Propuesta de análisis de datos de ALMA

Texto original enviado por Andres Avila:

Propuesta de análisis de datos de ALMA

ALMA funciona como un servicio de captura de datos para los astrónomos. Ellos realizan una petición de uso del servicio denominado **observación**. Cada observación se compone de una lista de **scans**, cada uno con un inicio y fin, los cuales consisten en determinar una captura de datos con el arreglo de antenas. A la vez, cada scan posee **subscans** que especifican el movimiento de cada antena(posición en el arreglo, dirección azimutal) y las especificaciones de la toma de datos (tiempo de la medición, tipo de radiación a leer, etc.). A su vez, cada subscan consiste en una lista de **componentes** que especifican cada una de las operaciones unitarias posibles y son los elementos de medición más pequeños.

Para cumplir con las observaciones ALMA posee un grupo de operadores, quienes revisan las observaciones, determinan su factibilidad, y escogen el orden en que las observaciones se realizarán. Para cada **observación escogida**, se selecciona y reserva parte del **array de antenas** que se necesitarán para ejecutar la observación, que también tiene un start/end, lo cual se monitorea con una serie de logs. Los **logs** dependen de cada antena, el cual se configura con una serie de variables. La ejecución de los subscan realiza una captura de datos de una antena y envía los datos al correlacionador para su preprocesamiento. Esta ejecución consiste en varias componentes, cada una con su propio log que va registrando os cambios de estado dentro de la observación. Este log es analizado por un experto y comentado por un texto, lo cual se incluye en el log. Así, los logs tienen diferentes tipos y nombres, y el texto no es lo más relevante. La **Routine** es la función del software y los **loglevels** corresponden a los **tag names**.

Vamos a analizar una componente para determinar los posibles logs que pueda generar. Éstos se detectan en los "printf" del código de la componente. Las componentes más pequeñas poseen 10.000 líneas de código.

Redacción por Juan Pablo Gil

El observatorio ALMA, entendido como instrumento, contiene una serie de dispositivos de hardware dirigidos por un software de control distribuido en más de 100 computadores. Este software funciona sobre ACS, que implementa el paradigma de Contenedor/ Componente y provee distintos servicios, en particular el de logging centralizado. Para simplificar el problema centraremos nuestra atención en el funcionamiento de una sola antena, la ventaja de esta aproximación es que la 66 antenas funcionan de manera idéntica. Cada antena tiene del orden de 50 dispositivos de hardware controlables por software a través del protocolo CAN bus. Un computador denominado ABM (antenna bus master) ejecuta todos los componentes asociados a una antena. En términos generales existe un componente de software por cada dispositivo de

hardware. Aunque cada dispositivo de hardware tiene su comportamiento particular (descritos en documentos disponibles en ALMA) en general todos implementan una máquina de Estado que tiene ciclos de inicialización, configuración, operación, y algunos estados de error y apagado. En el estado operacional es donde se produce el real uso del hardware.

Cada componente genera Logs a medida que va operando, y estos se almacenan en un repositorio central disponible en tiempo real y además son almacenados offline para an'alisis posterior. Un log es un documento XML que comienza con un TagName (Error, Warning, Info, Debug) y tiene properties como TimeStamp, SourceObject, File, Routine, Text (CDATA section). Típicamente es del orden de 500 caracteres, aunque existen algunos considerablemente más largos debido a la libertad de información que puede contener el campo Text.

Describir los intervalos de tiempo de interés para el análisis. Observación, scan, subscan. Casi todo lo interesante referente a una antena sucede dentro de un scan, en particular la gran mayoría de las fallas. Un scan comanda las antenas para apuntar hacia una región específica del cielo por un tiempo determinado, especifica qué bandas de frecuencia utilizar, movimientos del brazo robótico de calibración, y algunos otros parámetros electrónicos de operación. Los subscan se ejecutan después de la incialización de la electrónica necesaria antes de comandar el movimiento de la antena.

Los dispositivos de hardware (y sus respectivos componentes de software) más interesantes de ser analizados dentro de una antena son: la montura, que es la antena completa entendida como un solo dispositivo de hardware cuya función es apuntar correctamente, el ACD, que es el brazo robótico de calibración de las bandas, los WCAx (con x entre 3 y 9) que inicializa la banda de interés a observar, y los IFProc1, IFProc2 para observaciones sin correlacionador. La montura se controla a través de dos componentes, MountController y Mount que manejan distintos niveles de abstracción.

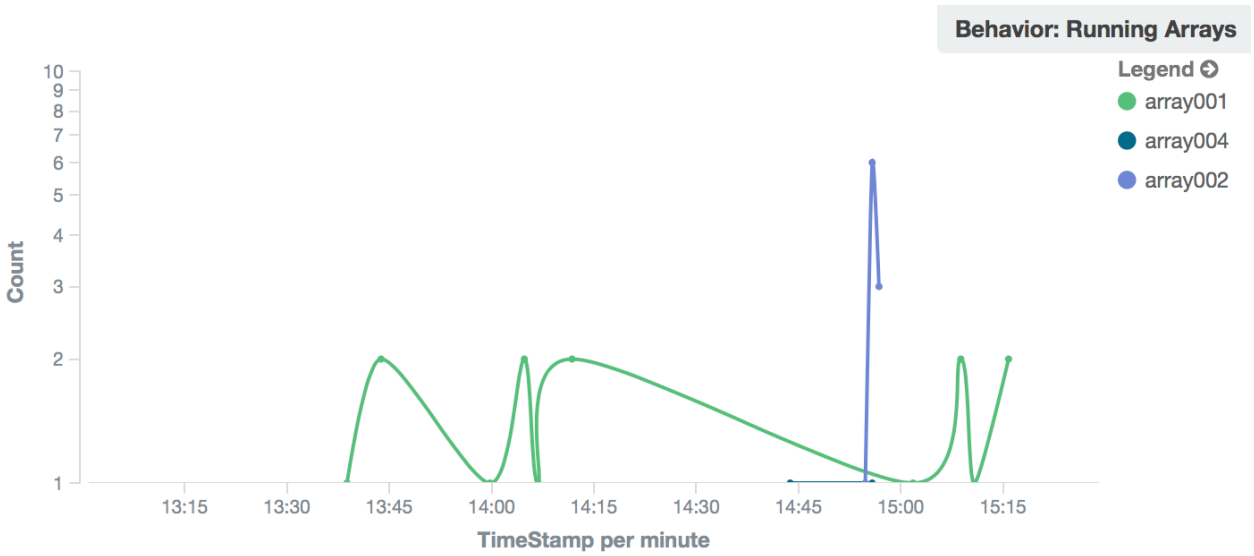
Ejemplo real

Este es un Array que consiste de una sola antena, la DA58, se ejecutaron 5 observaciones. La obs[1] tiene un solo scan y un solo subscan y en total dura 356 segundos, esto es una observación muy sencilla con propósitos de prueba del sistema. Una observación científica puede tener cientos de scan, cada uno con decenas de subscan y durar hasta dos horas y media en el estado actual del software. Los recursos son asignados a un solo array, aunque los Arrays y por lo tanto las observaciones pueden ser ejecutados en paralelo.

```
2015-12-19T16:02:13.839 Array001 Created
2015-12-19T16:02:13.839 Array001 Resources: ['DA58']
2015-12-19T16:38:02.530 Array001 obs[1] Started
2015-12-19T16:38:02.530 Array001 obs[1] Type: Single dish
2015-12-19T16:38:02.530 Array001 obs[1] TotalScans: 1
2015-12-19T16:43:47.904 Array001 obs[1] scan[1] Started
2015-12-19T16:43:47.904 Array001 obs[1] scan[1] Intents OBSERVE_TARGET using
NONE.
2015-12-19T16:43:47.904 Array001 obs[1] scan[1] TotalSubcans: 1
2015-12-19T16:43:51.976 Array001 obs[1] scan[1] subscan[1] Started
2015-12-19T16:43:58.725 Array001 obs[1] scan[1] subscan[1] Ended in 6.749 s
```

```
2015-12-19T16:43:58.725 Array001 obs[1] scan[1] Ended in 4.072 s
2015-12-19T16:43:58.725 Array001 obs[1] Ended in 356.195 s
... some lines ommited for simplicity ...
2015-12-19T18:10:07.723 Array001 obs[5] Started
2015-12-19T18:10:07.723 Array001 obs[5] Type: Single dish
2015-12-19T18:10:07.723 Array001 obs[5] TotalScans: 1
2015-12-19T18:15:29.375 Array001 obs[5] scan[1] Started
2015-12-19T18:15:29.375 Array001 obs[5] scan[1] Intents OBSERVE_TARGET using
NONE.
2015-12-19T18:15:29.375 Array001 obs[5] scan[1] TotalSubcans: 1
2015-12-19T18:15:33.563 Array001 obs[5] scan[1] subscan[1] Started
2015-12-19T19:05:48.330 Array001 obs[5] scan[1] subscan[1] Ended in 3014.767 s
2015-12-19T19:05:48.330 Array001 obs[5] scan[1] Ended in 4.188 s
2015-12-19T19:05:48.330 Array001 obs[5] Ended in 3340.607 s
2015-12-19T21:51:25.994 Array001 arrayDestroyed
```

Durante la vida de Array001 hubo otros dos Arrays ejecutándose en paralelo, como se muestra en este gráfico obtenido desde Kibana:



Container Logs

Para facilidad de uso, los containers (que agrupan componentes) escriben en un archivo de texto un subconjunto de los XML logs generados por todos sus componentes filtrados por LogLevel = (INFO, WARNING, ERROR, EMERGENCY). La gran mayoría de los logs están en DEBUG o debajo y no se muestran en este subconjunto. Además, se escriben los logs en un formato que incluye solo una parte de los campos de los XML logs. Transcribo aquí lo correspondiente a la antena DA58 durante la obs[1], solo 5 minutos de operación.

```
2015-12-19T16:38:04.670 [maci::LibraryManager - maci::LibraryManager::load] Request to load
'AntLOController'.
2015-12-19T16:38:04.684 [maci::LibraryManager - maci::LibraryManager::load] Full path '/alma/ACS-
2014.6/ACSSW/lib/libAntLOController.so'
2015-12-19T16:38:04.684 [maci::LibraryManager - maci::LibraryManager::load] Going to execute
dlopen for /alma/ACS-2014.6/ACSSW/lib/libAntLOController.so
2015-12-19T16:38:05.378 [maci::LibraryManager - maci::LibraryManager::load] Going to execute
dlsym for /alma/ACS-2014.6/ACSSW/lib/libAntLOController.so
2015-12-19T16:38:05.379 [maci::LibraryManager - maci::LibraryManager::load] Going to execute
dllOpen for /alma/ACS-2014.6/ACSSW/lib/libAntLOController.so
2015-12-19T16:38:05.380 [maci::LibraryManager - maci::LibraryManager::load] Loaded '/alma/ACS-
2014.6/ACSSW/lib/libAntLOController.so'.
2015-12-19T16:38:05.382 [CONTROL/DA58/cppContainer-GL - ] Switched state of component
CONTROL/DA58/AntLOController: NEW -> INITIALIZING
2015-12-19T16:38:05.382 [CONTROL/DA58/cppContainer-GL - ] Switched state of component
CONTROL/DA58/AntLOController: INITIALIZING -> INITIALIZED
2015-12-19T16:38:05.382 [CONTROL/DA58/cppContainer-GL - ] Switched state of component
CONTROL/DA58/AntLOController: INITIALIZED -> OPERATIONAL
2015-12-19T16:38:05.382 [CONTROL/DA58/cppContainer - maci::ContainerImpl::activate_component]
Component 'CONTROL/DA58/AntLOController' activated.
2015-12-19T16:38:05.405 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58)
2015-12-19T16:38:05.412 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/FLOOG)
2015-12-19T16:38:05.414 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/LO2BBpr0)
2015-12-19T16:38:05.415 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/LO2BBpr1)
2015-12-19T16:38:05.417 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/LO2BBpr2)
2015-12-19T16:38:05.422 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/LO2BBpr3)
2015-12-19T16:38:05.423 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/IFProc0)
2015-12-19T16:38:05.425 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/IFProc1)
2015-12-19T16:38:05.426 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/FrontEnd)
2015-12-19T16:38:05.428 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/FrontEnd/IFSwitch)
2015-12-19T16:38:05.430 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/DGCK)
2015-12-19T16:38:05.432 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/SAS)
2015-12-19T16:38:05.433 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/DTXBBpr0)
2015-12-19T16:38:05.435 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/DTXBBpr1)
2015-12-19T16:38:05.437 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/DTXBBpr2)
2015-12-19T16:38:05.438 [CONTROL/DA58/AntLOController - ]
ContainerServices::getComponentNonSticky(CONTROL/DA58/DTXBBpr3)
```

2015-12-19T16:38:07.116 [CONTROL/DA58 -]
ContainerServices::getComponentNonSticky(CONTROL/DA58/SAS)
2015-12-19T16:38:09.103 [maci::LibraryManager - maci::LibraryManager::load] Request to load
'TotalPowerImpl'.
2015-12-19T16:38:09.120 [maci::LibraryManager - maci::LibraryManager::load] Full path '/alma/ACS-
2014.6/ACSSW/lib/libTotalPowerImpl.so'
2015-12-19T16:38:09.120 [maci::LibraryManager - maci::LibraryManager::load] Going to execute
dlopen for /alma/ACS-2014.6/ACSSW/lib/libTotalPowerImpl.so
2015-12-19T16:38:10.036 [maci::LibraryManager - maci::LibraryManager::load] Going to execute
dlsym for /alma/ACS-2014.6/ACSSW/lib/libTotalPowerImpl.so
2015-12-19T16:38:10.037 [maci::LibraryManager - maci::LibraryManager::load] Going to execute
dllOpen for /alma/ACS-2014.6/ACSSW/lib/libTotalPowerImpl.so
2015-12-19T16:38:10.037 [maci::LibraryManager - maci::LibraryManager::load] Loaded '/alma/ACS-
2014.6/ACSSW/lib/libTotalPowerImpl.so'.
2015-12-19T16:38:10.038 [CONTROL/DA58/cppContainer-GL -] Switched state of component
CONTROL/DA58/TOTALPOWER: NEW -> INITIALIZING
2015-12-19T16:38:10.038 [CONTROL/DA58/cppContainer-GL -] Switched state of component
CONTROL/DA58/TOTALPOWER: INITIALIZING -> INITIALIZED
2015-12-19T16:38:10.038 [CONTROL/DA58/cppContainer-GL -] Switched state of component
CONTROL/DA58/TOTALPOWER: INITIALIZED -> OPERATIONAL
2015-12-19T16:38:10.039 [CONTROL/DA58/cppContainer - maci::ContainerImpl::activate_component]
Component 'CONTROL/DA58/TOTALPOWER' activated.
2015-12-19T16:38:10.048 [CONTROL/DA58/TOTALPOWER -]
ContainerServices::getComponentNonSticky(CONTROL/DA58)
2015-12-19T16:38:10.094 [CONTROL/DA58/TOTALPOWER -]
ContainerServices::getComponentNonSticky(CONTROL/DA58/IFProc0)
2015-12-19T16:38:10.095 [CONTROL/DA58/TOTALPOWER -]
ContainerServices::getComponentNonSticky(CONTROL/DA58/IFProc1)
2015-12-19T16:38:18.801 [CONTROL/DA58/IFProc0 - beginDataAcquisition] Data acquisition activated.
2015-12-19T16:38:18.802 [CONTROL/DA58/IFProc1 - beginDataAcquisition] Data acquisition activated.
2015-12-19T16:38:21.673 [CONTROL/DA58/LO2BBpr0 - virtual void LO2Engine::setFrequency(double,
Control::LOOffsettingMode, NetSidebandMod::NetSideband, ACS::Time)] Setting the LO2 frequency to
9.97508GHz at 16:38:21.936. This baseband is below the first LO. No LO offsetting will be used
Retuning as this is diferent from the current state at this time
2015-12-19T16:38:21.673 [CONTROL/DA58/LO2BBpr1 - virtual void LO2Engine::setFrequency(double,
Control::LOOffsettingMode, NetSidebandMod::NetSideband, ACS::Time)] Setting the LO2 frequency to
8.02508GHz at 16:38:21.936. This baseband is below the first LO. No LO offsetting will be used
Retuning as this is diferent from the current state at this time
2015-12-19T16:38:21.673 [CONTROL/DA58/LO2BBpr2 - virtual void LO2Engine::setFrequency(double,
Control::LOOffsettingMode, NetSidebandMod::NetSideband, ACS::Time)] Setting the LO2 frequency to
8.02508GHz at 16:38:21.936. This baseband is above the first LO. No LO offsetting will be used
Retuning as this is diferent from the current state at this time
2015-12-19T16:38:21.673 [CONTROL/DA58/LO2BBpr3 - virtual void LO2Engine::setFrequency(double,
Control::LOOffsettingMode, NetSidebandMod::NetSideband, ACS::Time)] Setting the LO2 frequency to
9.97508GHz at 16:38:21.936. This baseband is above the first LO. No LO offsetting will be used
Retuning as this is diferent from the current state at this time
2015-12-19T16:38:21.691 [CONTROL/DA58/FrontEnd/ACD - void
ACDImpl::setCalibrationDeviceBandInternal(CalibrationDeviceMod::CalibrationDevice,
ReceiverBandMod::ReceiverBand)] Parking the Calibration Device
2015-12-19T16:38:40.326 [CONTROL/DA58/FrontEnd/WCA5 - virtual void
WCAImpl::offsetCoarseByFloog(NetSidebandMod::NetSideband, double, bool)]
WCAImpl::offsetCoarseByFloog -- coarse: 1527
2015-12-19T16:38:40.817 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] Modulation

```
voltage: 1.585 IFTotal Power: 0.264282 LPR power: 0.00018272 Photomixer Current: 7.64465e-05
2015-12-19T16:38:40.818 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] (initial) coarse tune: : 1527
Initial IFTP: -0.252686
2015-12-19T16:38:40.917 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] Set coarse tune to: : 1570
High IFTP: -0.0109863
2015-12-19T16:38:40.967 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] Set coarse tune to: : 1527
High IFTP: -0.117035
2015-12-19T16:38:41.017 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] Set coarse tune to: : 1506
High IFTP: -0.0506592
2015-12-19T16:38:41.067 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] Set coarse tune to: : 1517
High IFTP: -0.0741577
2015-12-19T16:38:41.117 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] Set coarse tune to: : 1522
High IFTP: -0.0996399
2015-12-19T16:38:41.167 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] Set coarse tune to: : 1525
High IFTP: -0.0950623
2015-12-19T16:38:41.168 [CONTROL/DA58/FrontEnd/WCA5 - maximizeIFTP] Optimal coarse tune: : 1527
Optimal IFTP: -0.117035
2015-12-19T16:38:41.169 [CONTROL/DA58/FrontEnd/WCA5 - virtual void
WCAImpl::offsetCoarseByFloog(NetSidebandMod::NetSideband, double, bool)]
WCAImpl::offsetCoarseByFloog -- coarse: 1534
2015-12-19T16:38:41.170 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] Done
Offsetting Floog
2015-12-19T16:38:41.231 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] Modulation
voltage: 1.615 IFTotal Power: 0.402832 LPR power: 0.000245493 Photomixer Current: 0.000101318
2015-12-19T16:38:41.290 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] Modulation
voltage: 1.635 IFTotal Power: 1.11053 LPR power: 0.000438609 Photomixer Current: 0.000163116
2015-12-19T16:38:41.350 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] Modulation
voltage: 1.655 IFTotal Power: 2.14493 LPR power: 0.00066731 Photomixer Current: 0.000236053
2015-12-19T16:38:41.357 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] WCA Locked
2015-12-19T16:38:41.359 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
Pol1: Target ij=50.0000
2015-12-19T16:38:41.359 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
Pol0: Target ij=50.0000
2015-12-19T16:38:41.401 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
Pol1: ij=50.0000,my=299.5270,ny=-121.6395,ij01=327.6511
2015-12-19T16:38:41.401 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
Pol1: ijc=61.7233,ij00=103.0058,ij01=327.6511
2015-12-19T16:38:41.401 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Pol
1 Initial Guess u0 = 0.5700[V]
2015-12-19T16:38:41.401 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Pol
1 current u = 0.6300[V]
2015-12-19T16:38:41.401 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Pol1
```

```
Set value = 0.6300[V]
2015-12-19T16:38:41.402 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
Pol0: ij=50.0000,my=143.6680,ny=63.5963,ij01=279.0982
2015-12-19T16:38:41.402 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
Pol0: ijc=407.7508,ij00=171.3472,ij01=279.0982
2015-12-19T16:38:41.402 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Pol
0 Initial Guess u0 = -0.0900[V]
015-12-19T16:38:41.403 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Pol
0 current u = 2.3800[V]
2015-12-19T16:38:41.403 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Pol0
Set value = 1.5000[V]
2015-12-19T16:38:41.413 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
vd1=0.6300[V] yavg=148.2257[uA] e1=-98.2257[uA]
2015-12-19T16:38:41.413 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Loop
ongoing j=0
2015-12-19T16:38:41.417 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
vd0=1.5000[V] yavg=282.0482[uA] e1=-232.0482[uA]
2015-12-19T16:38:41.417 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)] Loop
ongoing j=0
2015-12-19T16:38:41.554 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
[Info] Pol 0, yavg=51.9936[uA] e1=-1.9936[uA] vd0=0.6311[V] (Set value= 0.6600[V])

2015-12-19T16:38:41.734 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::optimizeSinglePolInternal(ReceiverBandMod::ReceiverBand, int, float&, float&)]
[Info] Pol 1, yavg=52.3227[uA] e1=-2.3227[uA] vd1=0.5714[V] (Set value= 0.6050[V])

2015-12-19T16:38:41.957 [CONTROL/DA58/FrontEnd/ACD - void
ACDImpl::setCalibrationDeviceBandInternal(CalibrationDeviceMod::CalibrationDevice,
ReceiverBandMod::ReceiverBand)] Parking the Calibration Device
Vector Size: 1
Starttime: 136698359221920000
Band: 4
Freq: 8.98175e+10
Caldevice 6
2015-12-19T16:38:41.970 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] Receiver
band was already locked at 1.797000e+11
ACD Movement: Time: 5042800 To: 4 Set As: 6
ACDCSV,5042800,4,6
2015-12-19T16:38:42.493 [CONTROL/DA58/FrontEnd/ACD - void
ACDImpl::setCalibrationDeviceBandInternal(CalibrationDeviceMod::CalibrationDevice,
ReceiverBandMod::ReceiverBand)] Setting Hot load in front of band 5
ACD Movement: Time: 27652490 To: 4 Set As: 2
ACDCSV,27652490,4,2
```

```
2015-12-19T16:38:47.885 [CONTROL/DA58/IFProc0 - virtual void IFProcImpl::setPowerLevel(float)]
Tweaking the attenuators so the nominal gains are at [ 30.5 31.5 30.5 31 ] dBm and this should
give an IF power of [ 2.40997 3.16017 2.579 2.25302 ] dBm. This is not close enough to the
requested value of 2.4 dBm
2015-12-19T16:43:49.321 [CONTROL/DA58/FrontEnd - void
FrontEndImpl::lockFrontEndInternal(Control::FrontEnd::SubscanInformation, bool, bool)] Receiver
band was already locked at 1.797000e+11
2015-12-19T16:43:53.093 [CONTROL/DA58/cppContainer-GL - void
PositionStreamConsumer::processData(Control::MountStatusData)] At 16:43:53.093 got the last
needed data with a timestamp of 16:43:52.992. The delay is 0.102 seconds.
2015-12-19T16:43:53.862 [CONTROL/DA58/cppContainer-GL - ] Switched state of component
CONTROL/DA58/AntLOController: OPERATIONAL -> DESTROYING
2015-12-19T16:43:53.862 [CONTROL/DA58/cppContainer-GL - ] Switched state of component
CONTROL/DA58/AntLOController: DESTROYING -> DEFUNCT
2015-12-19T16:43:53.863 [CONTROL/DA58/cppContainer - maci::ContainerImpl::etherealizeComponent]
Component 'CONTROL/DA58/AntLOController' etherealized.
2015-12-19T16:43:53.863 [maci::LibraryManager - maci::LibraryManager::unload] Unloaded
'/alma/ACS-2014.6/ACSSW/lib/libAntLOController.so'.
2015-12-19T16:43:53.863 [CONTROL/DA58/cppContainer - maci::ContainerImpl::deactivate_component]
Component 'CONTROL/DA58/AntLOController' deactivated.
2015-12-19T16:43:53.873 [CONTROL/DA58/IFProc0 - abortDataAcquisition] Data acquisition aborted.
2015-12-19T16:43:53.873 [CONTROL/DA58/IFProc1 - abortDataAcquisition] Data acquisition aborted.
2015-12-19T16:43:54.012 [CONTROL/DA58/Mount - bool
Control::MountImpl::isExecutionTimeCorrect(std::string, ACS::Time, ACS::Time, bool)] The
AZ_TRAJ_CMD control point was executed in the wrong timing event. Requested execution time
16:43:53.856. Actual execution time 16:43:53.952. Delay is 96.9488 ms
2015-12-19T16:43:54.013 [CONTROL/DA58/Mount - bool
Control::MountImpl::isExecutionTimeCorrect(std::string, ACS::Time, ACS::Time, bool)] The
EL_TRAJ_CMD control point was executed in the wrong timing event. Requested execution time
16:43:53.856. Actual execution time 16:43:53.953. Delay is 97.4084 ms
2015-12-19T16:43:58.702 [CONTROL/DA58/cppContainer-GL - ] Switched state of component
CONTROL/DA58/TOTALPOWER: OPERATIONAL -> DESTROYING
2015-12-19T16:43:58.703 [CONTROL/DA58/cppContainer-GL - ] Switched state of component
CONTROL/DA58/TOTALPOWER: DESTROYING -> DEFUNCT
2015-12-19T16:43:58.704 [CONTROL/DA58/cppContainer - maci::ContainerImpl::etherealizeComponent]
Component 'CONTROL/DA58/TOTALPOWER' etherealized.
2015-12-19T16:43:58.705 [maci::LibraryManager - maci::LibraryManager::unload] Unloaded
'/alma/ACS-2014.6/ACSSW/lib/libTotalPowerImpl.so'.
2015-12-19T16:43:58.707 [CONTROL/DA58/cppContainer - maci::ContainerImpl::deactivate_component]
Component 'CONTROL/DA58/TOTALPOWER' deactivated.
```

XML Logs de Mount

Los siguientes son los XML logs completos correspondientes solo al Mount durante la obs[1], que es solo uno de los cerca de 50 dispositivos de hardware que manejan la operación de la antena. Nuevamente, corresponde a aprox 5 minutos. Es en este set de datos donde se puede hacer un análisis muy detallado de la operación de los componentes, Mount en este ejemplo. Cuando sucede una condición no deseada el log es fácilmente identificable pues se trata de un <Error>, <Critical> o <Emergency>, sin embargo la cadena de sucesos que gatilla esta condición suele estar en los logs de <Debug>.

<Debug TimeStamp="2015-12-19T16:38:03.613" File="MountImpl.cpp" Line="1494" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:03.504 the commanded positions were invalid. This antenna is off-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:13.674" File="MountImpl.cpp" Line="1494" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:13.584 the commanded positions were invalid. This antenna is off-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:21.140" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="ORBTask" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:21.140 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:21.687" File="MountImpl.cpp" Line="2874" Routine="void Control::MountImpl::setBandNow(int)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="ORBTask" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Switching to a pointing and focus model for band 5]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:21.851" File="MountImpl.cpp" Line="2067" Routine="virtual void Control::MountImpl::flushTrajectory(ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountController/SwitchSourceThread@16:38:21.850" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Flushing all queued commands and monitor requests with timestamps from 16:38:22.128]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:21.851" File="MountImpl.cpp" Line="2153" Routine="virtual void Control::MountImpl::flushTrajectory(ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountController/SwitchSourceThread@16:38:21.850" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Queuing of commands and monitor requests will resume after 16:38:22.128]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:21.856" File="MountImpl.cpp" Line="2967" Routine="virtual double Control::MountImpl::getSensorTemperatureForFocusModel()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Got at least one plausible temperature for use by the focus model. Measured values are: 1.24001 1.29 1.67001 deg. C. The average is 1.40001]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:21.856" File="FocusModel.cpp" Line="236" Routine="bool Control::FocusModel::getFocus(double#, double#, double#, double#, double#, double#, double#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Moving the subreflector to (-0.083, -1.084, -0.781) mm with a tip/tilt of (0, 0) degrees. This includes position offsets of (0, 0, 0) mm and tip/tilt offsets of (0, 0) degrees.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:21.856" File="FocusModel.cpp" Line="261" Routine="bool Control::FocusModel::getFocus(double#, double#, double#, double#, double#, double#, double#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Az/El adjusted by (3.07743, -36.9644) arcsecs (CA=-2.8303 IE=-36.9644 arcsecs) to compensate for the subreflector position and rotation.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:22.259" File="MountImpl.cpp" Line="1446" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:22.176 the commanded subreflector rotation changed to (0, 0)]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:22.259" File="MountImpl.cpp" Line="1458" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:22.176 the commanded subreflector position changed to (-0.083, -1.083,

-0.781)]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:23.774" File="MountImpl.cpp" Line="1518" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:23.664 the position error is 37987.5 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (177.856769267927, 12.675868510761) deg. Commanded Az/El: (179.909777980755, 23.046095907249) deg. This antenna is off-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:27.715" File="MountImpl.cpp" Line="1615" Routine="void Control::MountImpl::flagIfOffSource(bool, bool, ACS::Time)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Antenna has gone on source at 16:38:27.648]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:31.241" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:31.241 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:33.775" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:33.648 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909784809802, 23.046191292336) deg. Commanded Az/El: (179.909779613022, 23.046156255980) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:41.341" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:41.341 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:43.875" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:43.776 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909770851095, 23.046218448713) deg. Commanded Az/El: (179.909781412293, 23.046217442884) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:51.443" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:51.443 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:38:53.974" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:38:53.856 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909782876501, 23.046289358626) deg. Commanded Az/El: (179.909783044139, 23.046278294514) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>

<Debug TimeStamp="2015-12-19T16:39:01.543" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:01.543 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:04.074" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:03.984 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909778808444, 23.046339146135) deg. Commanded Az/El: (179.909784843414, 23.046339481411) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:11.645" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:11.645 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:14.173" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:14.064 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909791504406, 23.046428496229) deg. Commanded Az/El: (179.909786642902, 23.046400333034) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:21.744" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:21.744 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:21.951" File="MountImpl.cpp" Line="2967" Routine="virtual double Control::MountImpl::getSensorTemperatureForFocusModel()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Got at least one plausible temperature for use by the focus model. Measured values are: 1.24999 1.30001 1.67001 deg. C. The average is 1.40667]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:24.273" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:24.192 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909777880982, 23.046449617623) deg. Commanded Az/El: (179.909788442180, 23.046461687564) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:31.844" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:31.844 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:34.372" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer"

Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:34.272 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909776662989, 23.046516168934) deg. Commanded Az/El: (179.909790409311, 23.046522539180) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:41.945" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:41.945 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:44.472" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:44.352 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909785168006, 23.046617588958) deg. Commanded Az/El: (179.909792376443, 23.046583390793) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:52.046" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:52.046 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:39:54.571" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:39:54.480 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909790487689, 23.046649606817) deg. Commanded Az/El: (179.909794343365, 23.046644577675) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:02.148" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:02.148 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:04.671" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:04.560 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909788263874, 23.046705932196) deg. Commanded Az/El: (179.909796478139, 23.046705429282) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:12.248" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:12.248 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>

<Debug TimeStamp="2015-12-19T16:40:14.770" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:14.688 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909810515005, 23.046782709411) deg. Commanded Az/El: (179.909798612703, 23.046766616156) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:22.046" File="MountImpl.cpp" Line="2967" Routine="virtual double Control::MountImpl::getSensorTemperatureForFocusModel()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Got at least one plausible temperature for use by the focus model. Measured values are: 1.24999 1.29 1.67999 deg. C. The average is 1.40666]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:22.349" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:22.349 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:24.870" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:24.768 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909802423862, 23.046828641223) deg. Commanded Az/El: (179.909800747481, 23.046827635395) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:32.450" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:32.450 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:34.969" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:34.848 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909790644683, 23.046887816440) deg. Commanded Az/El: (179.909802882261, 23.046888486992) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:42.551" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:42.551 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:45.069" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:44.976 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909794287996, 23.046941627230) deg. Commanded Az/El: (179.909805184470, 23.046949673857) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The

maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:52.653" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:52.653 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:40:55.168" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:40:55.056 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909808325082, 23.046992085261) deg. Commanded Az/El: (179.909807486892, 23.047010525448) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:02.753" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:02.754 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:05.269" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:05.184 the position error is 0.2 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909820015026, 23.047119153879) deg. Commanded Az/El: (179.909809956743, 23.047071712307) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:12.855" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:12.855 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:15.368" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:15.264 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909800859781, 23.047100712659) deg. Commanded Az/El: (179.909812259169, 23.047132563891) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:22.140" File="MountImpl.cpp" Line="2967" Routine="virtual double Control::MountImpl::getSensorTemperatureForFocusModel()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Got at least one plausible temperature for use by the focus model. Measured values are: 1.24999 1.30001 1.70001 deg. C. The average is 1.41667]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:22.956" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:22.956 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>

<Debug TimeStamp="2015-12-19T16:41:25.468" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:25.344 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909819423102, 23.047185704121) deg. Commanded Az/El: (179.909814729236, 23.047193415472) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:33.058" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:33.058 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:35.567" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:35.472 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909813511056, 23.047237167963) deg. Commanded Az/El: (179.909817199093, 23.047254602321) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:43.159" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:43.160 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:45.667" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:45.552 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909823524840, 23.047297013709) deg. Commanded Az/El: (179.909819836803, 23.047315453896) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:53.261" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:53.261 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:41:55.766" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:41:55.680 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909808727981, 23.047347806991) deg. Commanded Az/El: (179.909822474303, 23.047376640738) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:03.361" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread"

Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:03.361 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:05.866" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:05.760 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909814718457, 23.047413520064) deg. Commanded Az/El: (179.909825112017, 23.047437492307) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:13.461" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:13.461 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:15.965" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:15.840 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909831102494, 23.047509743260) deg. Commanded Az/El: (179.909827749733, 23.047498511510) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:22.235" File="MountImpl.cpp" Line="2967" Routine="virtual double Control::MountImpl::getSensorTemperatureForFocusModel()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Got at least one plausible temperature for use by the focus model. Measured values are: 1.24999 1.30999 1.70001 deg. C. The average is 1.42]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:23.564" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:23.564 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:26.065" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:25.968 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909826866840, 23.047546119659) deg. Commanded Az/El: (179.909830554877, 23.047559530705) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:33.663" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:33.663 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:36.166" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:36.048 the position error is 0.0 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909832186770, 23.047620382263) deg. Commanded Az/El: (179.909833360236,

23.047620549901) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:43.766" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:43.766 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:46.265" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:46.176 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909842367994, 23.047705541333) deg. Commanded Az/El: (179.909836165386, 23.047681569090) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:53.866" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:53.866 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:42:56.365" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:42:56.256 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909814495592, 23.047712413428) deg. Commanded Az/El: (179.909838970749, 23.047742588280) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:03.968" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:03.968 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:06.464" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:06.384 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909859545539, 23.047841996578) deg. Commanded Az/El: (179.909841943542, 23.047803607462) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:14.067" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:14.067 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:16.564" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount"

Audience="Developer"><![CDATA[At 16:43:16.464 the position error is 0.2 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909847766396, 23.047915253341) deg. Commanded Az/El: (179.909844916548, 23.047864459007) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:22.330" File="MountImpl.cpp" Line="2967" Routine="virtual double Control::MountImpl::getSensorTemperatureForFocusModel()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Got at least one plausible temperature for use by the focus model. Measured values are: 1.24999 1.33001 1.70999 deg. C. The average is 1.43]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:24.167" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:24.167 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:26.663" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:26.544 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909847051367, 23.047951294450) deg. Commanded Az/El: (179.909848057196, 23.047925310550) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:34.269" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:34.269 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:36.764" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:36.672 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909842648092, 23.048019857335) deg. Commanded Az/El: (179.909851029995, 23.047986497360) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:44.369" File="MountAxisMode.cpp" Line="280" Routine="void Control::MountAxisMode::getAxisMode(Control::Mount::AxisMode#, Control::Mount::AxisMode#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountControllerTrajectoryPlannerThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:44.369 azimuth axis is in autonomous mode, elevation axis is in autonomous mode.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:46.863" File="MountImpl.cpp" Line="1584" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:46.752 the position error is 0.1 arc-secs and the tolerance is 10.0 arc-secs. Measured Az/El: (179.909855176476, 23.048016838769) deg. Commanded Az/El: (179.909854170647, 23.048047348896) deg. The subreflector position error is 0.010 and the tolerance is 0.100 mm in the X and Y axes and 0.010 mm on the Z axis. Measured (-0.082, -1.083, -0.781) mm Commanded (-0.083, -1.083, -0.781) mm. The maximum subreflector rotation error is 0.000 arc-secs and the tolerance is 0.001 deg. Measured (0.000000, 0.000000) deg. Commanded (0.000000, 0.000000) deg. This antenna is on-source.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:47.987" File="MountImpl.cpp" Line="2067" Routine="virtual void

Control::MountImpl::flushTrajectory(ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountController/SwitchSourceThread@16:43:47.986" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Flushing all queued commands and monitor requests with timestamps from 16:43:48.240]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:47.988" File="MountImpl.cpp" Line="2153" Routine="virtual void Control::MountImpl::flushTrajectory(ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountController/SwitchSourceThread@16:43:47.986" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Queuing of commands and monitor requests will resume after 16:43:48.240]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:48.084" File="FocusModel.cpp" Line="236" Routine="bool Control::FocusModel::getFocus(double#, double#, double#, double#, double#, double#, double#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Moving the subreflector to (-0.083, -1.084, -0.781) mm with a tip/tilt of (0, 0) degrees. This includes position offsets of (0, 0, 0) mm and tip/tilt offsets of (0, 0) degrees.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:48.084" File="FocusModel.cpp" Line="261" Routine="bool Control::FocusModel::getFocus(double#, double#, double#, double#, double#, double#, double#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Az/El adjusted by (3.07747, -36.9644) arcsecs (CA=-2.8303 IE=-36.9644 arcsecs) to compensate for the subreflector position and rotation.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:48.378" File="MountImpl.cpp" Line="1446" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:48.288 the commanded subreflector rotation changed to (0, 0)]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:48.378" File="MountImpl.cpp" Line="1458" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:48.288 the commanded subreflector position changed to (-0.083, -1.083, -0.781)]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:48.618" File="MountImpl.cpp" Line="2208" Routine="virtual void Control::MountImpl::enableMountStatusDataPublication(CORBA::Boolean)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="ORBTask" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Enabling publication of mount status data. There is now 1 client receiving this data so data will be published.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:48.682" File="MountImpl.cpp" Line="1655" Routine="void Control::MountImpl::publishMountStatusData()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:48.682 the pointing data sampled at 16:43:48.576 was published. The delay was 0.107 seconds.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:53.708" File="MountImpl.cpp" Line="1655" Routine="void Control::MountImpl::publishMountStatusData()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:53.708 the pointing data sampled at 16:43:53.616 was published. The delay was 0.092 seconds.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:53.742" File="MountImpl.cpp" Line="2208" Routine="virtual void Control::MountImpl::enableMountStatusDataPublication(CORBA::Boolean)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="ORBTask" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Disabling publication of mount status data. There are now 0 clients receiving this data so data will not be published.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:53.864" File="MountImpl.cpp" Line="2067" Routine="virtual void Control::MountImpl::flushTrajectory(ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="ORBTask" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Flushing all queued commands and monitor requests with timestamps from 00:00:00.000]]></Debug>

<Debug TimeStamp="2015-12-19T16:43:53.865" File="MountImpl.cpp" Line="2153" Routine="virtual void Control::MountImpl::flushTrajectory(ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="ORBTask" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Queuing of commands and monitor requests will resume after 16:43:53.856]]></Debug>
<Error TimeStamp="2015-12-19T16:43:54.012" File="MountImpl.cpp" Line="1701" Routine="bool Control::MountImpl::isExecutionTimeCorrect(std::string, ACS::Time, ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer" StackId="" StackLevel="0"><![CDATA[The AZ_TRAJ_CMD control point was executed in the wrong timing event. Requested execution time 16:43:53.856. Actual execution time 16:43:53.952. Delay is 96.9488 ms]]></Error>
<Error TimeStamp="2015-12-19T16:43:54.013" File="MountImpl.cpp" Line="1701" Routine="bool Control::MountImpl::isExecutionTimeCorrect(std::string, ACS::Time, ACS::Time, bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer" StackId="" StackLevel="0"><![CDATA[The EL_TRAJ_CMD control point was executed in the wrong timing event. Requested execution time 16:43:53.856. Actual execution time 16:43:53.953. Delay is 97.4084 ms]]></Error>
<Debug TimeStamp="2015-12-19T16:43:53.945" File="MountImpl.cpp" Line="882" Routine="virtual void Control::MountImpl::writeMessages()" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Missed sending some monitor requests! Time now 16:43:53.945 Last request was sent at 16:43:53.856]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:53.945" File="TrajectoryQueue.cpp" Line="170" Routine="Control::Trajectory Control::TrajectoryQueue::getTrajectory(ACS::Time)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[Queue is empty. Returned last value with Az/El: (179.909857161, 23.0480968449) deg. Rates set to zero at 16:43:53.952]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:53.945" File="FocusModel.cpp" Line="236" Routine="bool Control::FocusModel::getFocus(double#, double#, double#, double#, double#, double#, double#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Moving the subreflector to (-0.083, -1.084, -0.781) mm with a tip/tilt of (0, 0) degrees. This includes position offsets of (0, 0, 0) mm and tip/tilt offsets of (0, 0) degrees.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:53.945" File="FocusModel.cpp" Line="261" Routine="bool Control::FocusModel::getFocus(double#, double#, double#, double#, double#, double#, double#)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountWriterThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Az/El adjusted by (3.07748, -36.9644) arcsecs (CA=-2.8303 IE=-36.9644 arcsecs) to compensate for the subreflector position and rotation.]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:54.016" File="MountImpl.cpp" Line="1446" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:53.952 the commanded subreflector rotation changed to (0, 0)]]>
</Debug>
<Debug TimeStamp="2015-12-19T16:43:54.016" File="MountImpl.cpp" Line="1458" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:53.952 the commanded subreflector position changed to (-0.083, -1.083, -0.781)]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:54.018" File="MountImpl.cpp" Line="1615" Routine="void Control::MountImpl::flagIfOffSource(bool, bool, ACS::Time)" Host="da58-abm" Process="CONTROL/DA58/cppContainer" Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Operator"><![CDATA[Antenna has gone off source at 16:43:53.952]]></Debug>
<Debug TimeStamp="2015-12-19T16:43:56.948" File="MountImpl.cpp" Line="1494" Routine="void Control::MountImpl::setOnSource(bool)" Host="da58-abm" Process="CONTROL/DA58/cppContainer"

Thread="CONTROL/DA58/MountReaderThread" Context="" SourceObject="CONTROL/DA58/Mount" Audience="Developer"><![CDATA[At 16:43:56.832 the commanded positions were invalid. This antenna is off-source.]]></Debug>

Ejemplo de error en el Mount

Este log de error ocurrió tres horas después, durante la obs[5]. Notar que el campo CDATA contiene información escrita para consumo humano y describe la naturaleza del error.

```
<Error TimeStamp="2015-12-19T19:07:34.058" File="MountAxisMode.cpp" Line="320"
Routine="pollingForAxisMode" Host="da58-abm" Process="CONTROL/DA58/cppContainer"
Thread="O
RBTask" Context="" SourceObject="CONTROL/DA58/cppContainer-GL" StackId="c29bbf08-
a683-11e5-8000-002038042b0b" StackLevel="0"><![CDATA[Timed Out (type=10008,
code=2)]]></Error>
```

Este error es atrapado por la clase MountController que utiliza una instancia del Mount, y reinterpreta el error desde un "pollingForAxisMode: Timed Out" hacia funciones de nivel más alto, incluyendo posibles causas inferidas por el programador que escribió el código.

```
<Error TimeStamp="2015-12-19T19:07:34.059" File="MountControllerImpl.cpp"
Line="123" Routine="virtual void Control::MountControllerImpl::track()" Host=""
Process="CONTROL/DA58/cppContainer" Thread="ORBTask" Context=""
SourceObject="CONTROL/DA58/cppContainer-GL" StackId="c29bf5a4-a683-11e5-8000-
002038042b0b" StackLevel="1"><![CDATA[Problem with the Mount (type=10006,
code=4)]]><Data Name="Detail"><![CDATA[Timed out trying to switch to to autonomus
mode. Possible causes include;  an interlock is set, a hardware failure, a
timeout that is too short. You may want to try again.]]></Data></Error>
```
