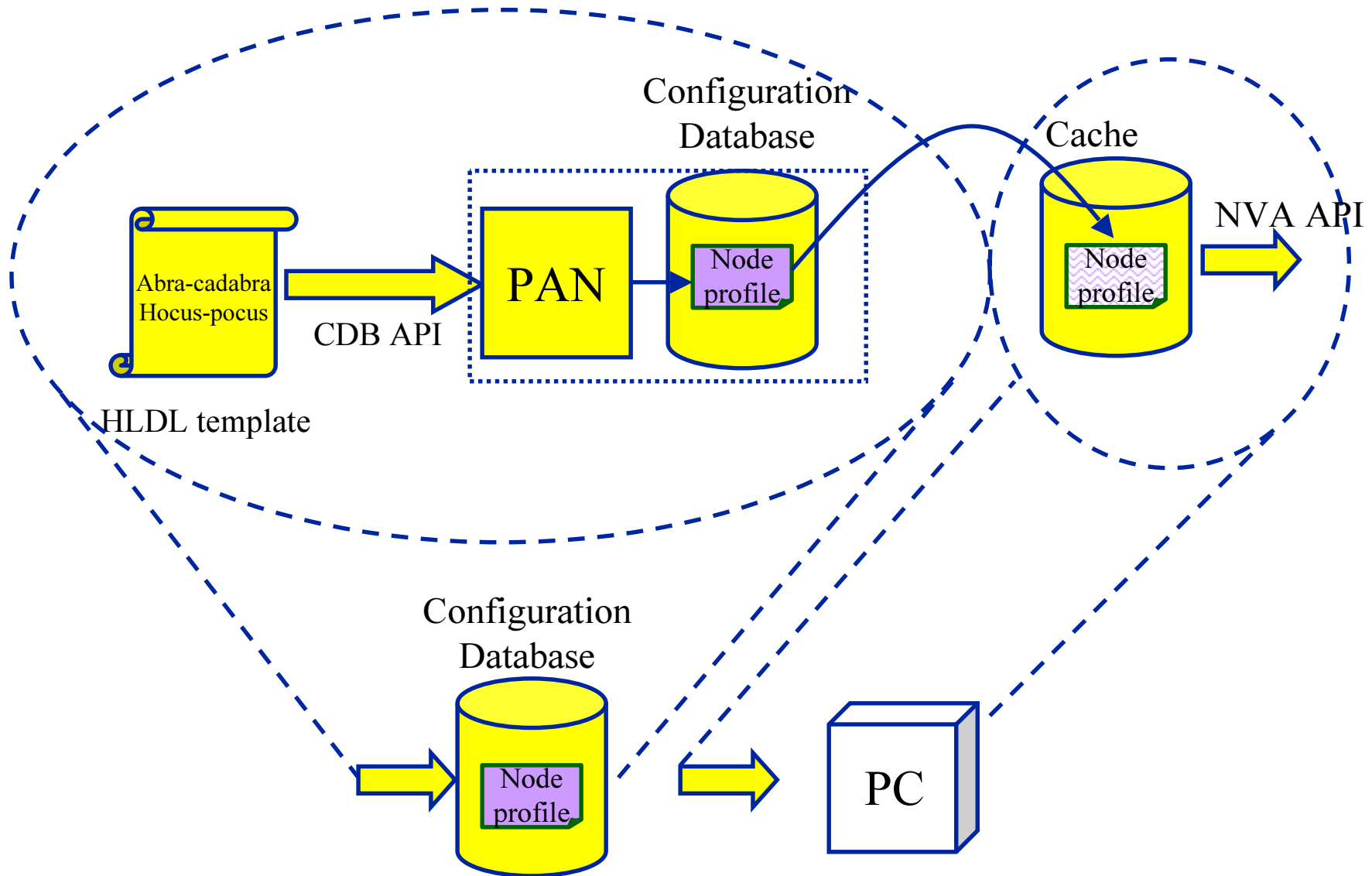


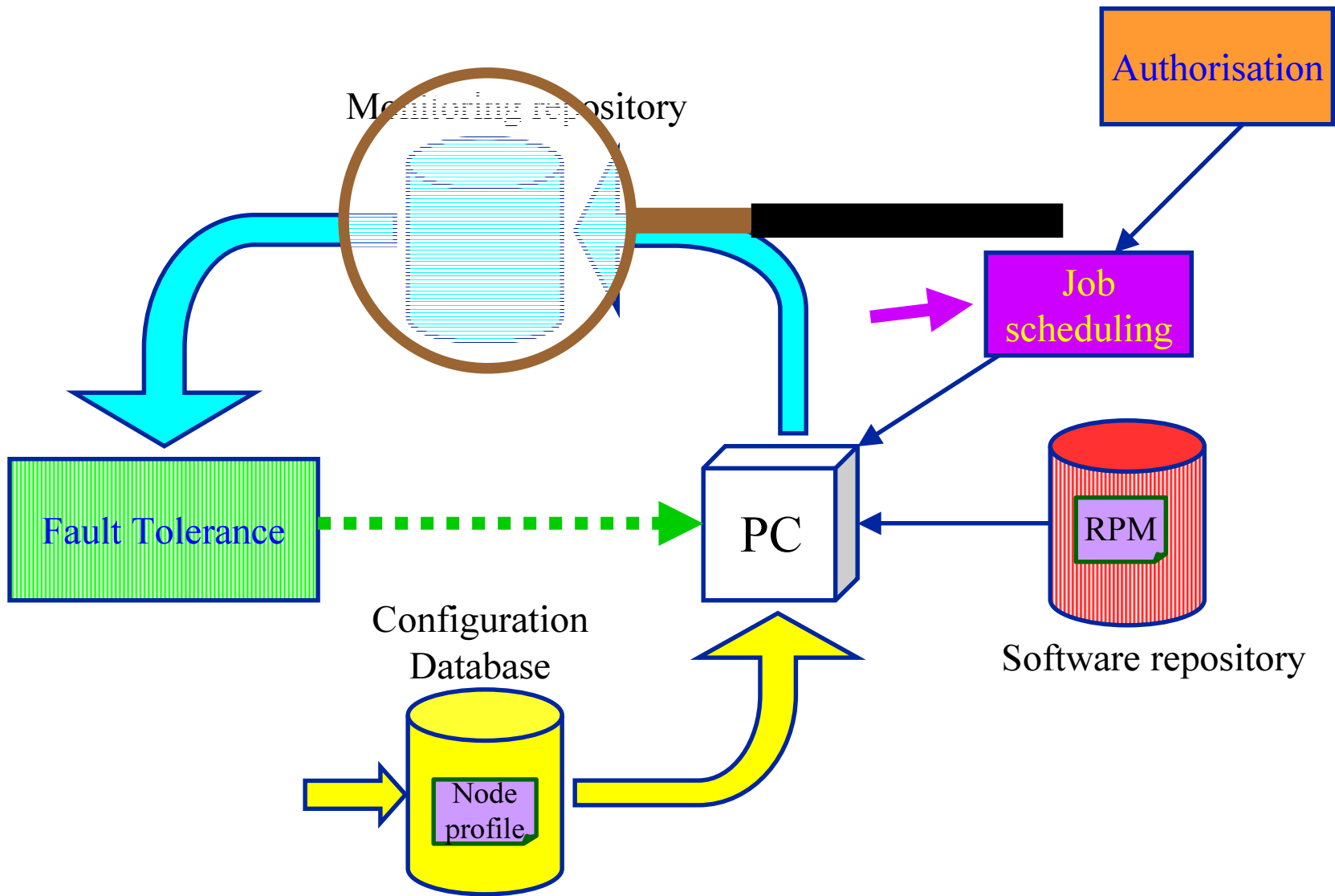
Configuration: Today





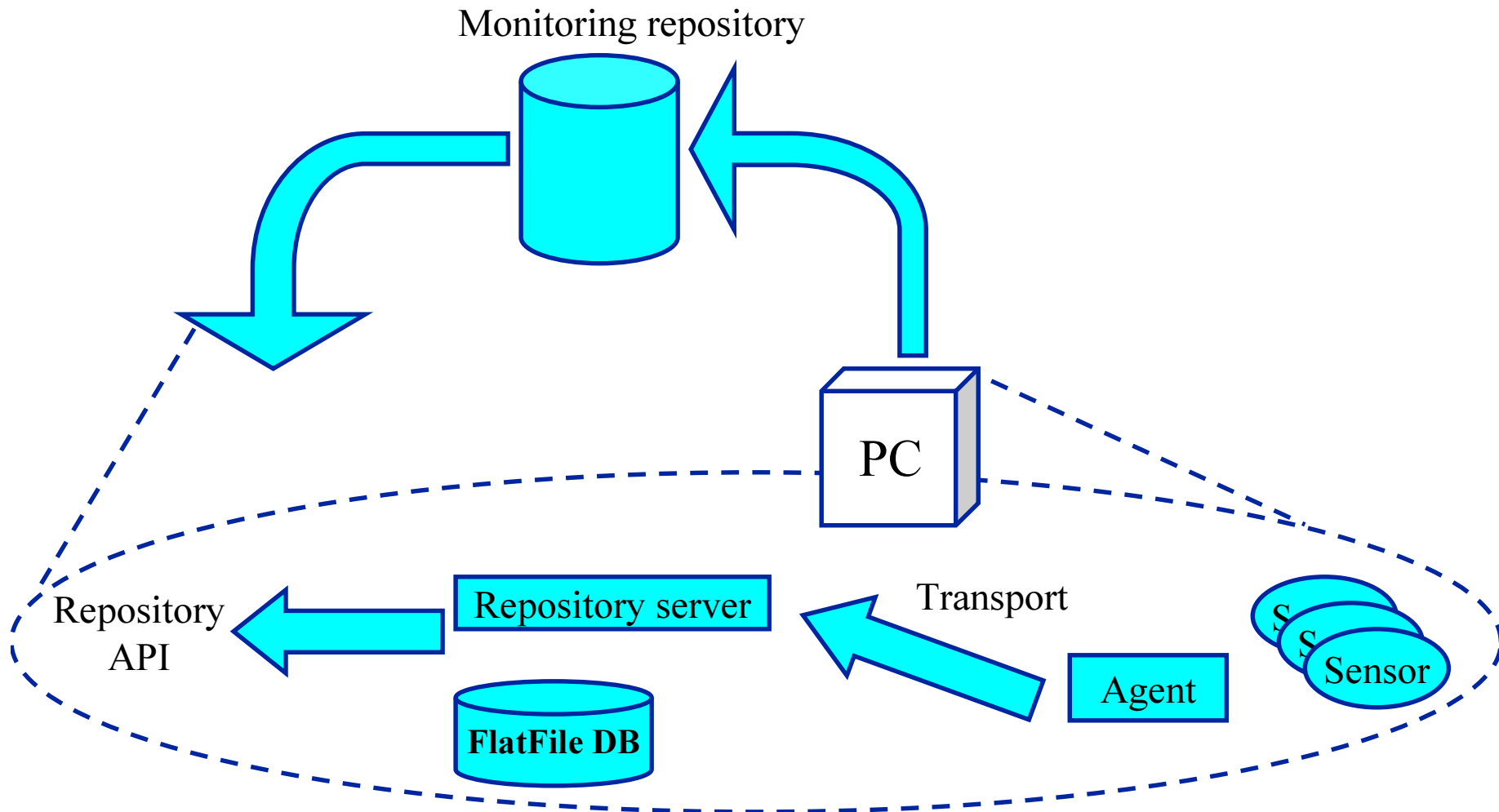
Configuration: ... and tomorrow (February)





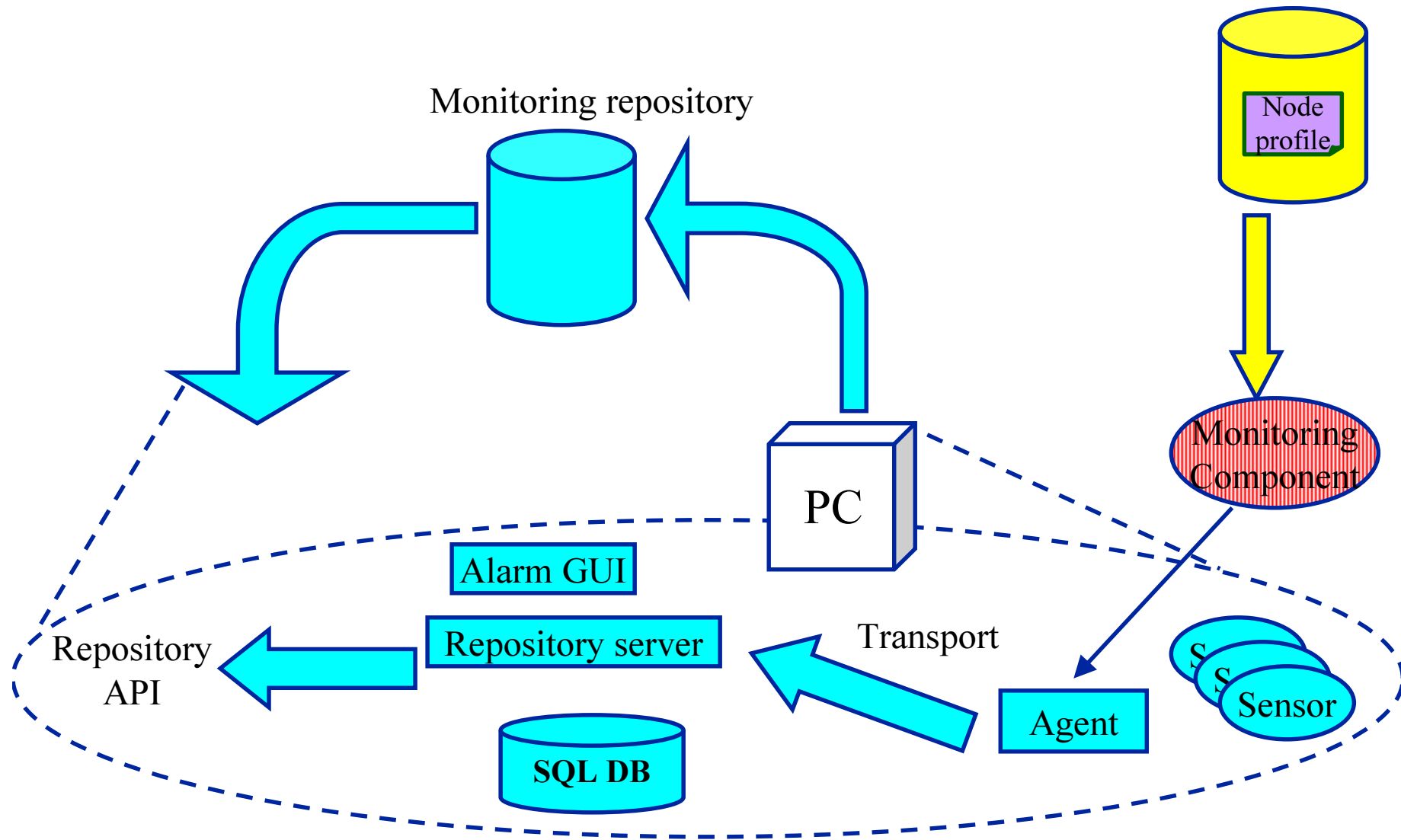


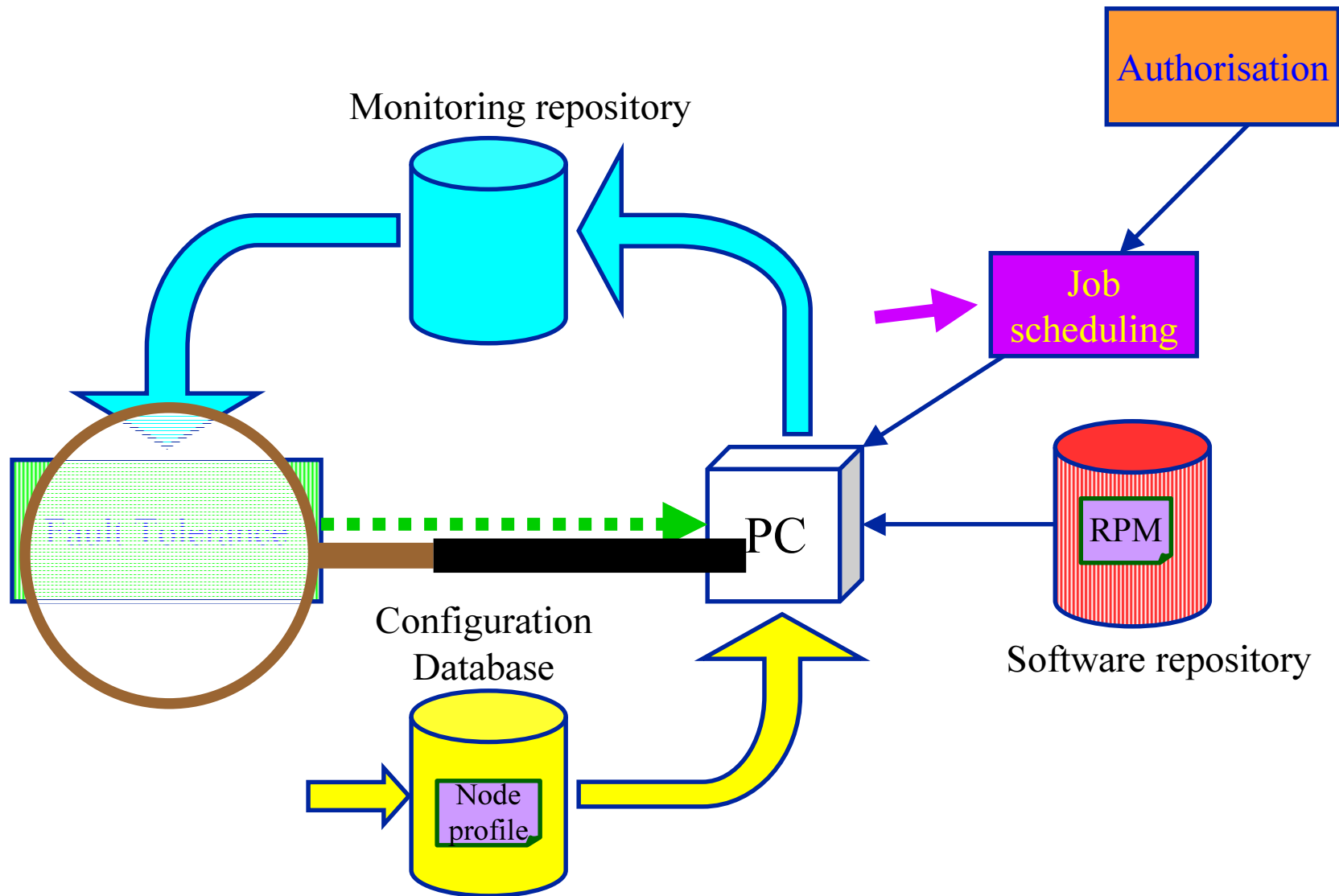
Monitoring: Today





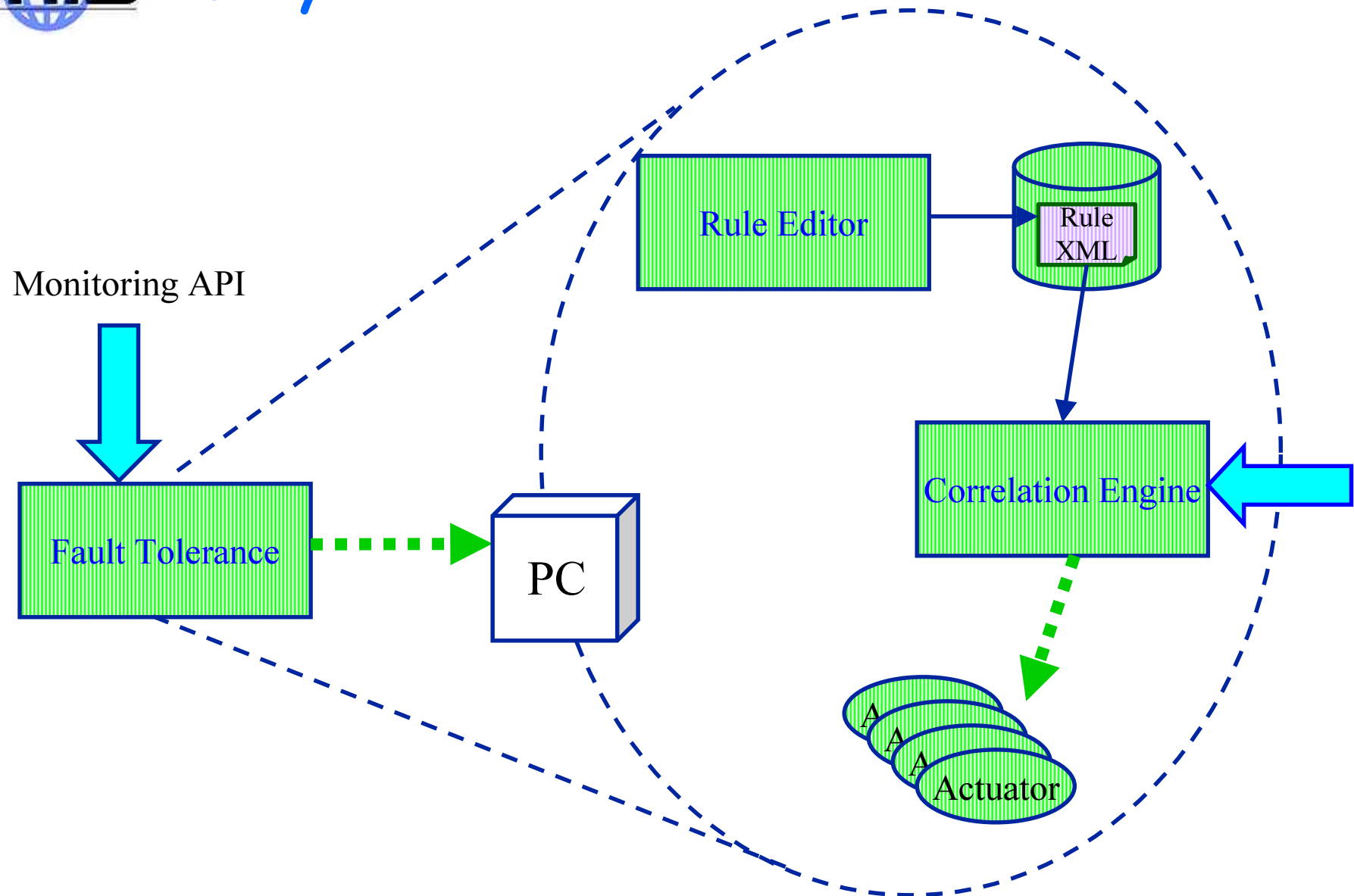
Monitoring: ... and tomorrow (March)





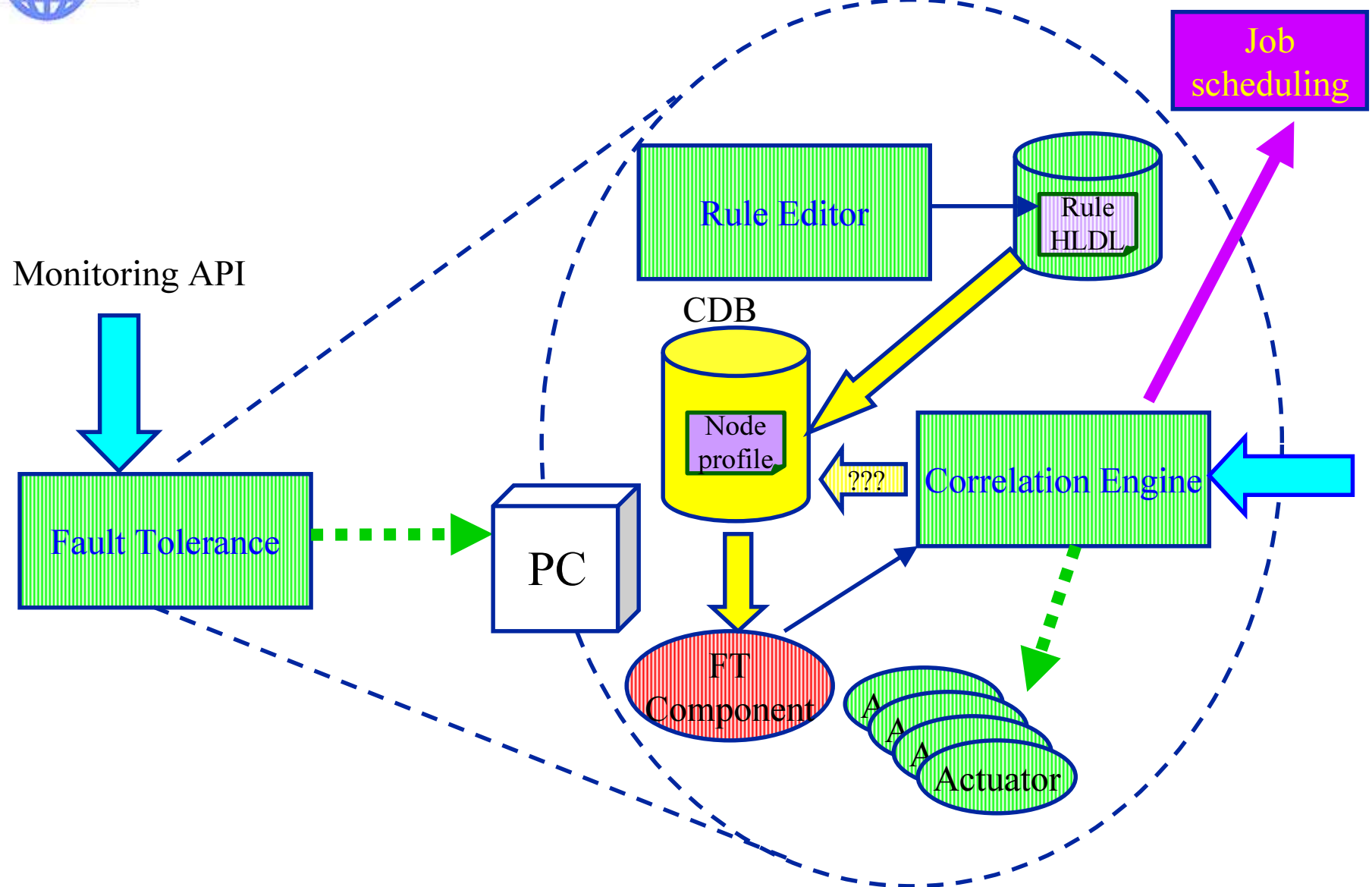


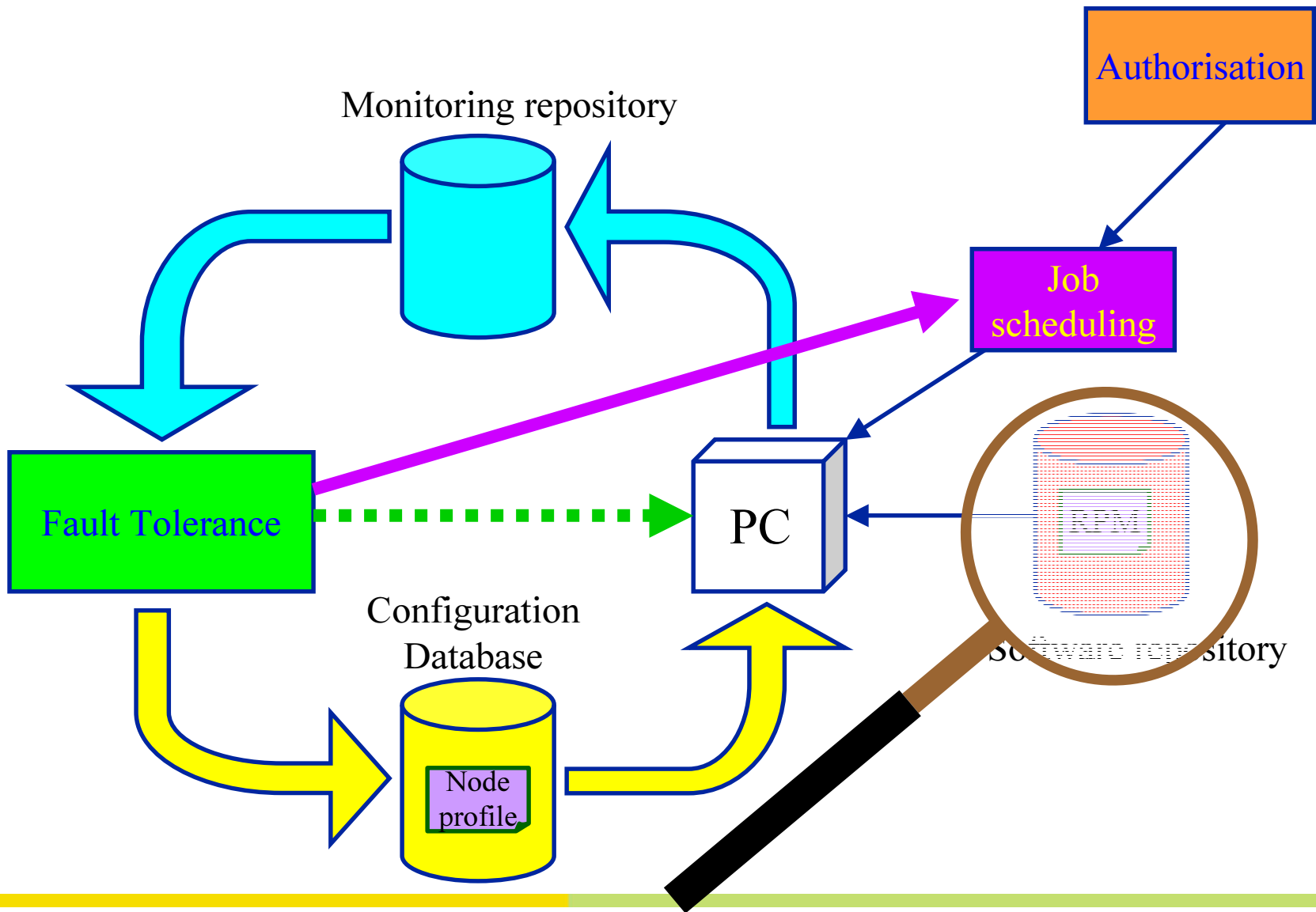
Fault tolerance: Today





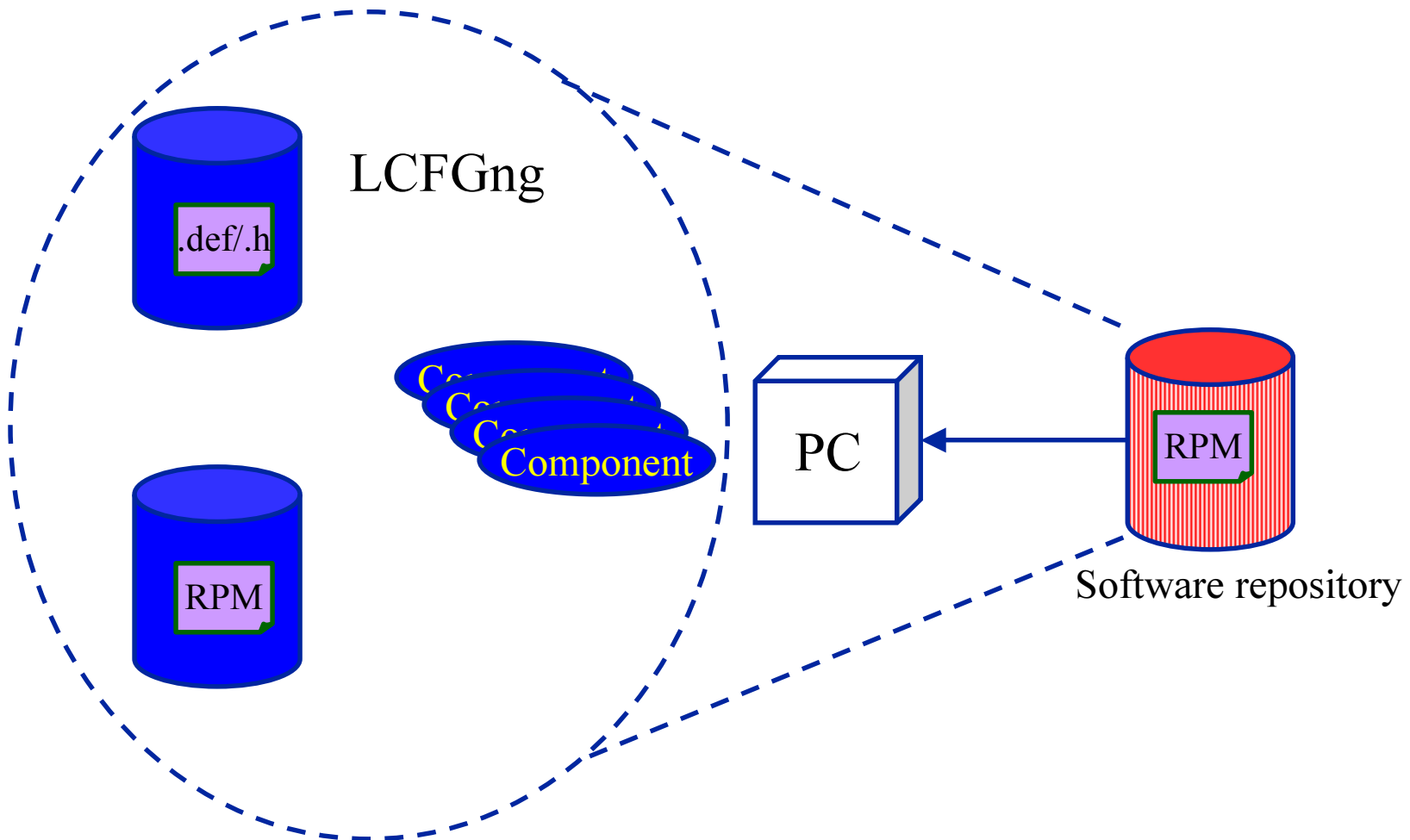
Fault tolerance: ... and tomorrow (summer???)





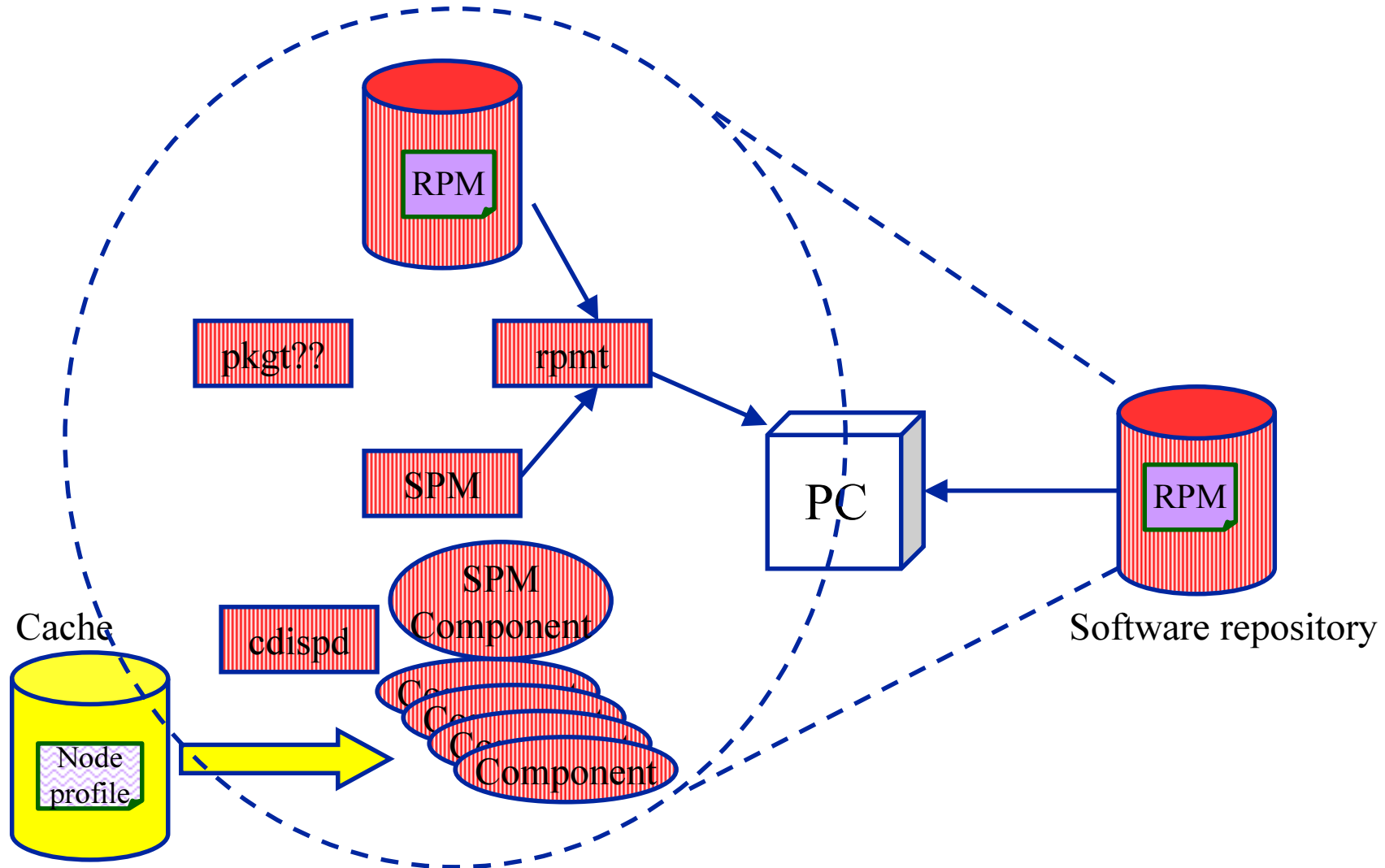


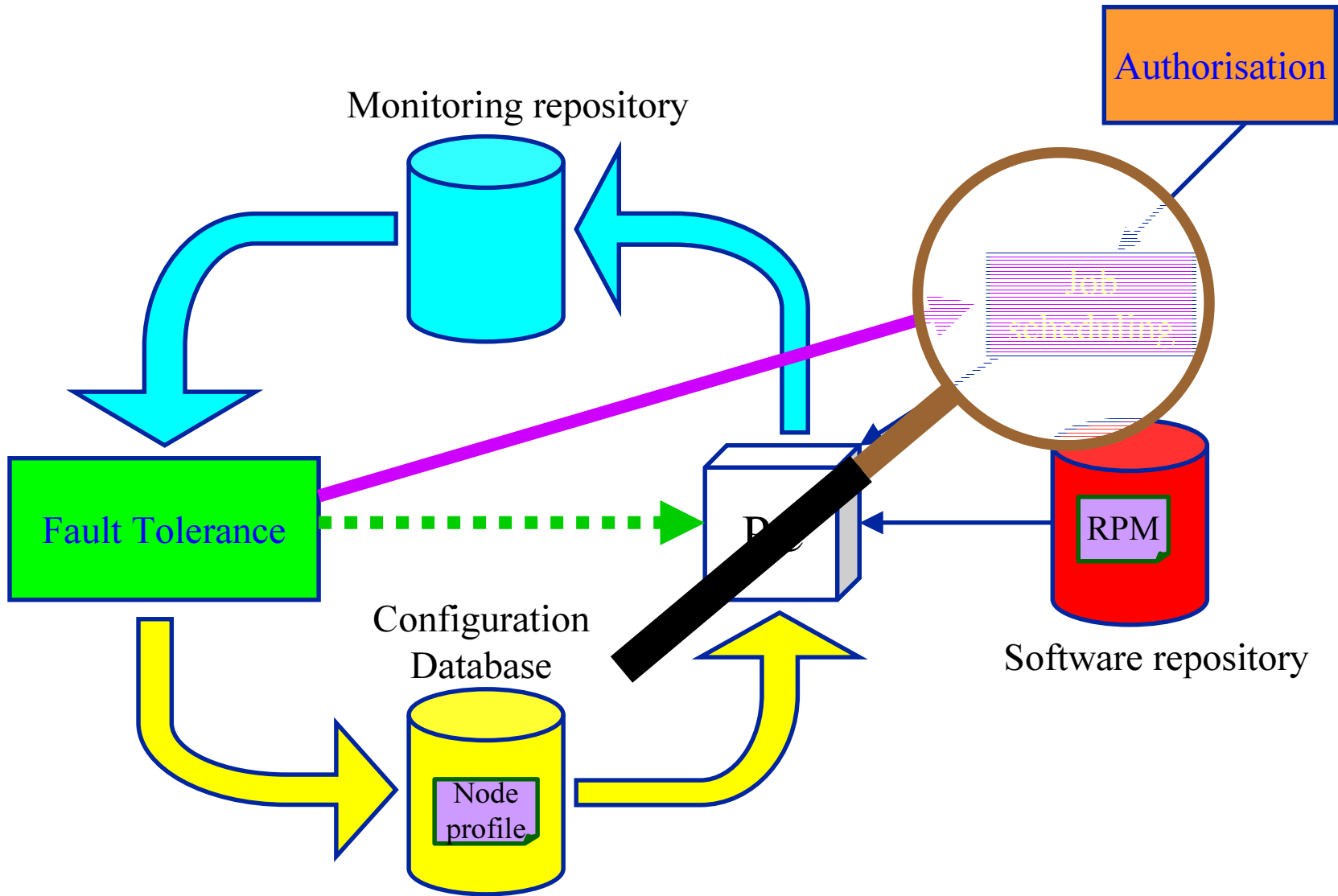
Installation&Maintenance: Today





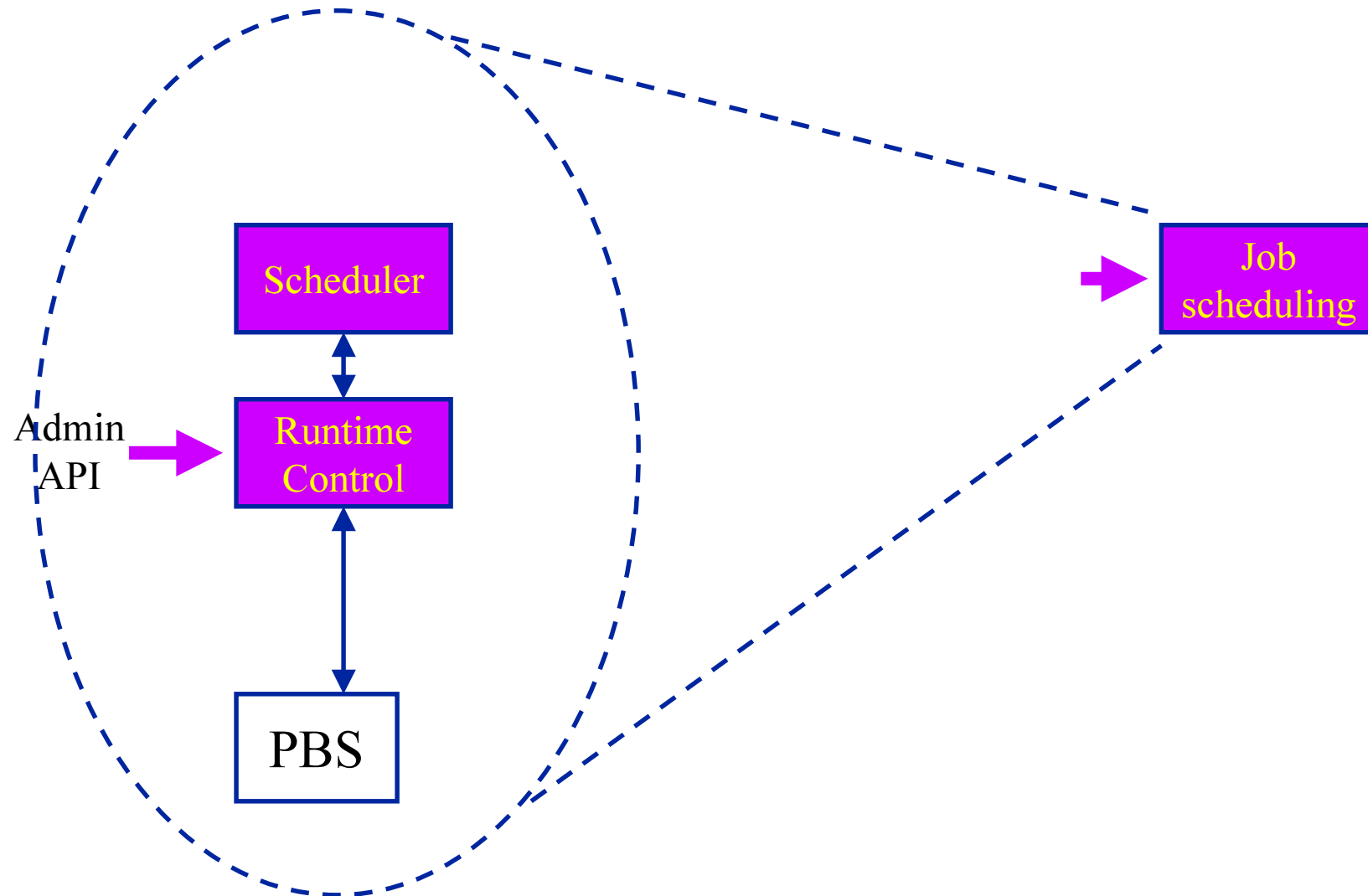
Installation & Maintenance: ... and tomorrow (April)





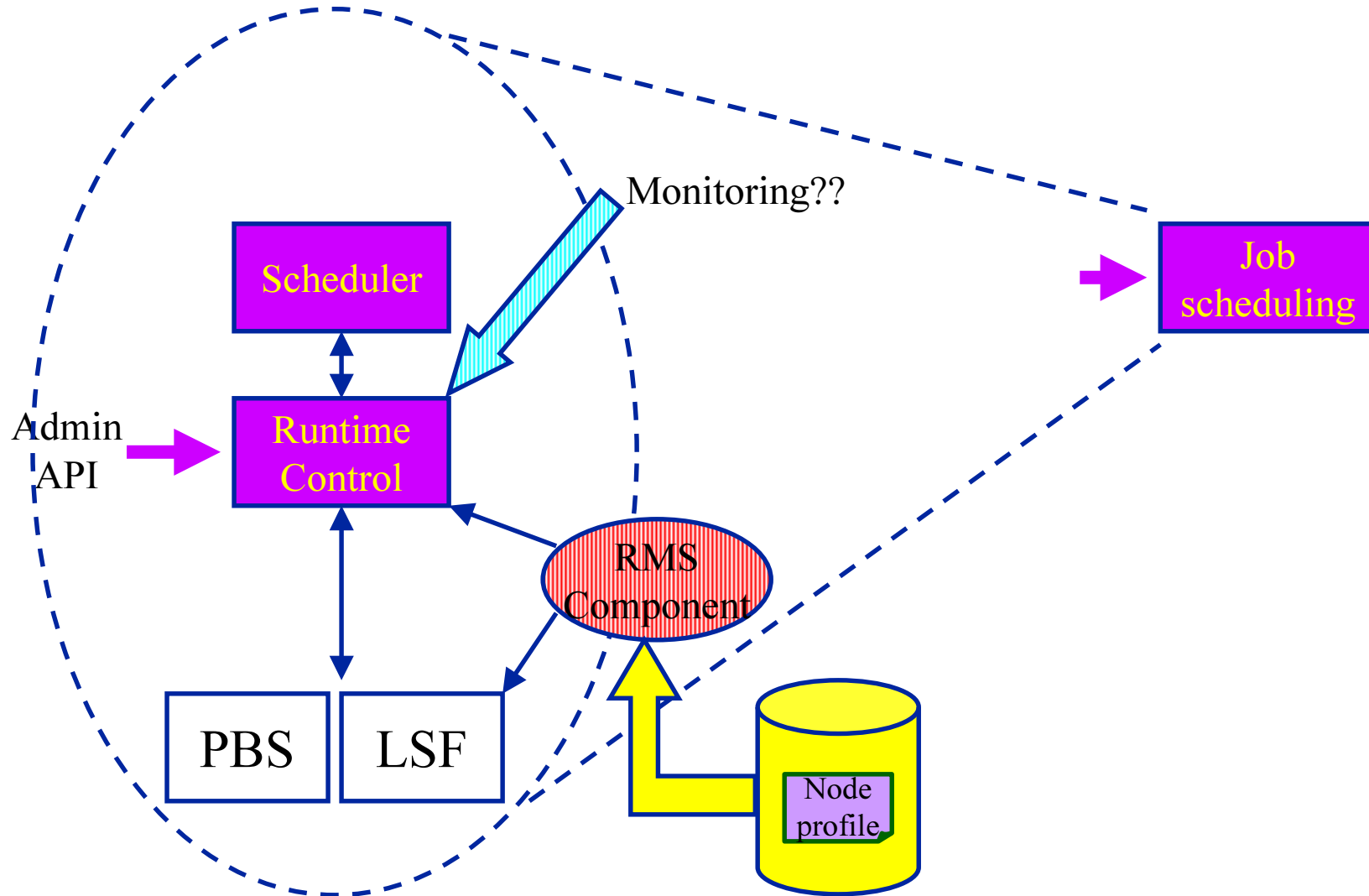


Resource mgmt Today





Resource mgmt ... and tomorrow (spring??)





Important steps towards tomorrow

- ◆ WP4 subsystems need to be
 - Configured
 - Monitored
 - Repaired



Important steps towards tomorrow (1)

- ◆ WP4 subsystem needs to be configured
 - Identify what potentially needs to be (re)configured
 - Define your configuration parameters and how they should fit into the global schema
 - Write HDL templates for your subsystem (learn from exercises this week)
 - Write "configuration components" that calls the NVA API and generates configuration files for your services



Important steps towards tomorrow (2)

- ◆ WP4 subsystem needs to be monitored
 - Identify what can go wrong → define the subsystem health metrics
 - Implement a sensor that measures the health metrics
 - Configure the monitoring subsystem to become aware of your sensor/metrics. How is this done best?
 - Keep the configuration together with your subsystem and “link” it to the monitoring?
 - Or should the configuration be added directly to the monitoring HLDL template?



Important steps towards tomorrow (3)

- ◆ WP4 subsystem needs to recover from unhealthy states
 - Determine how to recover the subsystem from the identified set of unhealthy states
 - Implement actuator scripts that performs the repairs
 - Define the rule that links your health metrics to your recovery actuator



Important steps towards tomorrow (3)

- ◆ WP4 subsystem needs to recover from unhealthy states
 - Determine how to recover the subsystem from the identified set of unhealthy states
 - Implement actuator scripts that performs the repairs
 - Define the rule that links your health metrics to your recovery actuator



Open issues (to think over during the exercises)

- ◆ Who launches the recovery actuator scripts? I see two cases:
 - Repair that do not involve a configuration change, e.g. restart daemon; clean /tmp;
 - Repair that do involve a configuration change, e.g. service client reconfiguration when a central service falls over

- ◆ Desired state versus actual state duality: how to enter a reference to the desired state in a FT rule?
 - FT rules naturally reference actual state through monitoring metrics. How can the same be done for the desired state?



How to use this workshop

- ◆ The objective for this workshop is to facilitate the integration of WP4 subsystems. It is *not* for you to show how nice your software is written and how well your task has been working, so
 - Teachers: please make sure to focus your exercises on important interfaces and how to use them. Leave out cool features unless the time allows for it
 - Participants: use the exercises to understand how to interface your subsystem. Identify potential problems with the interfaces from your subsystem point of view. Save those issues for the Friday brainstorming session
- ◆ In the brainstorm on Friday: discuss possible open issues or problems identified during the hands-on exercises.