

# ***XDAQ Integration Test at the CERN Demonstrator***

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# *Aims of the Project*

- Getting experience to use the CERN demonstrator
- Keeping coherency among the EVB related software developments
- Checking stability of the software with a configuration larger than the FNAL test bench

# *Software Elements*

- XDAQ (V1.1)
- XDAQ EVB direct-mode sample application
  - ➔ with modifications and bug fixes mainly on RM and RUI code
- libFRB
  - ➔ A reliable broad cast library was implemented on Ethernet/UDP
- ptFRB
  - ➔ XDAQ peer-transport wrapping libFRB
- dummy GTP
  - ➔ An independent program mimicking GTP

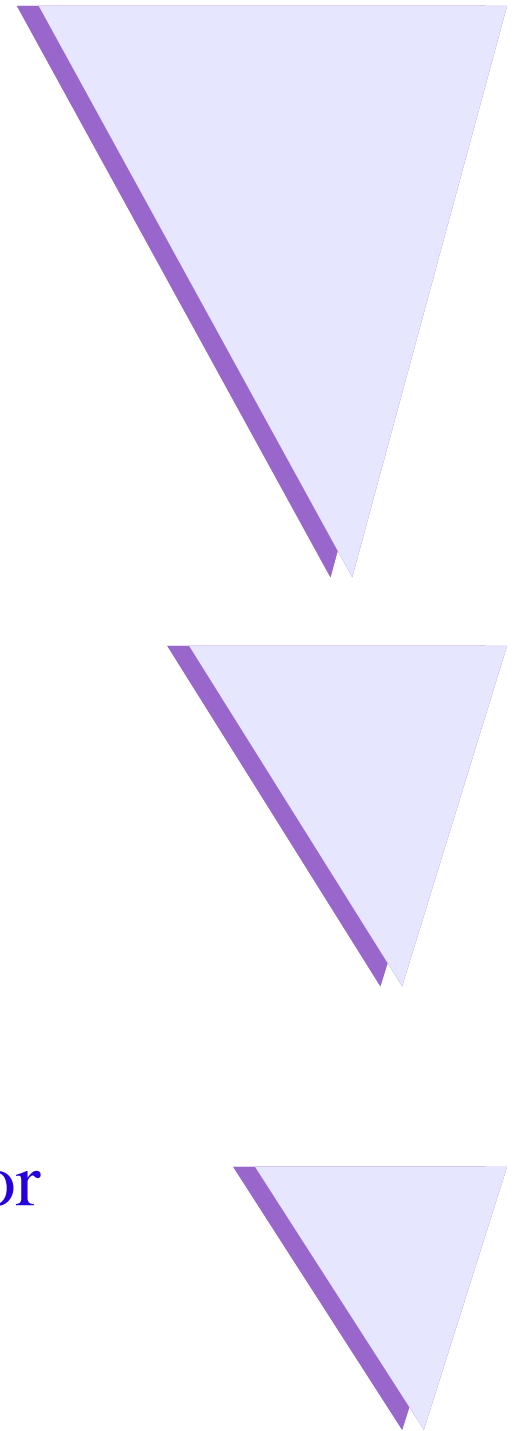
# *Preparation*

- Tests at Fermilab

- ➔ libFRB done
- ➔ ptFRB done
- ➔ dummy GTP done
- ➔ EVB+GTP done
- ➔ EVB+RCN done
- ➔ EVB+RCN+FRB not done
- ➔ EVB+RCN+FRB+GTP not done

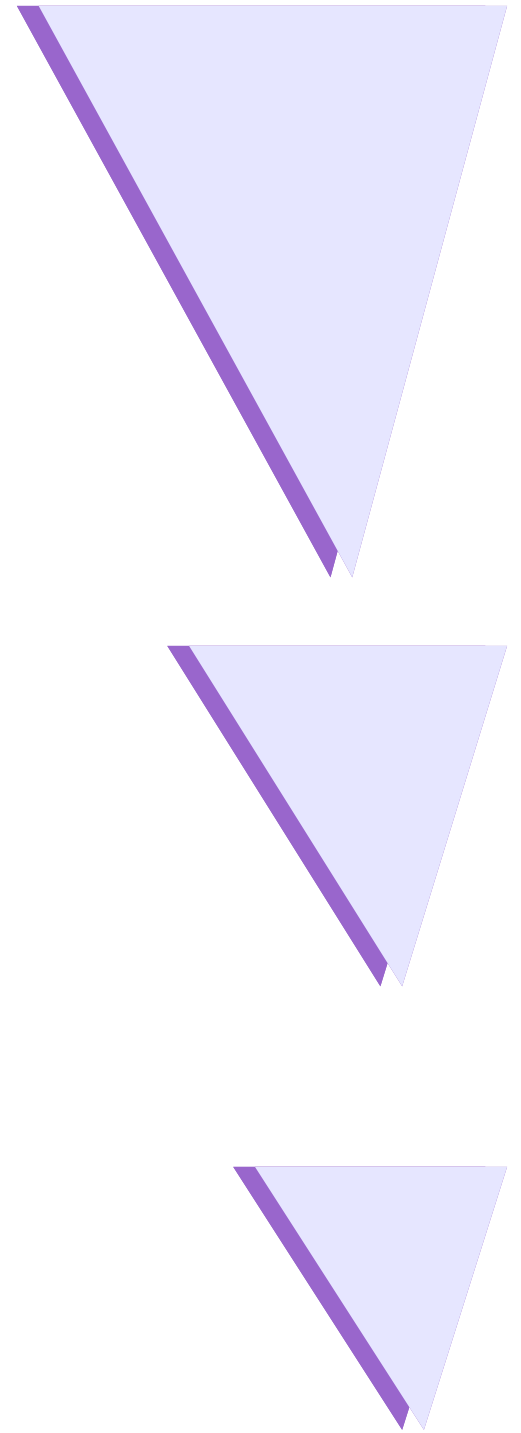
- Software installation on the demonstrator

- ➔ GM 1.5.2.1
- ➔ Xerces-C 1.6.0



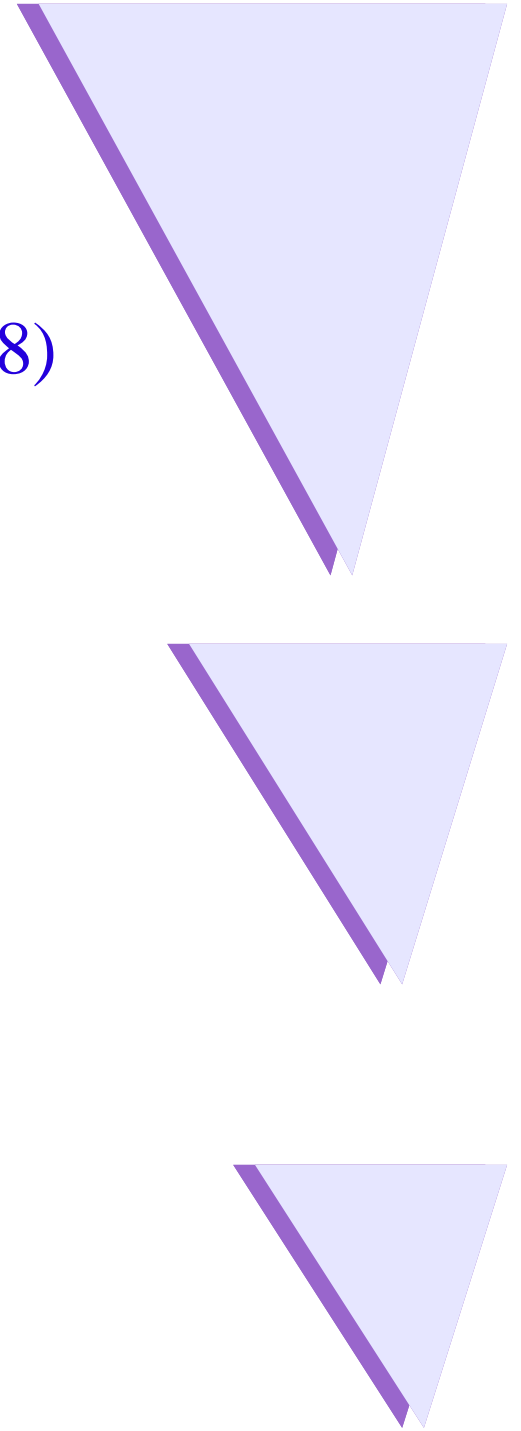
# *Tests done at CERN*

- libFRB functionality tests
- ptFRB one-to-many functionality tests
- dummy GTP
- EVB (no RM, RUI and RM)
- EVB+GTP (up to 2x2)
- EVB+RCN (up to 2x2)
- EVB+RCN+FRB (up to 2x1)
- EVB+RCN+FRB+GTP (up to 2x2)



# *Plan for Tomorrow*

- EVB+RCN+FRB+GTP (16x16 or 28x28)
- Benchmark tests
  - ➔ with GM or GigaEther as a BCN/BDN
  - ➔ ptFRB up to 57 receivers



# *Summary*

- Experience
  - ➔ This was the first time and it worked successfully
- Coherency
  - ➔ All software modules were integrated with a XDAQ event builder
  - ➔ We will keep better communication with S.Murray for future releases
- Scalability
  - ➔ Not fully tested. But, reasonably well done.
  - ➔ More preparation could have been done in advance.
- Many thanks to people in the CMD, especially to Eric Cano