

The ACS bulk data is part of the Common Software library that provides the software infrastructure that allows data transfer between two or more ACS Components. This is based in a commercial implementation of the DDS (Data Distribution Service) standard of publish-subscribe pattern. The purpose of this project is to investigate ZeroMQ library as an alternative messaging system to transfer data between ALMA subsystems using the similar publish-subscribe pattern.

- Analyze the existing code in [UTFSM ACSflix Prototype](#)
- Evaluate the performance of ZeroMQ and this implementation
- Make a draft implementation of the BulkData/BulkDataNT library using ZeroMQ
 - Needs to be consistent with ACS IDLs and APIs
- Perform performance analysis using bandwidth throughput and latency metrics
- Week1: Analyze current implementation of ACS BulkData transfer
 - Functioning of states: start, send, and stop data transfers
- Week2: Deploy a ACS test environment to measure performance of bulk data transfer
- Week3: Assessment of ACSflix prototype
- Week4: Implementation prototype of BulkData sender library
- Week5: Implementation prototype of BulkData receiver library
- Week6: Implementation prototype of BulkData callback library
- Week7: Deployment of test environment for testing ZeroMQ implementation
- Week8: Performance analysis of ZeroMQ

- 18-01-2021 - 22-01-2021: [Summary ACS/BDNT](#)
- 22-01-2021 onwards: [Work Log](#)

1. [UTFSM ACSflix](#)
2. [ZMQ packages for RHEL 7](#)
3. [RHEL 7 package list](#)
4. [Class_Diagram](#)