

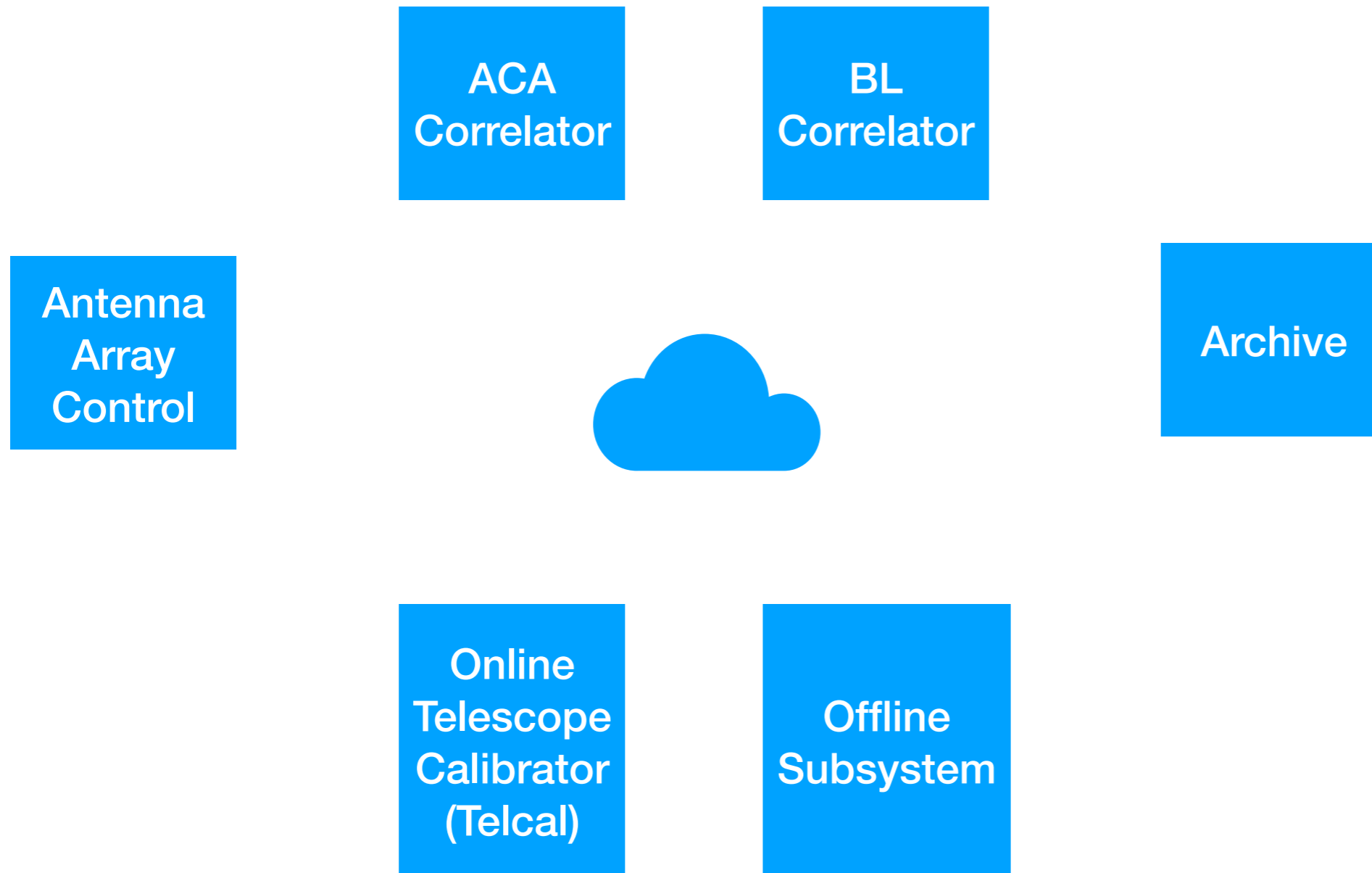


BulkData

BulkData

- ACS Service to transfer High volumes of data
- many-to-one one-to-many
- Throughput requirement 64MBytes/sec
- First implementation used CORBA A/V Streaming Service
- Replaced by proprietary DDS RTI Data Distribution Service.
- Renamed as Bulk Data NT (New Technology)

Bulk Data Use in ALMA



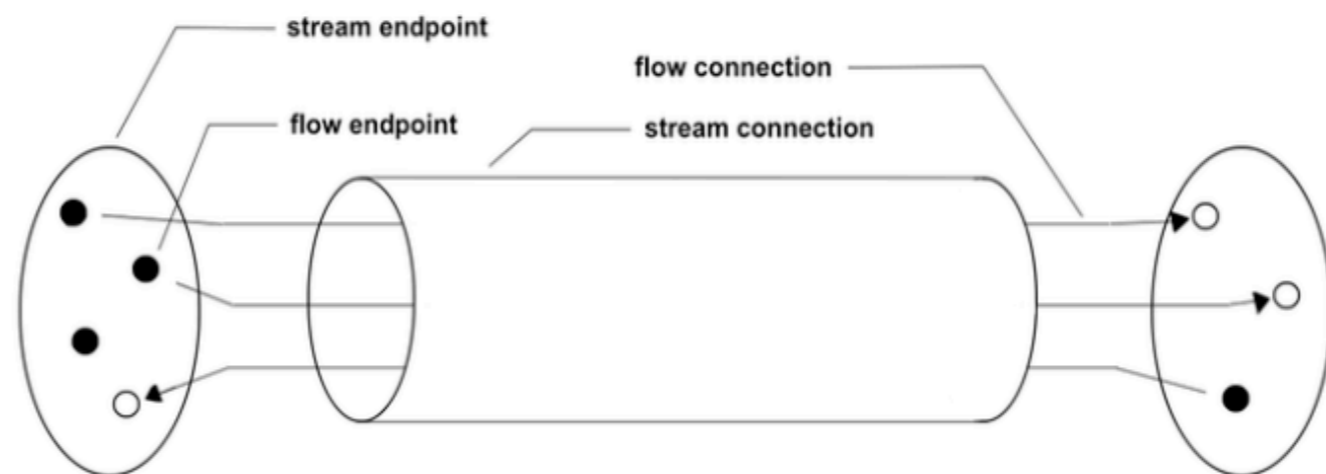
BulkData

- Bulk Data CORBA A/V no longer maintained
 - Dropped because:
 - Poor error-handling
 - Lack of reliability (difficult to debug)
 - No thread safety
 - Not optimized for one-to-many

Bulk Data NT Basic Concepts

- sender: Entity that sends Data out
- receiver: Entity that receives data
- flow: Data transferred from Sender(s) to Receiver(s)
- stream: group of flows. Each stream have a name.

*Data Stream out of band,
external to GIOP path*



RTI DDS Limitations

- Licensing Costs
- Complex tuning for a given particular application.

Other Implementations

A NEW ACS BULK DATA TRANSFER SERVICE FOR CTA*

Mauricio Araya[†], Leonardo Pizarro, Rodolfo Stephano Castillo, Marcelo Ignacio Jara, Horst von Brand
Universidad Técnica Federico Santa María, Valparaíso, Chile

Igor Oya

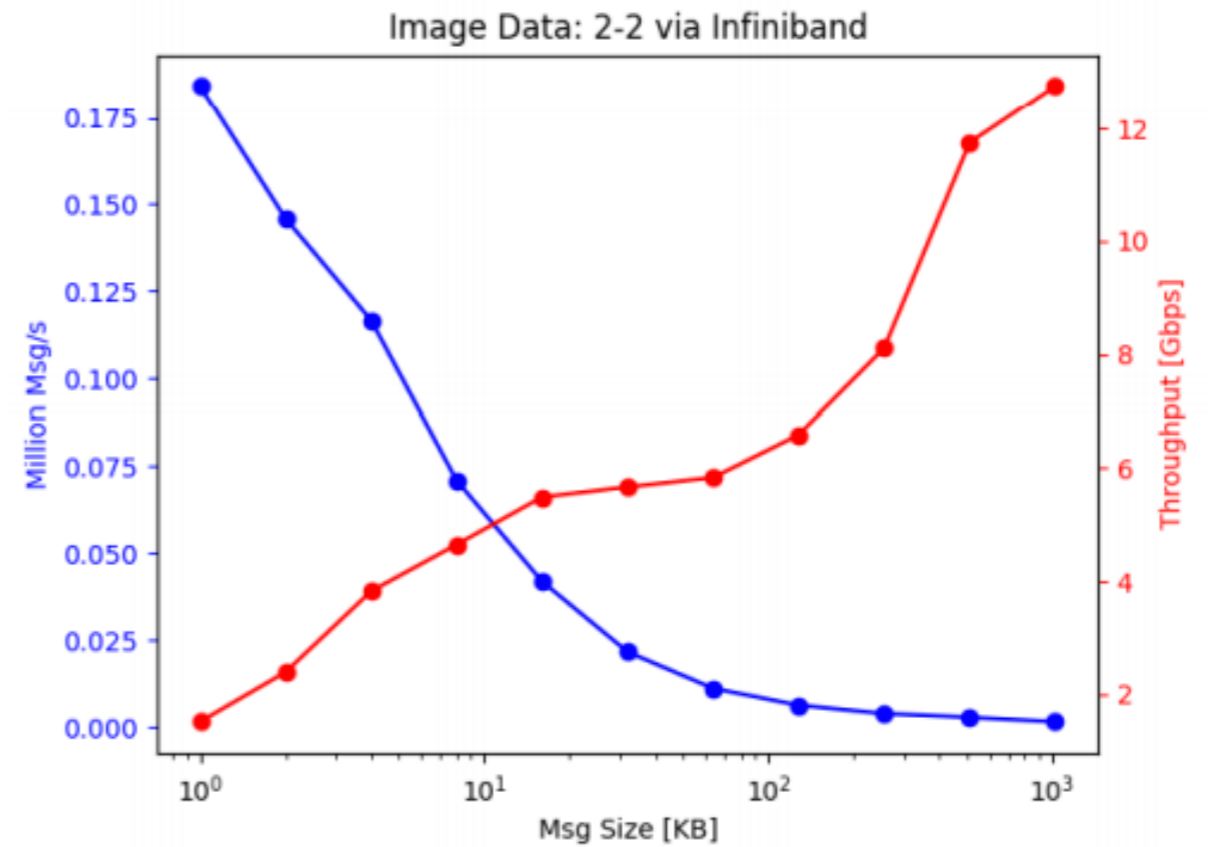
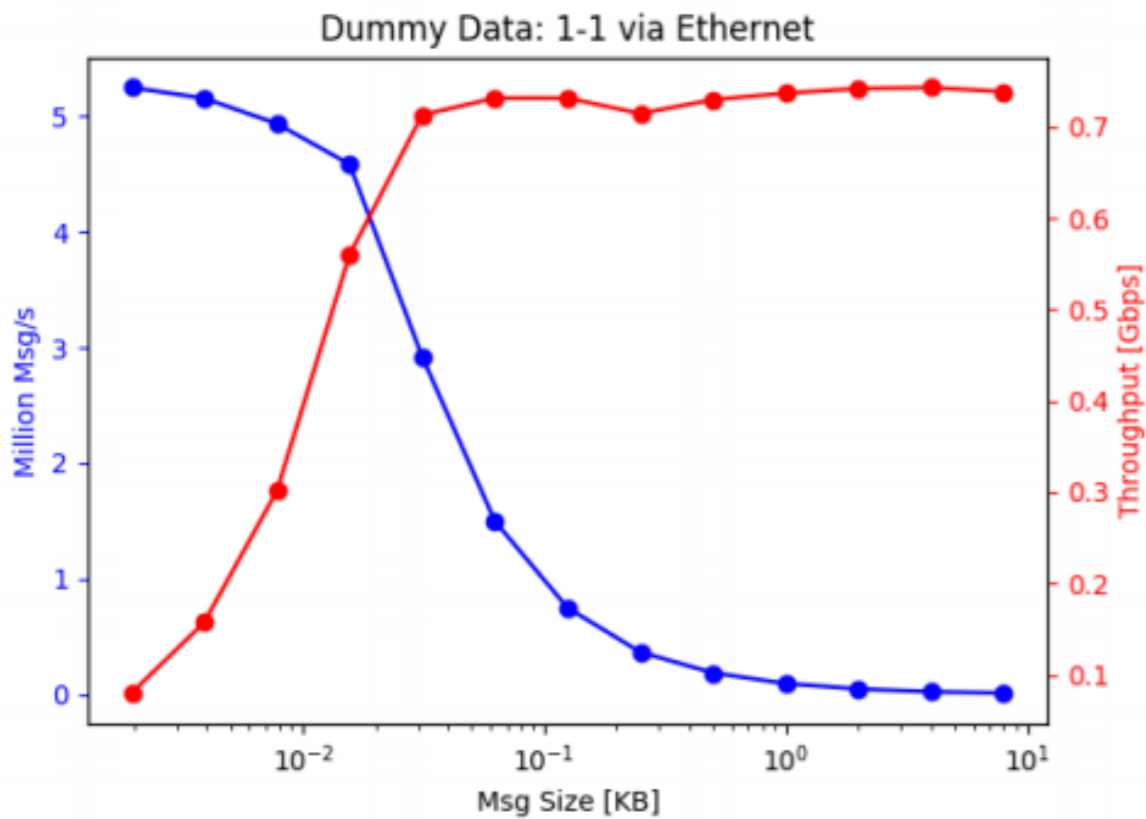
DESY Zeuthen, Zeuthen & Humboldt University Berlin, Berlin, Germany

Etienne Lyard

University of Geneva, Geneva, Switzerland

ZeroMQ: An open-source universal messaging library

Results



Throughput requirement 64MBytes/sec ~ 0.54 Gbps

Discussion Topics

- How important is BulkData Service for the community?
- Current/ foreseen use cases.

Thank You!