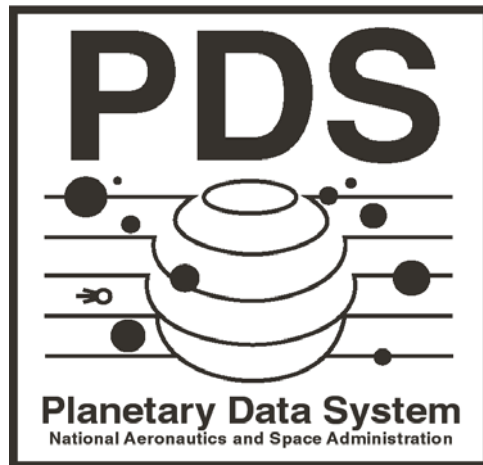


Planetary Data System

PDS-NSSDC Interface Test Report Test Phase III

January 9, 2006



Jet Propulsion Laboratory
Pasadena, California

Test Summary

This document details the test report for Phase III of the PDS-NSSDC Interface Test Plan (Version 1.1, January 3, 2006). This test was conducted between the dates of December 12, 2005 to January 9, 2006. Below is a summary for each of the steps defined in the test plan. The details of the test can be found in the Test Detail section.

Create AIP

The AIP corresponding to the selected volume was created successfully utilizing the MPGA software. Creation of the AIP took approximately 240 minutes. The volume is approximately 1.4 gigabytes in size.

Transfer AIP

The AIP was successfully transferred to NSSDC via FTP. The AIP and its log file were placed into a single tar file prior to the transfer. The AIP took approximately 55 minutes (410 Kilobytes/second) to transfer. The NSSDC staff was notified via e-mail regarding the successful transfer:

Date: Mon, 19 Dec 2005 09:41:06 -0800
From: Sean Hardman <Sean.Hardman@jpl.nasa.gov>
Subject: New AIP Package
To: mccaslin@mail630.gsfc.nasa.gov
Cc: dave.williams@gsfc.nasa.gov, Sean Hardman <Sean.Hardman@jpl.nasa.gov>
Original-recipient: rfc822;shardman@mail.jpl.nasa.gov

Pat,

The third test contains a single AIP this time, but it is pretty big at about 1.4 GB. Where one of the last AIPs contained multiple data sets in a single volume, this AIP contains one data set across multiple volumes. I don't know if it matters to your code but at least I can say that I tested this scenario. The data set is as follows:

GO-J-NIMS-2-EDR-V2.0

I had problems getting your FTP server to accept an "ls" command today but I believe the TAR file is out there and is named:

PDS_AIP_galileo_nims_cubes.tar

I figure that after we finish this test I will schedule a telecon in January where we can discuss the results and our future plans.

Thanks,
Sean

Retrieve and Store AIP

This step is performed by NSSDC staff at the NSSDC. The following e-mail was received from Pat McCaslin regarding the process performed at the NSSDC:

Date: Mon, 09 Jan 2006 13:50:08 -0500
From: Patrick McCaslin <mccaslin@mail630.gsfc.nasa.gov>
Subject: RE: New AIP Package
To: 'Sean Hardman' <Sean.Hardman@jpl.nasa.gov>
Cc: dave.williams@gsfc.nasa.gov
X-JPL-spam-score: 0.00%
Original-recipient: rfc822;shardman@mail.jpl.nasa.gov

Hi Sean,

Sorry for the delay. I didn't get to this before Christmas and was out last week. I just completed working with this AIP. The AIP was verified with the MPGA extractor utility and written to DLT. The AIP was then retrieved from tape and is now located in the directory where you deposited the tar file.

Pat

Request and Transfer AIP

Following the notification via e-mail from the previous step, the AIP was successfully transferred from NSSDC via FTP. The AIP took approximately 75 minutes (310 Kilobytes/second) to transfer.

Retrieve and Verify AIP

The AIP was successfully extracted into its original volume structure. Checksum reports were generated against the extracted volume structure and compared against the original checksum reports. The reports were identical marking the successful completion of the test.

Test Detail

GALILEO NIMS CUBES DATA SET TEST

Gathering checksum values of original data set

```
[mdc@starburst bin]$ cd OUTPUT
[mdc@starburst OUTPUT]$ ls
as2004_0001 mex mgst_1230 mgst_1232 retrieved_data vg_1501
[mdc@starburst OUTPUT]$ mkdir galileo_nims
[mdc@starburst OUTPUT]$ pwd
/home/mdc/mpga_v2/bin/OUTPUT
[mdc@starburst OUTPUT]$ cd
[mdc@starburst mdc]$ cd /data
[mdc@starburst data]$ cd go-j-nims-2-edr-v2.0/
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum * >
/home/mdc/mpga_v2/bin/OUTPUT/galileo_nims/checksum_level1_orig.out
md5sum: go_1005: Is a directory
md5sum: go_1006: Is a directory
md5sum: go_1007: Is a directory
md5sum: go_1008: Is a directory
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */* >
/home/mdc/mpga_v2/bin/OUTPUT/galileo_nims/checksum_level2_orig.out
md5sum: go_1005/calib: Is a directory
md5sum: go_1005/callisto: Is a directory
md5sum: go_1005/catalog: Is a directory
md5sum: go_1005/corrupt: Is a directory
md5sum: go_1005/document: Is a directory
md5sum: go_1005/europa: Is a directory
md5sum: go_1005/fltcal: Is a directory
md5sum: go_1005/ganymede: Is a directory
md5sum: go_1005/geometry: Is a directory
md5sum: go_1005/index: Is a directory
md5sum: go_1005/io: Is a directory
md5sum: go_1005/jupiter: Is a directory
md5sum: go_1005/label: Is a directory
md5sum: go_1005/misc: Is a directory
md5sum: go_1005/software: Is a directory
md5sum: go_1006/calib: Is a directory
md5sum: go_1006/callisto: Is a directory
md5sum: go_1006/catalog: Is a directory
md5sum: go_1006/corrupt: Is a directory
md5sum: go_1006/document: Is a directory
md5sum: go_1006/europa: Is a directory
md5sum: go_1006/fltcal: Is a directory
```

```
md5sum: go_1006/ganymede: Is a directory
md5sum: go_1006/geometry: Is a directory
md5sum: go_1006/index: Is a directory
md5sum: go_1006/io: Is a directory
md5sum: go_1006/jupiter: Is a directory
md5sum: go_1006/label: Is a directory
md5sum: go_1006/misc: Is a directory
md5sum: go_1006/software: Is a directory
md5sum: go_1007/calib: Is a directory
md5sum: go_1007/callisto: Is a directory
md5sum: go_1007/catalog: Is a directory
md5sum: go_1007/corrupt: Is a directory
md5sum: go_1007/document: Is a directory
md5sum: go_1007/europa: Is a directory
md5sum: go_1007/fltcal: Is a directory
md5sum: go_1007/geometry: Is a directory
md5sum: go_1007/index: Is a directory
md5sum: go_1007/io: Is a directory
md5sum: go_1007/jupiter: Is a directory
md5sum: go_1007/label: Is a directory
md5sum: go_1007/software: Is a directory
md5sum: go_1008/CALIB: Is a directory
md5sum: go_1008/CALLISTO: Is a directory
md5sum: go_1008/CATALOG: Is a directory
md5sum: go_1008/CORRUPT: Is a directory
md5sum: go_1008/DOCUMENT: Is a directory
md5sum: go_1008/EUROPA: Is a directory
md5sum: go_1008/FLTCAL: Is a directory
md5sum: go_1008/GANYMEDE: Is a directory
md5sum: go_1008/GEOMETRY: Is a directory
md5sum: go_1008/INDEX: Is a directory
md5sum: go_1008/IO: Is a directory
md5sum: go_1008/JUPITER: Is a directory
md5sum: go_1008/LABEL: Is a directory
md5sum: go_1008/SOFTWARE: Is a directory
[mdc@starburst go-j-nims-2-edr-v2.0]$
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */**/* >
/home/mdc/mpga_v2/bin/OUTPUT/galileo_nims/checksum_level3_orig.out
md5sum: go_1005/callisto/edr: Is a directory
md5sum: go_1005/callisto/spike: Is a directory
md5sum: go_1005/callisto/vic: Is a directory
md5sum: go_1005/corrupt/edr: Is a directory
md5sum: go_1005/corrupt/vic: Is a directory
md5sum: go_1005/document/c3nimsgd: Is a directory
md5sum: go_1005/document/e4nimsgd: Is a directory
md5sum: go_1005/document/g1nimsgd: Is a directory
```

md5sum: go_1005/document/g2nimsgd: Is a directory
md5sum: go_1005/document/j0nimsgd: Is a directory
md5sum: go_1005/document/nimsinst: Is a directory
md5sum: go_1005/document/x0nimsgd: Is a directory
md5sum: go_1005/europa/edr: Is a directory
md5sum: go_1005/europa/spike: Is a directory
md5sum: go_1005/europa/vic: Is a directory
md5sum: go_1005/fltcal/edr: Is a directory
md5sum: go_1005/fltcal/vic: Is a directory
md5sum: go_1005/ganymede/edr: Is a directory
md5sum: go_1005/ganymede/spike: Is a directory
md5sum: go_1005/ganymede/vic: Is a directory
md5sum: go_1005/io/edr: Is a directory
md5sum: go_1005/io/vic: Is a directory
md5sum: go_1005/jupiter/edr: Is a directory
md5sum: go_1005/jupiter/vic: Is a directory
md5sum: go_1005/misc/edr: Is a directory
md5sum: go_1005/misc/vic: Is a directory
md5sum: go_1006/callisto/edr: Is a directory
md5sum: go_1006/callisto/spike: Is a directory
md5sum: go_1006/callisto/vic: Is a directory
md5sum: go_1006/corrupt/edr: Is a directory
md5sum: go_1006/corrupt/vic: Is a directory
md5sum: go_1006/document/10nimsgd: Is a directory
md5sum: go_1006/document/11nimsgd: Is a directory
md5sum: go_1006/document/c9nimsgd: Is a directory
md5sum: go_1006/document/e6nimsgd: Is a directory
md5sum: go_1006/document/g7nimsgd: Is a directory
md5sum: go_1006/document/g8nimsgd: Is a directory
md5sum: go_1006/document/nimsinst: Is a directory
md5sum: go_1006/europa/edr: Is a directory
md5sum: go_1006/europa/spike: Is a directory
md5sum: go_1006/europa/vic: Is a directory
md5sum: go_1006/fltcal/edr: Is a directory
md5sum: go_1006/fltcal/vic: Is a directory
md5sum: go_1006/ganymede/edr: Is a directory
md5sum: go_1006/ganymede/spike: Is a directory
md5sum: go_1006/ganymede/vic: Is a directory
md5sum: go_1006/io/edr: Is a directory
md5sum: go_1006/io/vic: Is a directory
md5sum: go_1006/jupiter/edr: Is a directory
md5sum: go_1006/jupiter/vic: Is a directory
md5sum: go_1006/misc/edr: Is a directory
md5sum: go_1006/misc/vic: Is a directory
md5sum: go_1007/callisto/edr: Is a directory
md5sum: go_1007/callisto/spike: Is a directory

md5sum: go_1007/callisto/vic: Is a directory
md5sum: go_1007/corrupt/edr: Is a directory
md5sum: go_1007/corrupt/vic: Is a directory
md5sum: go_1007/document/12nimsgd: Is a directory
md5sum: go_1007/document/14nimsgd: Is a directory
md5sum: go_1007/document/15nimsgd: Is a directory
md5sum: go_1007/document/16nimsgd: Is a directory
md5sum: go_1007/document/17nimsgd: Is a directory
md5sum: go_1007/document/18nimsgd: Is a directory
md5sum: go_1007/document/19nimsgd: Is a directory
md5sum: go_1007/document/20nimsgd: Is a directory
md5sum: go_1007/document/21nimsgd: Is a directory
md5sum: go_1007/document/22nimsgd: Is a directory
md5sum: go_1007/document/24nimsgd: Is a directory
md5sum: go_1007/document/25nimsgd: Is a directory
md5sum: go_1007/document/nimsinst: Is a directory
md5sum: go_1007/europa/edr: Is a directory
md5sum: go_1007/europa/spike: Is a directory
md5sum: go_1007/europa/vic: Is a directory
md5sum: go_1007/fltcal/edr: Is a directory
md5sum: go_1007/fltcal/vic: Is a directory
md5sum: go_1007/io/edr: Is a directory
md5sum: go_1007/io/vic: Is a directory
md5sum: go_1007/jupiter/edr: Is a directory
md5sum: go_1007/jupiter/vic: Is a directory
md5sum: go_1008/CALLISTO/EDR: Is a directory
md5sum: go_1008/CALLISTO/VIC: Is a directory
md5sum: go_1008/DOCUMENT/26NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/27NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/28NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/29NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/30NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/31NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/32NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/33NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/NIMSINST: Is a directory
md5sum: go_1008/EUROPA/EDR: Is a directory
md5sum: go_1008/EUROPA/VIC: Is a directory
md5sum: go_1008/FLTCAL/EDR: Is a directory
md5sum: go_1008/FLTCAL/VIC: Is a directory
md5sum: go_1008/GANYMEDE/EDR: Is a directory
md5sum: go_1008/GANYMEDE/VIC: Is a directory
md5sum: go_1008/IO/EDR: Is a directory
md5sum: go_1008/IO/VIC: Is a directory
md5sum: go_1008/JUPITER/EDR: Is a directory
md5sum: go_1008/JUPITER/VIC: Is a directory

```
[mdc@starburst go-j-nims-2-edr-v2.0]$  
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */**/* >  
/home/mdc/mpga_v2/bin/OUTPUT/galileo_nims/checksum_level4_orig.out  
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */**/*/* >  
/home/mdc/mpga_v2/bin/OUTPUT/galileo_nims/checksum_level5_orig.out  
md5sum: */**/*/*: No such file or directory  
[mdc@starburst go-j-nims-2-edr-v2.0]$
```

Create the AIP Package

```
[mdc@starburst go-j-nims-2-edr-v2.0]$ cd /home/mdc/mpga_v2/bin  
[mdc@starburst bin]$ ./COMMANDS/PDS-PACKAGE-GENERATOR.v2.interactive
```

Welcome to the simple MPGA interactive calling program.

The current Directory to Package is:

```
lrwxrwxrwx  1 mdc  users      17 Nov 21 13:11 STAGE_DIR -> /data/as2004_0001
```

Please enter a new directory, or hit return to keep the current one:

```
/data/go-j-nims-2-edr-v2.0
```

```
data="/data/go-j-nims-2-edr-v2.0  
" (one-less=30) (last-char=a)
```

Going to call the program and package the directory: "/data/go-j-nims-2-edr-v2.0"

Calling: "/bin/rm STAGE_DIR ; /bin/ln -s /data/go-j-nims-2-edr-v2.0 STAGE_DIR"

Calling: "./COMMANDS/PDS-PACKAGE-GENERATOR.batch"

Program called in Background - Check .log, .diag, and SUCCESS or FAILURE message to screen

```
[mdc@starburst bin]$  
[mdc@starburst bin]$ ps -ef | grep MPGA  
mdc    1901 1900  0 12:50 pts/6   00:00:00 ./MPGA-launch -workdir=./MPGA_WORKING_DIR/  
-setup=PDS-PACKAGE-GENERATOR.v2.setup -input=./INPUT_LISTS/pds_MPGA_DEMO-2.lst -  
mlst_tspec=./TEMPLATE_SPEC/PDS-PACKAGE-GENERATOR.v2.mlst.tspec -  
agen_tspec=./TEMPLATE_SPEC/PDS-PACKAGE-GENERATOR.v2.agen.tspec -output=out-PDS-  
PACKAG
```



```
mdc 1902 1901 0 12:50 pts/6 00:00:00 [MPGA-makelist <defunct>]
mdc 1903 1 0 12:50 ? 00:00:00 ./MPGA-makelist
mdc 1908 32339 0 12:51 pts/6 00:00:00 grep MPGA
[mdc@starburst bin]$
```

PROGRAM OUTPUT

```
[mdc@starburst bin]$ SUCCESS
```

```
real 240m1.941s
user 0m0.050s
sys 0m0.020s
```

```
[mdc@starburst bin]$
```

Output files created in /bin directory:

TPDS0000000001_AIPfile.sfd.testfile	1406114776 bytes
out-PDS-PACKAGE-GENERATOR.log	103 bytes
out-PDS-PACKAGE-GENERATOR.diag	1005 bytes

```
[mdc@starburst bin]$ more out-PDS-PACKAGE-GENERATOR.log
TPDS0000000001 0 AIPGEN-P_OK PASS: packaged "TPDS0000000001_AIPfile.sfd.testfile"
1406114776 6ab620f4
```

```
[mdc@starburst bin]$ more out-PDS-PACKAGE-GENERATOR.diag
```

```
* DMLST NOTE: Started module "local:./MPGA-makelist"
* DMLST NOTE: Processed 2969 Files in 1 AIP(s) in 119 sec
* VERBOSE: init registry, SRVR: dbase file="./MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX"
* VERBOSE: init registry, client: dbase file="./MPGA_WORKING_DIR/fsget_dbaseobj_XXXXXX"
* AIPGEN NOTE: maplist attribute "PROCESS_DESIGNATOR" link not mapped to input ISD
attributes
```

```
* AIPGEN NOTE: key link struct to input ISD externally-supplied crc attribute not found and
therefore will not be validated against the staging source
files
```

```
TPDS0000000001 0 AIPGEN-P_OK PASS: packaged "TPDS0000000001_AIPfile.sfd.testfile"
1406114776 6ab620f4
```

```
0 AIPGEN-P_IREP PASS: INTERIM REPORT - PROCESSED ~1401035873 MORE BYTES
(1.401036e+09 TOTAL) IN ~14281 SECs (14281 TOTAL) INTO ~1406114776 MORE PACKAGE
BYTES (1.406115e+09 TOTAL) AT 98 KBYTES/SEC (98.1 TOTAL)
```

```
0 AIPGEN-P_TREP PASS: FINAL REPORT - PROCESSED 1 FILES FOR 1.401036e+09 TOTAL
BYTES IN 14281 SECs INTO 1.406115e+09 PACKAGE BYTES AT 98.105 KBYTES/SEC
```

```
[mdc@starburst bin]$
```

AIP EXTRACTION UTILITY TEST

```
[mdc@starburst bin]$
[mdc@starburst bin]$
[mdc@starburst bin]$ ./COMMANDS/PDS-PACKAGE-GENERATOR.v2.splitter.cmd
[mdc@starburst bin]$
[mdc@starburst bin]$ tail -f out-PDS-PACKAGE-GENERATOR.splitter.diag
* VERBOSE: init registry, SRVR: dbase file="./MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX"
* Splitter Started and Initialized:
```

Accessing AIPs...

...

```
TPDS0000000001.dat.dir/go_1008/LABEL/LABINFO.TXT
TPDS0000000001.dat.dir/go_1008/SOFTWARE/
TPDS0000000001.dat.dir/go_1008/SOFTWARE/SOFTINFO.TXT
TPDS0000000001 0 SPL PASS: "./TPDS0000000001_AIPfile.sfd.testfile" into
"./OUTPUT/TPDS0000000001.dat.tar" and "./OUTPUT/TPDS0000000001.att"
* SPL NOTE: module "local:./MPGA-splitter" completely processed 1 out of 1 AIPs in 710 (secs)
```

PROGRAM OUTPUT

SUCCESS

```
real 11m50.202s
user 0m0.040s
sys 0m0.960s
```

4 Output files created:

```
/bin/out-PDS-PACKAGE-GENERATOR.splitter.log      141 bytes
/bin/out-PDS-PACKAGE-GENERATOR.splitter.diag    170126 bytes
```

```
/bin/OUTPUT/TPDS0000000001.dat.tar      1402808320 bytes
/bin/OUTPUT/TPDS0000000001.att          4842450 bytes
```

Untar the file, TPDS0000000001.dat.tar, to retrieve the AIP contents

```
[mdc@starburst bin]$ cd OUTPUT/
[mdc@starburst OUTPUT]$ pwd
/home/mdc/mpga_v2/bin/OUTPUT
[mdc@starburst OUTPUT]$ time tar -xvf TPDS0000000001.dat.tar
```

...

TPDS0000000001.dat.dir/go_1008/LABEL/
TPDS0000000001.dat.dir/go_1008/LABEL/EDRDATA2.FMT
TPDS0000000001.dat.dir/go_1008/LABEL/EDRHDR2.FMT
TPDS0000000001.dat.dir/go_1008/LABEL/LABINFO.TXT
TPDS0000000001.dat.dir/go_1008/SOFTWARE/
TPDS0000000001.dat.dir/go_1008/SOFTWARE/SOFTINFO.TXT

real 1m31.187s
user 0m0.140s
sys 0m13.790s

Files inside AIP package are inside /bin/OUTPUT/TPDS0000000001.dat.dir

Gather checksum values for every file in this directory

```
[mdc@starburst OUTPUT]$ cd TPDS0000000001.dat.dir/  
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum * > ../galileo_nims/checksum_level1_mpga.out  
md5sum: go_1005: Is a directory  
md5sum: go_1006: Is a directory  
md5sum: go_1007: Is a directory  
md5sum: go_1008: Is a directory  
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum */* > ../galileo_nims/checksum_level2_mpga.out  
md5sum: go_1005/calib: Is a directory  
md5sum: go_1005/callisto: Is a directory  
md5sum: go_1005/catalog: Is a directory  
md5sum: go_1005/corrupt: Is a directory  
md5sum: go_1005/document: Is a directory  
md5sum: go_1005/europa: Is a directory  
md5sum: go_1005/fltcal: Is a directory  
md5sum: go_1005/ganymede: Is a directory  
md5sum: go_1005/geometry: Is a directory  
md5sum: go_1005/index: Is a directory  
md5sum: go_1005/io: Is a directory  
md5sum: go_1005/jupiter: Is a directory  
md5sum: go_1005/label: Is a directory  
md5sum: go_1005/misc: Is a directory  
md5sum: go_1005/software: Is a directory  
md5sum: go_1006/calib: Is a directory  
md5sum: go_1006/callisto: Is a directory  
md5sum: go_1006/catalog: Is a directory  
md5sum: go_1006/corrupt: Is a directory  
md5sum: go_1006/document: Is a directory  
md5sum: go_1006/europa: Is a directory  
md5sum: go_1006/fltcal: Is a directory  
md5sum: go_1006/ganymede: Is a directory
```

```
md5sum: go_1006/geometry: Is a directory
md5sum: go_1006/index: Is a directory
md5sum: go_1006/io: Is a directory
md5sum: go_1006/jupiter: Is a directory
md5sum: go_1006/label: Is a directory
md5sum: go_1006/misc: Is a directory
md5sum: go_1006/software: Is a directory
md5sum: go_1007/calib: Is a directory
md5sum: go_1007/callisto: Is a directory
md5sum: go_1007/catalog: Is a directory
md5sum: go_1007/corrupt: Is a directory
md5sum: go_1007/document: Is a directory
md5sum: go_1007/europa: Is a directory
md5sum: go_1007/fltcal: Is a directory
md5sum: go_1007/geometry: Is a directory
md5sum: go_1007/index: Is a directory
md5sum: go_1007/io: Is a directory
md5sum: go_1007/jupiter: Is a directory
md5sum: go_1007/label: Is a directory
md5sum: go_1007/software: Is a directory
md5sum: go_1008/CALIB: Is a directory
md5sum: go_1008/CALLISTO: Is a directory
md5sum: go_1008/CATALOG: Is a directory
md5sum: go_1008/CORRUPT: Is a directory
md5sum: go_1008/DOCUMENT: Is a directory
md5sum: go_1008/EUROPA: Is a directory
md5sum: go_1008/FLTCAL: Is a directory
md5sum: go_1008/GANYMEDE: Is a directory
md5sum: go_1008/GEOMETRY: Is a directory
md5sum: go_1008/INDEX: Is a directory
md5sum: go_1008/IO: Is a directory
md5sum: go_1008/JUPITER: Is a directory
md5sum: go_1008/LABEL: Is a directory
md5sum: go_1008/SOFTWARE: Is a directory
[mdc@starburst TPDS0000000001.dat.dir]$
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum */**/* > ../galileo_nims/checksum_level3_mpga.out
md5sum: go_1005/callisto/edr: Is a directory
md5sum: go_1005/callisto/spike: Is a directory
md5sum: go_1005/callisto/vic: Is a directory
md5sum: go_1005/corrupt/edr: Is a directory
md5sum: go_1005/corrupt/vic: Is a directory
md5sum: go_1005/document/c3nimsgd: Is a directory
md5sum: go_1005/document/e4nimsgd: Is a directory
md5sum: go_1005/document/g1nimsgd: Is a directory
md5sum: go_1005/document/g2nimsgd: Is a directory
md5sum: go_1005/document/j0nimsgd: Is a directory
```

md5sum: go_1005/document/nimsinst: Is a directory
md5sum: go_1005/document/x0nimsgd: Is a directory
md5sum: go_1005/europa/edr: Is a directory
md5sum: go_1005/europa/spike: Is a directory
md5sum: go_1005/europa/vic: Is a directory
md5sum: go_1005/fltcal/edr: Is a directory
md5sum: go_1005/fltcal/vic: Is a directory
md5sum: go_1005/ganymede/edr: Is a directory
md5sum: go_1005/ganymede/spike: Is a directory
md5sum: go_1005/ganymede/vic: Is a directory
md5sum: go_1005/io/edr: Is a directory
md5sum: go_1005/io/vic: Is a directory
md5sum: go_1005/jupiter/edr: Is a directory
md5sum: go_1005/jupiter/vic: Is a directory
md5sum: go_1005/misc/edr: Is a directory
md5sum: go_1005/misc/vic: Is a directory
md5sum: go_1006/callisto/edr: Is a directory
md5sum: go_1006/callisto/spike: Is a directory
md5sum: go_1006/callisto/vic: Is a directory
md5sum: go_1006/corrupt/edr: Is a directory
md5sum: go_1006/corrupt/vic: Is a directory
md5sum: go_1006/document/10nimsgd: Is a directory
md5sum: go_1006/document/11nimsgd: Is a directory
md5sum: go_1006/document/c9nimsgd: Is a directory
md5sum: go_1006/document/e6nimsgd: Is a directory
md5sum: go_1006/document/g7nimsgd: Is a directory
md5sum: go_1006/document/g8nimsgd: Is a directory
md5sum: go_1006/document/nimsinst: Is a directory
md5sum: go_1006/europa/edr: Is a directory
md5sum: go_1006/europa/spike: Is a directory
md5sum: go_1006/europa/vic: Is a directory
md5sum: go_1006/fltcal/edr: Is a directory
md5sum: go_1006/fltcal/vic: Is a directory
md5sum: go_1006/ganymede/edr: Is a directory
md5sum: go_1006/ganymede/spike: Is a directory
md5sum: go_1006/ganymede/vic: Is a directory
md5sum: go_1006/io/edr: Is a directory
md5sum: go_1006/io/vic: Is a directory
md5sum: go_1006/jupiter/edr: Is a directory
md5sum: go_1006/jupiter/vic: Is a directory
md5sum: go_1006/misc/edr: Is a directory
md5sum: go_1006/misc/vic: Is a directory
md5sum: go_1007/callisto/edr: Is a directory
md5sum: go_1007/callisto/spike: Is a directory
md5sum: go_1007/callisto/vic: Is a directory
md5sum: go_1007/corrupt/edr: Is a directory

md5sum: go_1007/corrupt/vic: Is a directory
md5sum: go_1007/document/12nimsgd: Is a directory
md5sum: go_1007/document/14nimsgd: Is a directory
md5sum: go_1007/document/15nimsgd: Is a directory
md5sum: go_1007/document/16nimsgd: Is a directory
md5sum: go_1007/document/17nimsgd: Is a directory
md5sum: go_1007/document/18nimsgd: Is a directory
md5sum: go_1007/document/19nimsgd: Is a directory
md5sum: go_1007/document/20nimsgd: Is a directory
md5sum: go_1007/document/21nimsgd: Is a directory
md5sum: go_1007/document/22nimsgd: Is a directory
md5sum: go_1007/document/24nimsgd: Is a directory
md5sum: go_1007/document/25nimsgd: Is a directory
md5sum: go_1007/document/nimsinst: Is a directory
md5sum: go_1007/europa/edr: Is a directory
md5sum: go_1007/europa/spike: Is a directory
md5sum: go_1007/europa/vic: Is a directory
md5sum: go_1007/fltcal/edr: Is a directory
md5sum: go_1007/fltcal/vic: Is a directory
md5sum: go_1007/io/edr: Is a directory
md5sum: go_1007/io/vic: Is a directory
md5sum: go_1007/jupiter/edr: Is a directory
md5sum: go_1007/jupiter/vic: Is a directory
md5sum: go_1008/CALLISTO/EDR: Is a directory
md5sum: go_1008/CALLISTO/VIC: Is a directory
md5sum: go_1008/DOCUMENT/26NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/27NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/28NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/29NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/30NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/31NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/32NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/33NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/NIMSINST: Is a directory
md5sum: go_1008/EUROPA/EDR: Is a directory
md5sum: go_1008/EUROPA/VIC: Is a directory
md5sum: go_1008/FLTCAL/EDR: Is a directory
md5sum: go_1008/FLTCAL/VIC: Is a directory
md5sum: go_1008/GANYMEDE/EDR: Is a directory
md5sum: go_1008/GANYMEDE/VIC: Is a directory
md5sum: go_1008/IO/EDR: Is a directory
md5sum: go_1008/IO/VIC: Is a directory
md5sum: go_1008/JUPITER/EDR: Is a directory
md5sum: go_1008/JUPITER/VIC: Is a directory
[mdc@starburst TPDS0000000001.dat.dir]\$

```
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum */**/* >
../galileo_nims/checksum_level4_mpga.out
[mdc@starburst TPDS0000000001.dat.dir]$
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum */**/*/* >
../galileo_nims/checksum_level5_mpga.out
md5sum: */**/*/*: No such file or directory
[mdc@starburst TPDS0000000001.dat.dir]$
```

Compare checksum values between our original data set and the data set extracted from the AIP

```
[mdc@starburst TPDS0000000001.dat.dir]$ cd ..
[mdc@starburst OUTPUT]$ cd galileo_nims/
[mdc@starburst galileo_nims]$ pwd
/home/mdc/mpga_v2/bin/OUTPUT/galileo_nims
[mdc@starburst galileo_nims]$
[mdc@starburst galileo_nims]$ diff checksum_level1_orig.out checksum_level1_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level2_orig.out checksum_level2_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level3_orig.out checksum_level3_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level4_orig.out checksum_level4_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level5_orig.out checksum_level5_mpga.out
```

SUCCESS

END OF GALLILEO NIMS CUBES DATA SET TEST

All output files generated are located in /home/mdc/mpga_v2/bin/OUTPUT/galileo_nims

FTP AIP TO NSSDC

Put the AIP and its associated log file into a tar file and transfer it to the NSSDC via FTP

```
[mdc@starburst galileo_nims]$ pwd
/home/mdc/mpga_v2/bin/OUTPUT/galileo_nims
[mdc@starburst galileo_nims]$ tar -cvf PDS_AIP_galileo_nims_cubes.tar
TPDS0000000001_AIPfile.sfd.testfile out-PDS-PACKAGE-GENERATOR.log
TPDS0000000001_AIPfile.sfd.testfile
out-PDS-PACKAGE-GENERATOR.log

ftp> send PDS_AIP_galileo_nims_cubes.tar
local: PDS_AIP_galileo_nims_cubes.tar remote: PDS_AIP_galileo_nims_cubes.tar
227 Entering Passive Mode (128,183,114,83,215,29).
150 Opening BINARY mode data connection for PDS_AIP_galileo_nims_cubes.tar
226 Transfer complete.
1406126080 bytes sent in 3.3e+03 seconds (4.1e+02 Kbytes/s)
```

DATA RETRIVEAL TEST

Logged onto the NSSDC and retrieved the AIP via FTP

```
ftp> get TPDS0000000001_AIPfile.sfd.testfile
local: TPDS0000000001_AIPfile.sfd.testfile remote: TPDS0000000001_AIPfile.sfd.testfile
227 Entering Passive Mode (128,183,114,83,159,192).
150 Opening BINARY mode data connection for TPDS0000000001_AIPfile.sfd.testfile (1406114776
bytes)
226 Transfer complete.
1406114776 bytes received in 4.5e+03 seconds (3.1e+02 Kbytes/s)
```

The AIP is already named appropriately, so we do not have to rename the file

Copy the AIP into the /bin directory and run the splitter command to extract the data set from the AIP

```
[mdc@starburst bin]$ cp OUTPUT/retrieved_data/galileo_nims/TPDS0000000001_AIPfile.sfd.testfile .
[mdc@starburst bin]$ pwd
/home/mdc/mpga_v2/bin
[mdc@starburst bin]$ ./COMMANDS/PDS-PACKAGE-GENERATOR.v2.splitter.cmd
```

PROGRAM OUTPUT

```
[mdc@starburst bin]$ SUCCESS
```

```
real 11m49.699s
user 0m0.030s
sys 0m1.020s
```

2 log files created in /bin directory:

out-PDS-PACKAGE-GENERATOR.splitter.log	141 bytes
out-PDS-PACKAGE-GENERATOR.splitter.diag	170126 bytes

2 output files created in /bin/OUTPUT directory, an attributes file and a data tar file:

TPDS0000000001.att	4842450 bytes
TPDS0000000001.dat.tar	1402808320 bytes

```
[mdc@starburst bin]$ more out-PDS-PACKAGE-GENERATOR.splitter.log
TPDS0000000001 0 SPL PASS: "/TPDS0000000001_AIPfile.sfd.testfile" into
"/OUTPUT/TPDS0000000001.dat.tar" and "/OUTPUT/TPDS0000000001.att"
```



```
[mdc@starburst bin]$ more out-PDS-PACKAGE-GENERATOR.splitter.diag
* VERBOSE: init registry, SRVR: dbase file="./MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX"
* Splitter Started and Initialized:
```

Accessing AIPs...

```
TPDS0000000001.dat.dir/
TPDS0000000001.dat.dir/go_1005/
TPDS0000000001.dat.dir/go_1005/aareadme.txt
TPDS0000000001.dat.dir/go_1005/aareadme.vms
TPDS0000000001.dat.dir/go_1005/errata.txt
TPDS0000000001.dat.dir/go_1005/voldesc.cat
TPDS0000000001.dat.dir/go_1005/calib/
TPDS0000000001.dat.dir/go_1005/calib/calinfo.txt
```

...

```
TPDS0000000001.dat.dir/go_1008/JUPITER/VIC/33J003.VIC
TPDS0000000001.dat.dir/go_1008/LABEL/
TPDS0000000001.dat.dir/go_1008/LABEL/EDRDATA2.FMT
TPDS0000000001.dat.dir/go_1008/LABEL/EDRHDR2.FMT
TPDS0000000001.dat.dir/go_1008/LABEL/LABINFO.TXT
TPDS0000000001.dat.dir/go_1008/SOFTWARE/
TPDS0000000001.dat.dir/go_1008/SOFTWARE/SOFTINFO.TXT
TPDS0000000001 0 SPL PASS: "./TPDS0000000001_AIPfile.sfd.testfile" into
"./OUTPUT/TPDS0000000001.dat.tar" and "./OUTPUT/TPDS0000000001.att"
* SPL NOTE: module "local:./MPGA-splitter" completely processed 1 out of 1 AIPs in 709 (secs)
```

Extract the data tar file to get the data volume from the AIP

```
[mdc@starburst bin]$ cd OUTPUT
[mdc@starburst OUTPUT]$ time tar -xvf TPDS0000000001.dat.tar
```

...

```
PDS0000000001.dat.dir/go_1008/LABEL/EDRDATA2.FMT
TPDS0000000001.dat.dir/go_1008/LABEL/EDRHDR2.FMT
TPDS0000000001.dat.dir/go_1008/LABEL/LABINFO.TXT
TPDS0000000001.dat.dir/go_1008/SOFTWARE/
TPDS0000000001.dat.dir/go_1008/SOFTWARE/SOFTINFO.TXT
```

```
real 1m36.289s
user 0m0.200s
sys 0m13.070s
```

Data volume is located in the /bin/OUTPUT/TPDS0000000001.dat.dir directory.

Gather checksum values of every file located in this retrieved directory.

```
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum * >
../retrieved_data/galileo_nims/checksum_level1_mpga.out
md5sum: go_1005: Is a directory
md5sum: go_1006: Is a directory
md5sum: go_1007: Is a directory
md5sum: go_1008: Is a directory
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum */* >
../retrieved_data/galileo_nims/checksum_level2_mpga.out
md5sum: go_1005/calib: Is a directory
md5sum: go_1005/callisto: Is a directory
md5sum: go_1005/catalog: Is a directory
md5sum: go_1005/corrupt: Is a directory
md5sum: go_1005/document: Is a directory
md5sum: go_1005/europa: Is a directory
md5sum: go_1005/fltcal: Is a directory
md5sum: go_1005/ganymede: Is a directory
md5sum: go_1005/geometry: Is a directory
md5sum: go_1005/index: Is a directory
md5sum: go_1005/io: Is a directory
md5sum: go_1005/jupiter: Is a directory
md5sum: go_1005/label: Is a directory
md5sum: go_1005/misc: Is a directory
md5sum: go_1005/software: Is a directory
md5sum: go_1006/calib: Is a directory
md5sum: go_1006/callisto: Is a directory
md5sum: go_1006/catalog: Is a directory
md5sum: go_1006/corrupt: Is a directory
md5sum: go_1006/document: Is a directory
md5sum: go_1006/europa: Is a directory
md5sum: go_1006/fltcal: Is a directory
md5sum: go_1006/ganymede: Is a directory
md5sum: go_1006/geometry: Is a directory
md5sum: go_1006/index: Is a directory
md5sum: go_1006/io: Is a directory
md5sum: go_1006/jupiter: Is a directory
md5sum: go_1006/label: Is a directory
md5sum: go_1006/misc: Is a directory
md5sum: go_1006/software: Is a directory
md5sum: go_1007/calib: Is a directory
md5sum: go_1007/callisto: Is a directory
md5sum: go_1007/catalog: Is a directory
md5sum: go_1007/corrupt: Is a directory
md5sum: go_1007/document: Is a directory
md5sum: go_1007/europa: Is a directory
```

md5sum: go_1007/fltcal: Is a directory
md5sum: go_1007/geometry: Is a directory
md5sum: go_1007/index: Is a directory
md5sum: go_1007/io: Is a directory
md5sum: go_1007/jupiter: Is a directory
md5sum: go_1007/label: Is a directory
md5sum: go_1007/software: Is a directory
md5sum: go_1008/CALIB: Is a directory
md5sum: go_1008/CALLISTO: Is a directory
md5sum: go_1008/CATALOG: Is a directory
md5sum: go_1008/CORRUPT: Is a directory
md5sum: go_1008/DOCUMENT: Is a directory
md5sum: go_1008/EUROPA: Is a directory
md5sum: go_1008/FLTCAL: Is a directory
md5sum: go_1008/GANYMEDE: Is a directory
md5sum: go_1008/GEOMETRY: Is a directory
md5sum: go_1008/INDEX: Is a directory
md5sum: go_1008/IO: Is a directory
md5sum: go_1008/JUPITER: Is a directory
md5sum: go_1008/LABEL: Is a directory
md5sum: go_1008/SOFTWARE: Is a directory
[mdc@starburst TPDS0000000001.dat.dir]\$
[mdc@starburst TPDS0000000001.dat.dir]\$ md5sum */**/* >
../retrieved_data/galileo_nims/checksum_level3_mpga.out
md5sum: go_1005/callisto/edr: Is a directory
md5sum: go_1005/callisto/spike: Is a directory
md5sum: go_1005/callisto/vic: Is a directory
md5sum: go_1005/corrupt/edr: Is a directory
md5sum: go_1005/corrupt/vic: Is a directory
md5sum: go_1005/document/c3nimsgd: Is a directory
md5sum: go_1005/document/e4nimsgd: Is a directory
md5sum: go_1005/document/g1nimsgd: Is a directory
md5sum: go_1005/document/g2nimsgd: Is a directory
md5sum: go_1005/document/j0nimsgd: Is a directory
md5sum: go_1005/document/nimsinst: Is a directory
md5sum: go_1005/document/x0nimsgd: Is a directory
md5sum: go_1005/europa/edr: Is a directory
md5sum: go_1005/europa/spike: Is a directory
md5sum: go_1005/europa/vic: Is a directory
md5sum: go_1005/fltcal/edr: Is a directory
md5sum: go_1005/fltcal/vic: Is a directory
md5sum: go_1005/ganymede/edr: Is a directory
md5sum: go_1005/ganymede/spike: Is a directory
md5sum: go_1005/ganymede/vic: Is a directory
md5sum: go_1005/io/edr: Is a directory
md5sum: go_1005/io/vic: Is a directory

md5sum: go_1005/jupiter/edr: Is a directory
md5sum: go_1005/jupiter/vic: Is a directory
md5sum: go_1005/misc/edr: Is a directory
md5sum: go_1005/misc/vic: Is a directory
md5sum: go_1006/callisto/edr: Is a directory
md5sum: go_1006/callisto/spike: Is a directory
md5sum: go_1006/callisto/vic: Is a directory
md5sum: go_1006/corrupt/edr: Is a directory
md5sum: go_1006/corrupt/vic: Is a directory
md5sum: go_1006/document/10nimsgd: Is a directory
md5sum: go_1006/document/11nimsgd: Is a directory
md5sum: go_1006/document/c9nimsgd: Is a directory
md5sum: go_1006/document/e6nimsgd: Is a directory
md5sum: go_1006/document/g7nimsgd: Is a directory
md5sum: go_1006/document/g8nimsgd: Is a directory
md5sum: go_1006/document/nimsinst: Is a directory
md5sum: go_1006/europa/edr: Is a directory
md5sum: go_1006/europa/spike: Is a directory
md5sum: go_1006/europa/vic: Is a directory
md5sum: go_1006/fltcal/edr: Is a directory
md5sum: go_1006/fltcal/vic: Is a directory
md5sum: go_1006/ganymede/edr: Is a directory
md5sum: go_1006/ganymede/spike: Is a directory
md5sum: go_1006/ganymede/vic: Is a directory
md5sum: go_1006/io/edr: Is a directory
md5sum: go_1006/io/vic: Is a directory
md5sum: go_1006/jupiter/edr: Is a directory
md5sum: go_1006/jupiter/vic: Is a directory
md5sum: go_1006/misc/edr: Is a directory
md5sum: go_1006/misc/vic: Is a directory
md5sum: go_1007/callisto/edr: Is a directory
md5sum: go_1007/callisto/spike: Is a directory
md5sum: go_1007/callisto/vic: Is a directory
md5sum: go_1007/corrupt/edr: Is a directory
md5sum: go_1007/corrupt/vic: Is a directory
md5sum: go_1007/document/12nimsgd: Is a directory
md5sum: go_1007/document/14nimsgd: Is a directory
md5sum: go_1007/document/15nimsgd: Is a directory
md5sum: go_1007/document/16nimsgd: Is a directory
md5sum: go_1007/document/17nimsgd: Is a directory
md5sum: go_1007/document/18nimsgd: Is a directory
md5sum: go_1007/document/19nimsgd: Is a directory
md5sum: go_1007/document/20nimsgd: Is a directory
md5sum: go_1007/document/21nimsgd: Is a directory
md5sum: go_1007/document/22nimsgd: Is a directory
md5sum: go_1007/document/24nimsgd: Is a directory

```

md5sum: go_1007/document/25nimsgd: Is a directory
md5sum: go_1007/document/nimsinst: Is a directory
md5sum: go_1007/europa/edr: Is a directory
md5sum: go_1007/europa/spike: Is a directory
md5sum: go_1007/europa/vic: Is a directory
md5sum: go_1007/fltcal/edr: Is a directory
md5sum: go_1007/fltcal/vic: Is a directory
md5sum: go_1007/io/edr: Is a directory
md5sum: go_1007/io/vic: Is a directory
md5sum: go_1007/jupiter/edr: Is a directory
md5sum: go_1007/jupiter/vic: Is a directory
md5sum: go_1008/CALLISTO/EDR: Is a directory
md5sum: go_1008/CALLISTO/VIC: Is a directory
md5sum: go_1008/DOCUMENT/26NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/27NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/28NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/29NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/30NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/31NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/32NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/33NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/NIMSINST: Is a directory
md5sum: go_1008/EUROPA/EDR: Is a directory
md5sum: go_1008/EUROPA/VIC: Is a directory
md5sum: go_1008/FLTCAL/EDR: Is a directory
md5sum: go_1008/FLTCAL/VIC: Is a directory
md5sum: go_1008/GANYMEDE/EDR: Is a directory
md5sum: go_1008/GANYMEDE/VIC: Is a directory
md5sum: go_1008/IO/EDR: Is a directory
md5sum: go_1008/IO/VIC: Is a directory
md5sum: go_1008/JUPITER/EDR: Is a directory
md5sum: go_1008/JUPITER/VIC: Is a directory
[mdc@starburst TPDS0000000001.dat.dir]$
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum */**/*/* >
../retrieved_data/galileo_nims/checksum_level4_mpga.out
[mdc@starburst TPDS0000000001.dat.dir]$ md5sum */**/*/*/* >
../retrieved_data/galileo_nims/checksum_level5_mpga.out
md5sum: */**/*/*/*: No such file or directory
[mdc@starburst TPDS0000000001.dat.dir]$

```

Gather checksum values of every file in our original data set

```

[mdc@starburst bin]$ cd /data/go-j-nims-2-edr-v2.0/
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum * >
/home/mdc/mpga_v2/bin/OUTPUT/retrieved_data/galileo_nims/checksum_level1_orig.out
md5sum: go_1005: Is a directory

```

```
md5sum: go_1006: Is a directory
md5sum: go_1007: Is a directory
md5sum: go_1008: Is a directory
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */* >
/home/mdc/mpga_v2/bin/OUTPUT/retrieved_data/galileo_nims/checksum_level2_orig.out
md5sum: go_1005/calib: Is a directory
md5sum: go_1005/callisto: Is a directory
md5sum: go_1005/catalog: Is a directory
md5sum: go_1005/corrupt: Is a directory
md5sum: go_1005/document: Is a directory
md5sum: go_1005/europa: Is a directory
md5sum: go_1005/ftlcal: Is a directory
md5sum: go_1005/ganymede: Is a directory
md5sum: go_1005/geometry: Is a directory
md5sum: go_1005/index: Is a directory
md5sum: go_1005/io: Is a directory
md5sum: go_1005/jupiter: Is a directory
md5sum: go_1005/label: Is a directory
md5sum: go_1005/misc: Is a directory
md5sum: go_1005/software: Is a directory
md5sum: go_1006/calib: Is a directory
md5sum: go_1006/callisto: Is a directory
md5sum: go_1006/catalog: Is a directory
md5sum: go_1006/corrupt: Is a directory
md5sum: go_1006/document: Is a directory
md5sum: go_1006/europa: Is a directory
md5sum: go_1006/ftlcal: Is a directory
md5sum: go_1006/ganymede: Is a directory
md5sum: go_1006/geometry: Is a directory
md5sum: go_1006/index: Is a directory
md5sum: go_1006/io: Is a directory
md5sum: go_1006/jupiter: Is a directory
md5sum: go_1006/label: Is a directory
md5sum: go_1006/misc: Is a directory
md5sum: go_1006/software: Is a directory
md5sum: go_1007/calib: Is a directory
md5sum: go_1007/callisto: Is a directory
md5sum: go_1007/catalog: Is a directory
md5sum: go_1007/corrupt: Is a directory
md5sum: go_1007/document: Is a directory
md5sum: go_1007/europa: Is a directory
md5sum: go_1007/ftlcal: Is a directory
md5sum: go_1007/geometry: Is a directory
md5sum: go_1007/index: Is a directory
md5sum: go_1007/io: Is a directory
md5sum: go_1007/jupiter: Is a directory
```

```
md5sum: go_1007/label: Is a directory
md5sum: go_1007/software: Is a directory
md5sum: go_1008/CALIB: Is a directory
md5sum: go_1008/CALLISTO: Is a directory
md5sum: go_1008/CATALOG: Is a directory
md5sum: go_1008/CORRUPT: Is a directory
md5sum: go_1008/DOCUMENT: Is a directory
md5sum: go_1008/EUROPA: Is a directory
md5sum: go_1008/FLTCAL: Is a directory
md5sum: go_1008/GANYMEDE: Is a directory
md5sum: go_1008/GEOMETRY: Is a directory
md5sum: go_1008/INDEX: Is a directory
md5sum: go_1008/IO: Is a directory
md5sum: go_1008/JUPITER: Is a directory
md5sum: go_1008/LABEL: Is a directory
md5sum: go_1008/SOFTWARE: Is a directory
[mdc@starburst go-j-nims-2-edr-v2.0]$
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */**/* >
/home/mdc/mpga_v2/bin/OUTPUT/retrieved_data/galileo_nims/checksum_level3_orig.out
md5sum: go_1005/callisto/edr: Is a directory
md5sum: go_1005/callisto/spike: Is a directory
md5sum: go_1005/callisto/vic: Is a directory
md5sum: go_1005/corrupt/edr: Is a directory
md5sum: go_1005/corrupt/vic: Is a directory
md5sum: go_1005/document/c3nimsgd: Is a directory
md5sum: go_1005/document/e4nimsgd: Is a directory
md5sum: go_1005/document/g1nimsgd: Is a directory
md5sum: go_1005/document/g2nimsgd: Is a directory
md5sum: go_1005/document/j0nimsgd: Is a directory
md5sum: go_1005/document/nimsinst: Is a directory
md5sum: go_1005/document/x0nimsgd: Is a directory
md5sum: go_1005/europa/edr: Is a directory
md5sum: go_1005/europa/spike: Is a directory
md5sum: go_1005/europa/vic: Is a directory
md5sum: go_1005/fltcal/edr: Is a directory
md5sum: go_1005/fltcal/vic: Is a directory
md5sum: go_1005/ganymede/edr: Is a directory
md5sum: go_1005/ganymede/spike: Is a directory
md5sum: go_1005/ganymede/vic: Is a directory
md5sum: go_1005/io/edr: Is a directory
md5sum: go_1005/io/vic: Is a directory
md5sum: go_1005/jupiter/edr: Is a directory
md5sum: go_1005/jupiter/vic: Is a directory
md5sum: go_1005/misc/edr: Is a directory
md5sum: go_1005/misc/vic: Is a directory
md5sum: go_1006/callisto/edr: Is a directory
```

md5sum: go_1006/callisto/spike: Is a directory
md5sum: go_1006/callisto/vic: Is a directory
md5sum: go_1006/corrupt/edr: Is a directory
md5sum: go_1006/corrupt/vic: Is a directory
md5sum: go_1006/document/10nimsgd: Is a directory
md5sum: go_1006/document/11nimsgd: Is a directory
md5sum: go_1006/document/c9nimsgd: Is a directory
md5sum: go_1006/document/e6nimsgd: Is a directory
md5sum: go_1006/document/g7nimsgd: Is a directory
md5sum: go_1006/document/g8nimsgd: Is a directory
md5sum: go_1006/document/nimsinst: Is a directory
md5sum: go_1006/europa/edr: Is a directory
md5sum: go_1006/europa/spike: Is a directory
md5sum: go_1006/europa/vic: Is a directory
md5sum: go_1006/fltcal/edr: Is a directory
md5sum: go_1006/fltcal/vic: Is a directory
md5sum: go_1006/ganymede/edr: Is a directory
md5sum: go_1006/ganymede/spike: Is a directory
md5sum: go_1006/ganymede/vic: Is a directory
md5sum: go_1006/io/edr: Is a directory
md5sum: go_1006/io/vic: Is a directory
md5sum: go_1006/jupiter/edr: Is a directory
md5sum: go_1006/jupiter/vic: Is a directory
md5sum: go_1006/misc/edr: Is a directory
md5sum: go_1006/misc/vic: Is a directory
md5sum: go_1007/callisto/edr: Is a directory
md5sum: go_1007/callisto/spike: Is a directory
md5sum: go_1007/callisto/vic: Is a directory
md5sum: go_1007/corrupt/edr: Is a directory
md5sum: go_1007/corrupt/vic: Is a directory
md5sum: go_1007/document/12nimsgd: Is a directory
md5sum: go_1007/document/14nimsgd: Is a directory
md5sum: go_1007/document/15nimsgd: Is a directory
md5sum: go_1007/document/16nimsgd: Is a directory
md5sum: go_1007/document/17nimsgd: Is a directory
md5sum: go_1007/document/18nimsgd: Is a directory
md5sum: go_1007/document/19nimsgd: Is a directory
md5sum: go_1007/document/20nimsgd: Is a directory
md5sum: go_1007/document/21nimsgd: Is a directory
md5sum: go_1007/document/22nimsgd: Is a directory
md5sum: go_1007/document/24nimsgd: Is a directory
md5sum: go_1007/document/25nimsgd: Is a directory
md5sum: go_1007/document/nimsinst: Is a directory
md5sum: go_1007/europa/edr: Is a directory
md5sum: go_1007/europa/spike: Is a directory
md5sum: go_1007/europa/vic: Is a directory


```

md5sum: go_1007/fltcal/edr: Is a directory
md5sum: go_1007/fltcal/vic: Is a directory
md5sum: go_1007/io/edr: Is a directory
md5sum: go_1007/io/vic: Is a directory
md5sum: go_1007/jupiter/edr: Is a directory
md5sum: go_1007/jupiter/vic: Is a directory
md5sum: go_1008/CALLISTO/EDR: Is a directory
md5sum: go_1008/CALLISTO/VIC: Is a directory
md5sum: go_1008/DOCUMENT/26NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/27NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/28NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/29NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/30NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/31NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/32NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/33NIMSGD: Is a directory
md5sum: go_1008/DOCUMENT/NIMSINST: Is a directory
md5sum: go_1008/EUROPA/EDR: Is a directory
md5sum: go_1008/EUROPA/VIC: Is a directory
md5sum: go_1008/FLTCAL/EDR: Is a directory
md5sum: go_1008/FLTCAL/VIC: Is a directory
md5sum: go_1008/GANYMEDE/EDR: Is a directory
md5sum: go_1008/GANYMEDE/VIC: Is a directory
md5sum: go_1008/IO/EDR: Is a directory
md5sum: go_1008/IO/VIC: Is a directory
md5sum: go_1008/JUPITER/EDR: Is a directory
md5sum: go_1008/JUPITER/VIC: Is a directory
[mdc@starburst go-j-nims-2-edr-v2.0]$
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */**/*/* >
/home/mdc/mpga_v2/bin/OUTPUT/retrieved_data/galileo_nims/checksum_level4_orig.out
[mdc@starburst go-j-nims-2-edr-v2.0]$ md5sum */**/*/*/* >
/home/mdc/mpga_v2/bin/OUTPUT/retrieved_data/galileo_nims/checksum_level5_orig.out
md5sum: */**/*/*/*: No such file or directory

```

Compare checksum values between our original data set and the data set retrieved from the AIP

```

[mdc@starburst go-j-nims-2-edr-v2.0]$ cd /home/mdc/mpga_v2/bin/OUTPUT/retrieved_data/
[mdc@starburst retrieved_data]$ cd galileo_nims/
[mdc@starburst galileo_nims]$ diff checksum_level1_orig.out checksum_level1_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level2_orig.out checksum_level2_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level3_orig.out checksum_level3_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level4_orig.out checksum_level4_mpga.out
[mdc@starburst galileo_nims]$ diff checksum_level5_orig.out checksum_level5_mpga.out
[mdc@starburst galileo_nims]$

```

Data set was successfully retrieved from the AIP.

**All output and log files from this test are located in
/home/mdc/mpga_v2/bin/OUTPUT/retrieved_data/galileo_nims.**

END OF DATA SET RETRIEVAL TEST
