



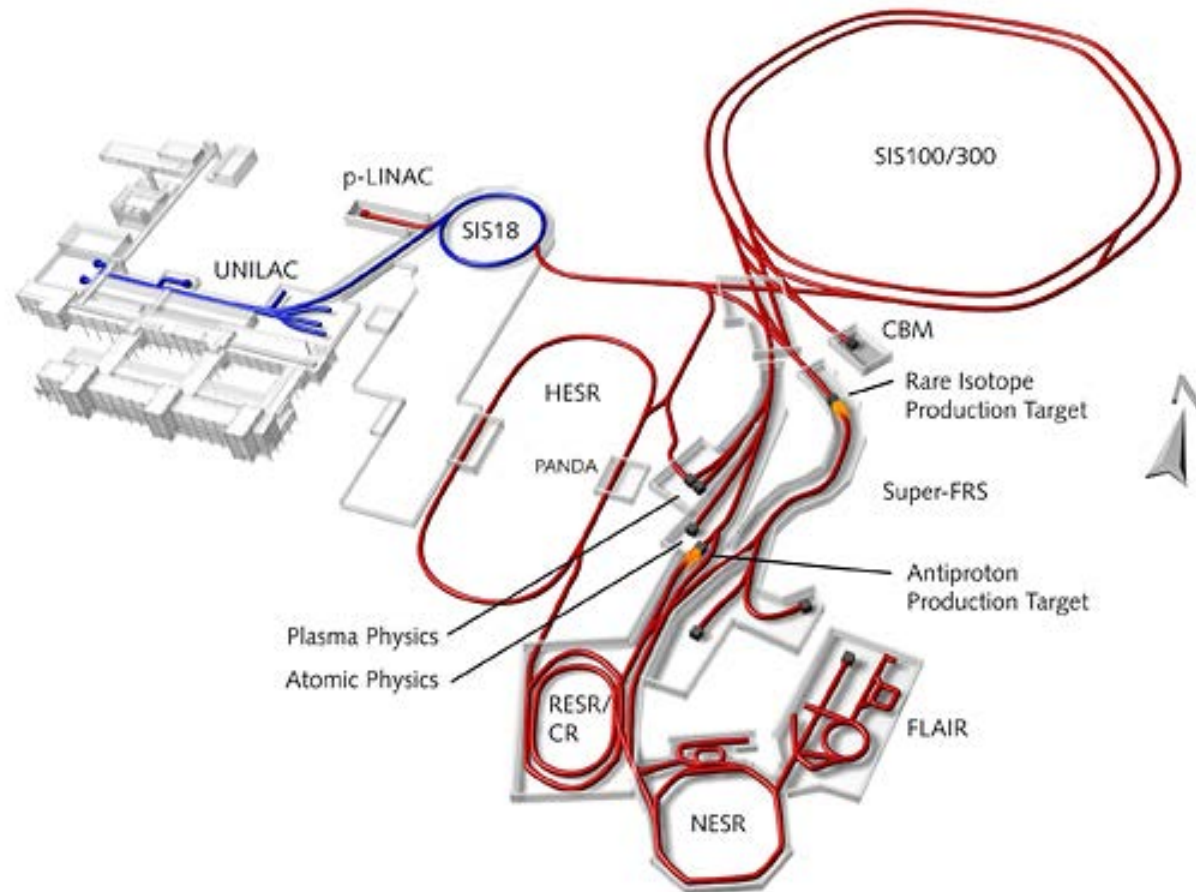
Controls Middleware for FAIR

Agenda

1. FAIR
2. Middleware at GSI
3. JAPC and RDA
4. Middleware at FAIR
5. Summary

What is FAIR

FAIR = Facility for Antiproton and Ion Research



Device Access

- Provides get, set and subscribe
- Access by device and parameter name
- Support multiplexed beams

Device Access

- Based on CORBA
 - Lack of support
 - Shrinking community
 - Complex
- Difficult to maintain and support
- Not the best choice for a future system
 - ... but costly to replace in one step

JAPC – Java API for the Parameter Control

- Unified API for parameter access
- Extendable to use with different systems
- Device / Property name based access
- Developed by CERN
 - Introduced after collaboration on LSA
- Plugin for Device Access

Clients Point of View

```
ParameterFactory pfac = ParameterFactory.newInstance();  
Parameter p = pfac.newParameter("PLLEV1/Status");  
Selector sel = ParameterValueFactory.newSelector("SIS.USER.VACC_01");  
  
// Get the value  
AcquiredParameterValue value = p.getValue(sel);  
  
// Set the value  
MapParameterValue val = ParameterValueFactory.newParameterValue();  
val.setShort("logPH", (short)-20);  
p.setValue(sel, val);
```


Clients Point of View

```
ParameterFactory pfac = ParameterFactory.newInstance();  
Parameter par = pfac.newParameter(„PLLEVM1/VacuumPressure#vacuumPressure“);  
Selector sel = ParameterValueFactory.newSelector("SIS.USER.VACC_01„);  
  
// Subscribe  
SubscriptionHandle handle =  
    par.createSubscription(sel, new ParameterValueListener() {...})  
handle.startMonitoring();
```

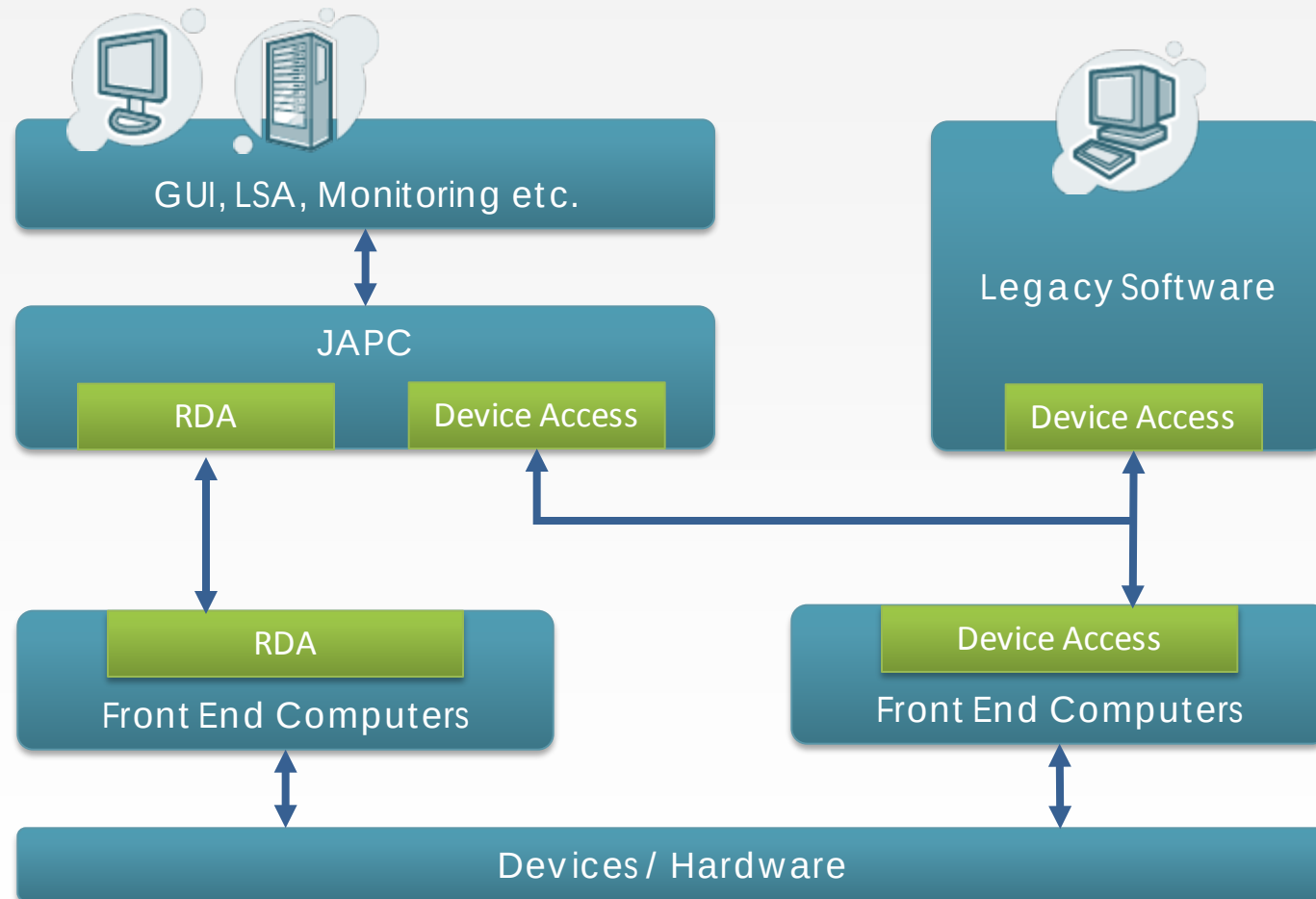
RDA – Remote Device Access

- Same device model as Device Access
- Provides get, set and subscribe
- Device name based addressing
- New version is based on ZeroMQ
- Collaboration of CERN and GSI

Middleware

Middleware at FAIR

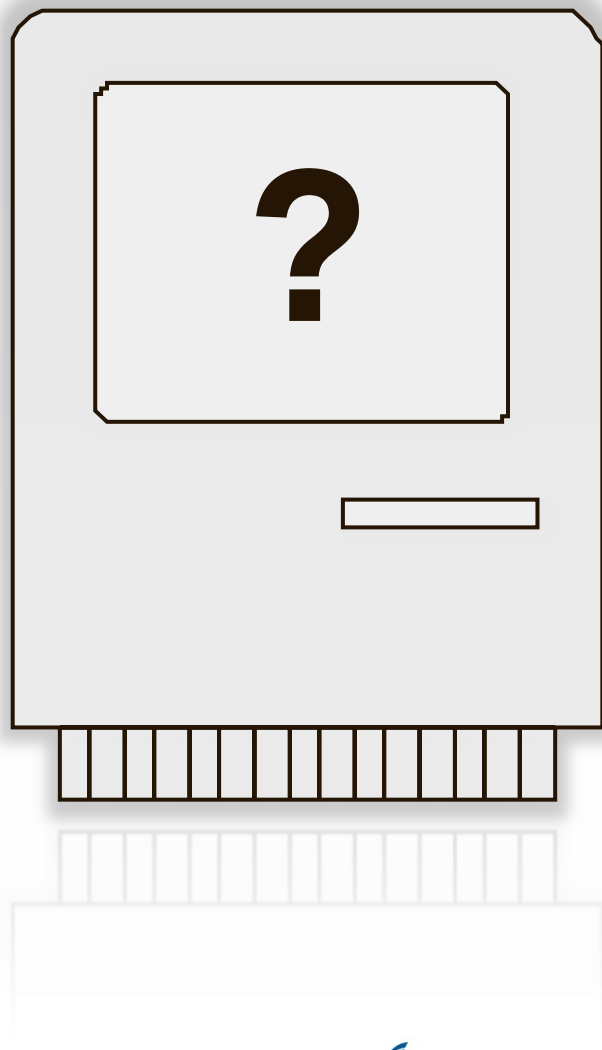
FAIR Middleware Overview



Summary

- Integration of CERN frameworks into GSI landscape
- Old hardware is using old software
- First use in production at GSI this year

? & !



Last Slide

Thank you for your attention!