ACS provides two mechanisms for bulk data transfer, which are implemented in the BulkData and BulkDataNT modules. The first is the original bulk data implementation and is based on ACE/TAO Audio/Video Streaming Service. After several years of using it, it was superseded by BulkDataNT at ALMA. A new implementation based on the proprietary vendor RTI DDS allowing for better tuning and supporting multicast to reduce network usage.

As the BulkDataNT version is based in the proprietary software, is not part of the ACS distributed to the community and as such it's not a candidate for most users of ACS. The old implementation based on TAO A/V, has not been maintained in the later years and even when used in production, it had robustness problem that where never fixed.

- Scope
    - BulkData and BulkDataNT Architecture
- Duration: 10 minutes

- How important is bulk data transfer in the ACS community?
- TAO A/V BulkData Limitations
    - Lack of maintenance
    - Long Standing Bug
    - No Multicast
    - Only Implemented for Components (No standalone clients)
- RTI DDS Limitations
    - Licensing Costs
    - Complex Tuning (Though very flexible)
- ZeroMQ Implementation by CTA/UTFSM Agreement
- Other ideas or topics?

- ACS should provide a Bulk Data mechanism out of the box.
    - Clear benefit. All the community on the same page, solving problems and sharing solutions for a common mechanism.
- Heads-up on technology obsolescence for DDS. Could be an issue at some point. ZeroMQ are have good traction in the industry. Worth the effort to push forward with it.
- Igor will try to contact Mauricio Araya to find out status of ZeroMQ BulkData Integration. Hopefully a meeting can be arranged during this workshop.
- BulkData lack of Documentation. Setup one stop place to retrieve the docs.
- LLAMA has tested OpenDDS for BulkData TX . Integration issues with component/container model of ACS. Expected to be solved with version 3.14. Did Test with RTPS.
- The use case for BulkData in CTA involves one-to-one mode only.