LVV-P78: LVV-T2111 -- Realtime access to telemetry in chronograf

Process:

This test case required collaboration between a person running a set of commands against the M1M3 subsystem with another person monitoring the live chronograf view of the telemetry landing in the EFD (Michael Reuter). We chose to service this by screen share over a video conference call and recording the screen while the interactions were carried out (Simon Krughoff).

Michael produced a notebook that could command the M1M3 subsystem simulator at the NCSA Test Stand (NTS). The simulator was chosen over the actual system because the cooling system is being installed requiring that M1M3 be unresponsive. Rather than wait for the summit M1M3 to be available, the choice was made to use the simulator since all of the functional components to satisfy this test case exist there.

A slack call was initiated between Michael and Simon with Michael sharing his screen showing a notebook running in nublado at the NTS. Simon started a screen capture of his own screen. The screen recording was taken in one contiguous stretch. The final video was edited only to remove some dead time at the beginning before the VPN interaction began and to apply a filter to the screen to block the view of Slack message notifications visible on Michael's screen. No other editing was done.

For details of the individual test steps, see the executed test case or the final test report.

Queries:

There are six panes in the dashboard. Each one is serviced by a different query. For posterity, the queries are recorded here:

- Raise Mirror -- `SELECT "raiseM1M3" FROM "efd"."autogen"."lsst.sal.MTM1M3.command_raiseM1M3" WHERE time > :dashboardTime: AND time < :upperDashboardTime:`
- Lower Mirror -- `SELECT "lowerM1M3" FROM "efd"."autogen"."lsst.sal.MTM1M3.command_lowerM1M3" WHERE time > :dashboardTime: AND time < :upperDashboardTime:`
- Mirror Position -- `SELECT mean("zPosition") AS "mean_zPosition" FROM "efd"."autogen"."lsst.sal.MTM1M3.hardpointActuatorData" WHERE`

`time > :dashboardTime: AND time < :upperDashboardTime: GROUP BY time(:interval:) FILL(null)`

- Hardpoint Corrections -- `SELECT "enableHardpointCorrections" FROM "efd"."autogen"."lsst.sal.MTM1M3.command_enableHardpointCorrections" WHERE time > :dashboardTime: AND time < :upperDashboardTime:`
- Telescope Position -- `SELECT mean("azimuthActualPosition") AS "mean_azimuthActualPosition", mean("elevationActualPosition") AS "mean_elevationActualPosition", mean("rotatorActualPosition") AS "mean_rotatorActualPosition" FROM "efd"."autogen"."lsst.sal.MTPtg.mountPosition" WHERE time > :dashboardTime: AND time < :upperDashboardTime: GROUP BY time(:interval:) FILL(null)`
- Balance Forces -- `SELECT mean("zForces0") AS "mean_zForces0", mean("xForces4") AS "mean_xForces4", mean("xForces9") AS "mean_xForces9", mean("yForces18") AS "mean_yForces18", mean("yForces41") AS "mean_yForces41", mean("zForces118") AS "mean_zForces118", mean("zForces58") AS "mean_zForces58" FROM "efd"."autogen"."lsst.sal.MTM1M3.logevent_appliedBalanceForces" WHERE time > :dashboardTime: AND time < :upperDashboardTime: GROUP BY time(:interval:) FILL(null)`

The topics queried are as follows(the prefix "`lsst.sal`" is omitted for brevity since it is the same for all topics in this context):

- `MTM1M3.command_raiseMirror`
- `MTM1M3.command_lowerMirror`
- `MTM1M3.command_enableHardpointCorrections`
- `MTPtg.mountPositions`
- `MTM1M3.logevent_appliedBalanceForces`

Commands:

Please see the notebook attached to the test case for specific commands issued and the context in which they are issued.