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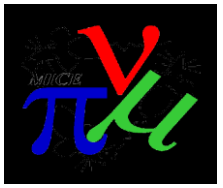

Configuration Database

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MICE CM 29

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RAL

Overview

- Handover
- Configuration
  - Deployment
  - Backups
- Software
  - Move to WSDL
- Issues

Handover

- David has provided a document as a mice note
  - http://mice.iit.edu/micenotes/restricted/pdf/MICE0327/MICE0327.pdf
    - Beam Line Settings
      - needs extending, discussed later
    - Calibrations
    - Electronic Channel Mapping and Cabling
    - Alarm Handler
      - newer version implemented with WSDL interface
    - Geometry
      - newer version implemented with WSDL interface

CONFIGURATION

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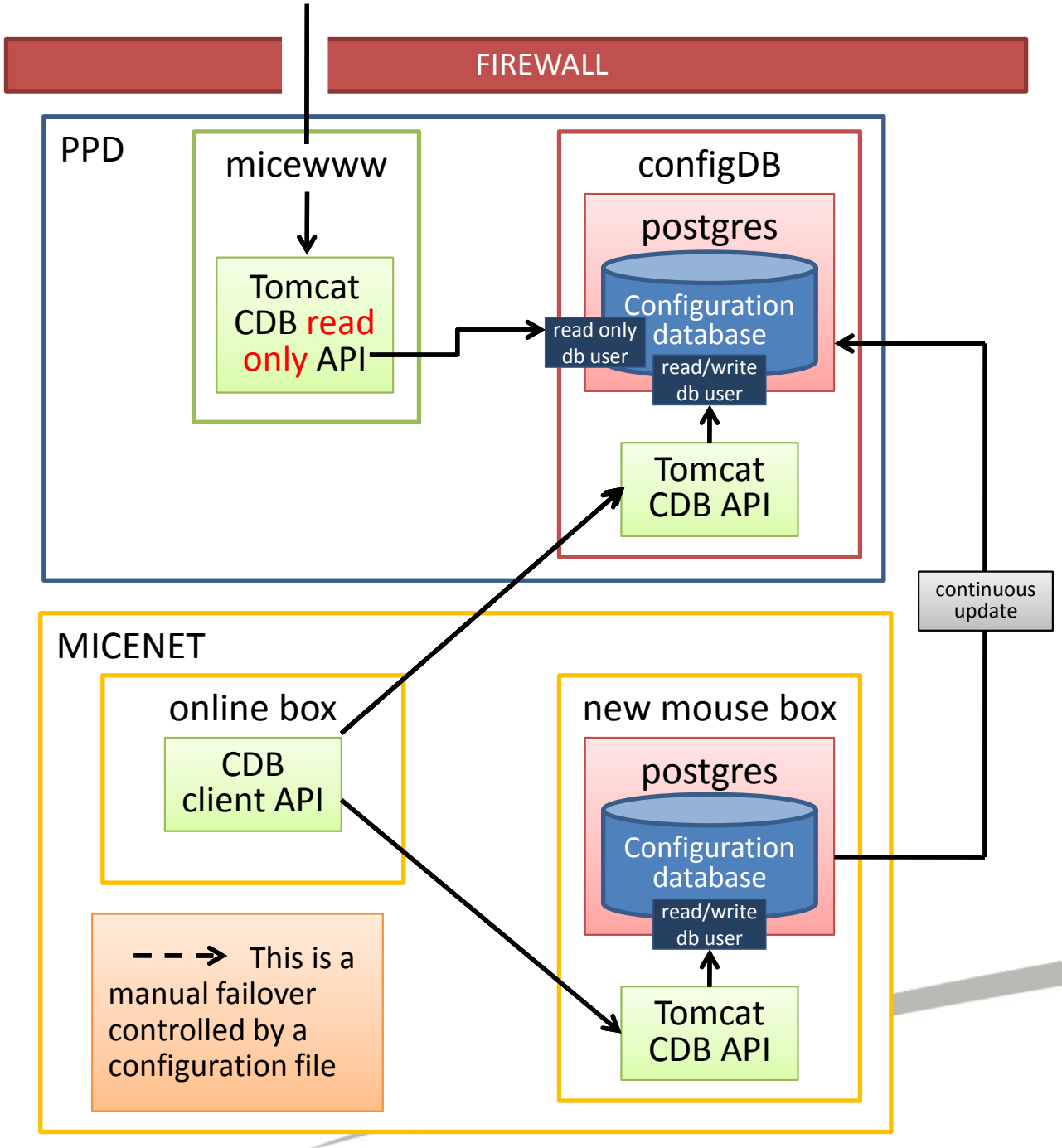
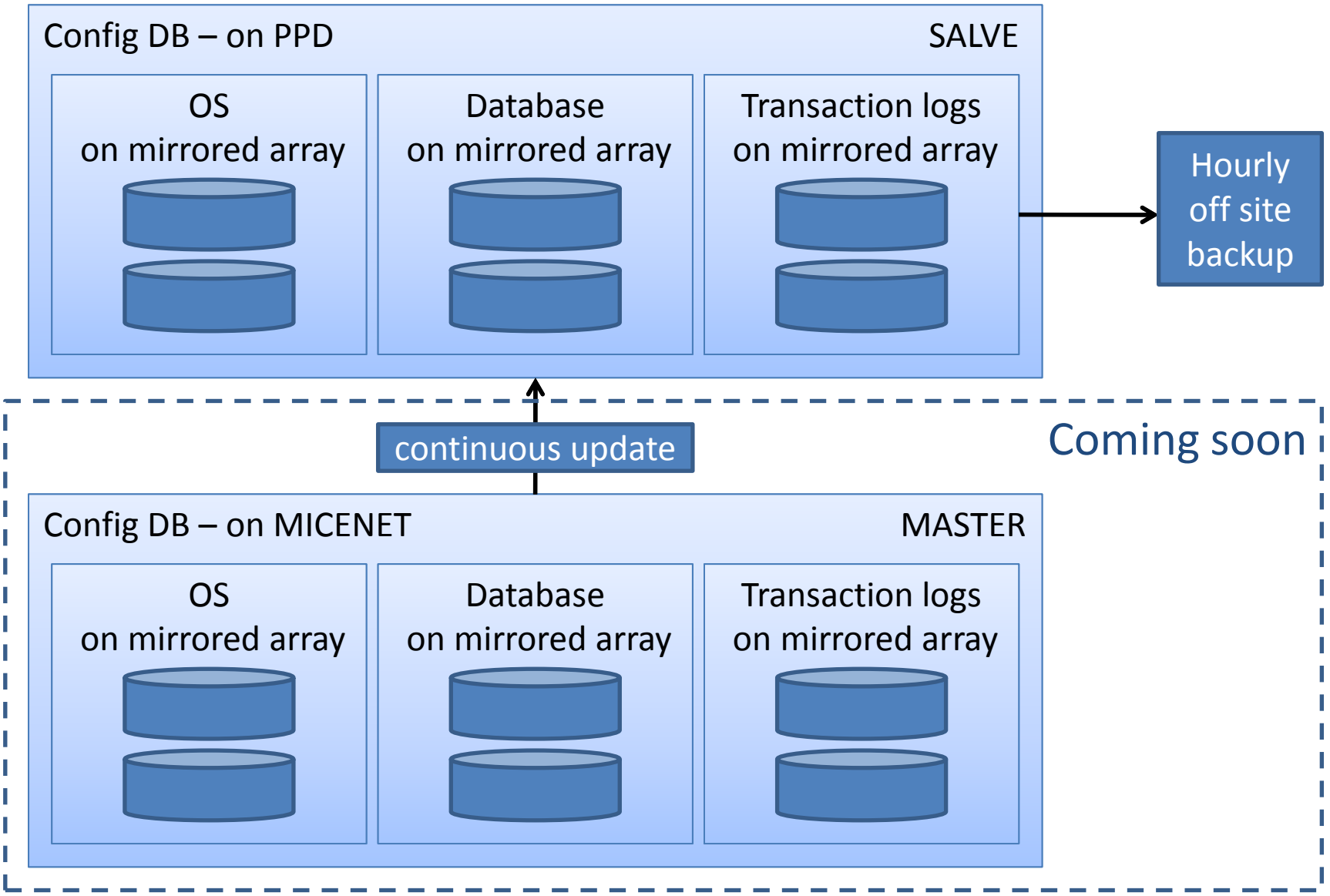
Deployment



- All client access is via Tomcat
- Off site access is read only via micewww
- Access from MICENET is read write

Backups


Config DB – on PPD
SALVE
OS
on mirrored array
Database
on mirrored array
Transaction logs
on mirrored array
Hourly
off site
backup
continuous update
Coming soon
Config DB – on MICENET
MASTER
OS
on mirrored array
Database
on mirrored array
Transaction logs
on mirrored array

Recovery Procedure

- Recovery procedure tested on one machine
- http://micewww.pp.rl.ac.uk:8080/projects/configdb/wiki/Backups
- Postgres 9 provides native support for master slave mechanism. **N.B.** slave is read only
- ISSUE
  - The redmine database is on heplnm069

SOFTWARE

Updating Config DB Code

- Coding standards introduced for G4Mice group (C++)
- Analogous standards being used for the Config DB (Java)
- As code is updated
  - Fully documented with javadoc
  - Logging added using log4j
  - Unit tests with junit
- JAX-WS used to generate WSDL interface

Move to Web Service Definition Language (WSDL)

- A WSDL interface describes how to communicate with the Config DB
- The WSDL can be used to generate client APIs
- All new/updated component will provide a WSDL interface
  - AlarmHandler
  - Geometry
  - Controls
- API documentation is provided via javadoc
  - http://hepunx.rl.ac.uk/egee/mice/doc/

WSDL Clients

- Java clients
  - Generated using JAX-WS
  - Used for system testing
- Python clients
  - Use suds

```
from suds.client import Client
url= 'http://micewww.pp.rl.ac.uk:8080/cdb/geometry?wsdl'
cdbGeometyClient = Client(url) # client to talk to Config DB

print cdbGeometyClient # list available methods on Config DB
print cdbGeometyClient.service.getStatus() # call Config DB method
```

WSDL Clients

- C++ clients
  - Generate using gSoap
  - James has generated a C++ client for the AlarmHandler
  - Ivan has generated a C++ client for the Geometry
  - Controls is a work in progress

Issues

- Controls interface requires access to HV cabling data
- Beam line settings – extra fields required

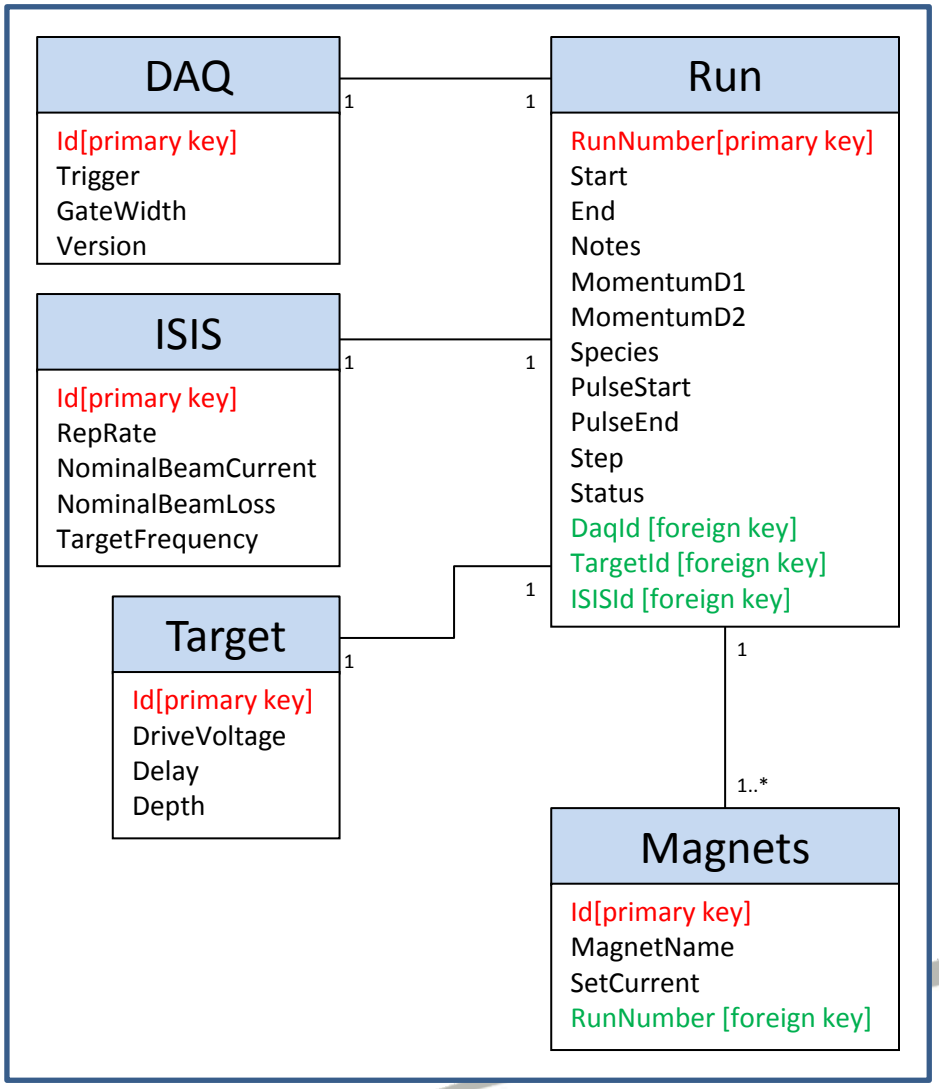
Access to HV Cabling Data

- Current Electronic Channel Mapping and Cabling API takes a file as input parameter
- Config DB has no knowledge of the contents of the file
- Config DB needs access to HV cabling data
- Is HV cabling data embedded in these files?
- **Need to agree on common format for all HV cabling data and provide new Config DB API**
- What to do with the rest of the cabling data?

Beam Line Settings

- We already have a Boolean status flag
- Need to add "run type" flag?
  - Use bit map
    - Cosmic test
    - Target not dipped
    - Normal mice run
- Additional data quality information stored in the metadata database?

Beam Line Settings



To Do

- Add “run type” flag
- Change Depth from mm to microns
- These are in the ops room spreadsheet
  - Triggers per spills
  - Particle triggers
  - Proton absorber thickness (mm)
  - Momentum at target

Summary

- Recovery mechanism from transaction logs tested and documented
- Alarm Handler WSDL interface in use
- Geometry WSDL interface prototyped
- Blocking issue on Controls WSDL interface
  - Require access to HV cabling data
- Beam line settings WSDL conversion not started yet
  - Require agreement for new field(s)