

MPGA SOFTWARE TEST – ROUND 4 (April 27, 2006)

SUMMARY:

- MPGA Software successfully created AIP packages for 2 of our PDS data sets that were greater than 2 GB. Splitter utility was able to extract the AIP contents and the original data set was retrieved successfully.
- AIPs generated from this test and their relevant log files are located in the following directory in the starburst machine:
 - /home/mdc/rmdc/dmgsc_1001
 - /home/mdc/rmdc/dmgsc_1018

INSTALLATION AND SETUP

Copy the following directories from Mark Hei's directory in order to properly run the MPGA software

```
[mdc@starburst mdc]$ mkdir mpga_v3
[mdc@starburst mdc]$ cd mpga_v3
[mdc@starburst mpga_v3]$ cp -r ../../mhei/MPGA-versions/CURRENT-BETAVERSION.mpga-beta-AllUnix-
v5_7patch-3-3-06/run .
[mdc@starburst mpga_v3]$ cp -r ../../mhei/MPGA-versions/CURRENT-BETAVERSION.mpga-beta-AllUnix-
v5_7patch-3-3-06/sys .
[mdc@starburst mpga_v3]$ cp -r ../../mhei/MPGA-versions/CURRENT-BETAVERSION.mpga-beta-AllUnix-
v5_7patch-3-3-06/bvers .
[mdc@starburst mpga_v3]$ cp -r ../../mhei/MPGA-versions/CURRENT-BETAVERSION.mpga-beta-AllUnix-
v5_7patch-3-3-06/stage_in .
[mdc@starburst mpga_v3]$ cp -r ../../mhei/MPGA-versions/CURRENT-BETAVERSION.mpga-beta-AllUnix-
v5_7patch-3-3-06/stage_out .
```

Check the existence of a time command in the MPGA-Packager utility. If it doesn't exist, add it in there in order to capture the execution time

```
[mdc@starburst run]$ pwd
/home/mdc/mpga_v3/run
[mdc@starburst run]$ more START-JOB--MPGA-package_generator_v5_7beta.com
cd ../sys/
./MPGA-launch \
  -workdir=./MPGA_WORKING_DIR/ \
  -setup=PDS-PACKAGE-GENERATOR.v2.setup \
  -input=./run/stage_in_directory.lst \
  -mlst_tspec=./TEMPLATE_SPEC/PDS-PACKAGE-GENERATOR.v5_7.mlst.tspec \
  -agen_tspec=./TEMPLATE_SPEC/PDS-PACKAGE-GENERATOR.v2.agen.tspec \
  -output=./stage_out/out-MPGA-package_generator-msgs.diag \
  -log=./stage_out/out-MPGA-package_generator-msgs.log &
cd ../run/
[mdc@starburst run]$
```

```
[mdc@starburst run]$ emacs START-JOB--MPGA-package_generator_v5_7beta.com &
[1] 13698
[mdc@starburst run]$ more START-JOB--MPGA-package_generator_v5_7beta.com
cd ../sys/
time ./MPGA-launch \
  -workdir=./MPGA_WORKING_DIR/ \
  -setup=PDS-PACKAGE-GENERATOR.v2.setup \
  -input=../run/stage_in_directory.lst \
  -mlst_tspec=./TEMPLATE_SPEC/PDS-PACKAGE-GENERATOR.v5_7.mlst.tspec \
  -agen_tspec=./TEMPLATE_SPEC/PDS-PACKAGE-GENERATOR.v2.agen.tspec \
  -output=../stage_out/out-MPGA-package_generator-msgs.diag \
  -log=../stage_out/out-MPGA-package_generator-msgs.log &
cd ../run/
[1]+  Done                  emacs START-JOB--MPGA-package_generator_v5_7beta.com
[mdc@starburst run]$
```

Do the same for the restorer utility (a.k.a called the splitter utility in previous versions)

```
[mdc@starburst run]$ emacs START-JOB--MPGA-restorer-and-aplitter_v5_7beta.com &
```

add the time command in front of the script file to capture the execution time

```
[mdc@starburst run]$ more START-JOB--MPGA-restorer-and-aplitter_v5_7beta.com
cd ../sys/
time ./MPGA-launch \
  -workdir=./MPGA_WORKING_DIR/ \
  -setup=PDS-PACKAGE-GENERATOR.v3.splitter.setup \
  -input_listfile=../run/stage_in_directory.splitter.lst \
  -output=../stage_out/out-MPGA-splitter-msgs.diag \
  -log=../stage_out/out-MPGA-splitter-msgs.log &
cd ../run/
[1]+  Done                  emacs START-JOB--MPGA-restorer-and-aplitter_v5_7beta.com
[mdc@starburst run]$
```

DMGSC 1001 DATA SET TEST

Gather checksums for every file in the original data set

```
[mdc@starburst mdc]$ cd /data/dmgsc_1001/
[mdc@starburst dmgsc_1001]$ md5sum * > /home/mdc/rmdc/checksum_orig_level1.out
md5sum: mgsc_1122: Is a directory
md5sum: mgsc_1123: Is a directory
md5sum: mgsc_1124: Is a directory
md5sum: mgsc_1125: Is a directory
md5sum: mgsc_1126: Is a directory
md5sum: mgsc_1127: Is a directory
md5sum: mgsc_1128: Is a directory
[mdc@starburst dmgsc_1001]$
[mdc@starburst dmgsc_1001]$
[mdc@starburst dmgsc_1001]$ md5sum ** > /home/mdc/rmdc/checksum_orig_level2.out
md5sum: mgsc_1122/catalog: Is a directory
md5sum: mgsc_1122/document: Is a directory
md5sum: mgsc_1122/e01000: Is a directory
md5sum: mgsc_1122/e01001: Is a directory
md5sum: mgsc_1122/e01002: Is a directory
md5sum: mgsc_1122/e01003: Is a directory
md5sum: mgsc_1122/e01004: Is a directory
md5sum: mgsc_1122/e01005: Is a directory
md5sum: mgsc_1122/e01006: Is a directory
md5sum: mgsc_1122/e01007: Is a directory
md5sum: mgsc_1122/e01008: Is a directory
md5sum: mgsc_1122/e01009: Is a directory
md5sum: mgsc_1122/index: Is a directory
md5sum: mgsc_1122/software: Is a directory
md5sum: mgsc_1123/catalog: Is a directory
md5sum: mgsc_1123/document: Is a directory
md5sum: mgsc_1123/e01010: Is a directory
md5sum: mgsc_1123/e01011: Is a directory
md5sum: mgsc_1123/e01012: Is a directory
md5sum: mgsc_1123/e01013: Is a directory
md5sum: mgsc_1123/e01014: Is a directory
md5sum: mgsc_1123/index: Is a directory
md5sum: mgsc_1123/software: Is a directory
md5sum: mgsc_1124/catalog: Is a directory
md5sum: mgsc_1124/document: Is a directory
md5sum: mgsc_1124/e01015: Is a directory
md5sum: mgsc_1124/e01016: Is a directory
md5sum: mgsc_1124/e01017: Is a directory
md5sum: mgsc_1124/e01018: Is a directory
md5sum: mgsc_1124/e01019: Is a directory
md5sum: mgsc_1124/index: Is a directory
md5sum: mgsc_1124/software: Is a directory
md5sum: mgsc_1125/catalog: Is a directory
md5sum: mgsc_1125/document: Is a directory
md5sum: mgsc_1125/e01019: Is a directory
```

md5sum: mgsc_1125/e01020: Is a directory
md5sum: mgsc_1125/e01021: Is a directory
md5sum: mgsc_1125/e01022: Is a directory
md5sum: mgsc_1125/index: Is a directory
md5sum: mgsc_1125/software: Is a directory
md5sum: mgsc_1126/catalog: Is a directory
md5sum: mgsc_1126/document: Is a directory
md5sum: mgsc_1126/e02000: Is a directory
md5sum: mgsc_1126/e02001: Is a directory
md5sum: mgsc_1126/e02002: Is a directory
md5sum: mgsc_1126/e02003: Is a directory
md5sum: mgsc_1126/e02004: Is a directory
md5sum: mgsc_1126/e02005: Is a directory
md5sum: mgsc_1126/index: Is a directory
md5sum: mgsc_1126/software: Is a directory
md5sum: mgsc_1127/catalog: Is a directory
md5sum: mgsc_1127/document: Is a directory
md5sum: mgsc_1127/e02006: Is a directory
md5sum: mgsc_1127/e02007: Is a directory
md5sum: mgsc_1127/e02008: Is a directory
md5sum: mgsc_1127/e02009: Is a directory
md5sum: mgsc_1127/e02010: Is a directory
md5sum: mgsc_1127/index: Is a directory
md5sum: mgsc_1127/software: Is a directory
md5sum: mgsc_1128/catalog: Is a directory
md5sum: mgsc_1128/document: Is a directory
md5sum: mgsc_1128/e02011: Is a directory
md5sum: mgsc_1128/e02012: Is a directory
md5sum: mgsc_1128/e02013: Is a directory
md5sum: mgsc_1128/e02014: Is a directory
md5sum: mgsc_1128/e02015: Is a directory
md5sum: mgsc_1128/index: Is a directory
md5sum: mgsc_1128/software: Is a directory
[mdc@starburst dmngsc_1001]\$
[mdc@starburst dmngsc_1001]\$
[mdc@starburst dmngsc_1001]\$
[mdc@starburst dmngsc_1001]\$
[mdc@starburst dmngsc_1001]\$
[mdc@starburst dmngsc_1001]\$
[mdc@starburst dmngsc_1001]\$
[mdc@starburst dmngsc_1001]\$ md5sum */** > /home/mdc/rmdc/checksum_orig_level3.out
md5sum: mgsc_1122/software/pcwin: Is a directory
md5sum: mgsc_1122/software/sunos: Is a directory
md5sum: mgsc_1123/software/pcwin: Is a directory
md5sum: mgsc_1123/software/sunos: Is a directory
md5sum: mgsc_1124/software/pcwin: Is a directory
md5sum: mgsc_1124/software/sunos: Is a directory
md5sum: mgsc_1125/software/pcwin: Is a directory
md5sum: mgsc_1125/software/sunos: Is a directory
md5sum: mgsc_1126/software/pcwin: Is a directory
md5sum: mgsc_1126/software/sunos: Is a directory

```
md5sum: mgsc_1127/software/pcwin: Is a directory
md5sum: mgsc_1127/software/sunos: Is a directory
md5sum: mgsc_1128/software/pcwin: Is a directory
md5sum: mgsc_1128/software/sunos: Is a directory
[mdc@starburst dmgsc_1001]$
[mdc@starburst dmgsc_1001]$
[mdc@starburst dmgsc_1001]$
[mdc@starburst dmgsc_1001]$
[mdc@starburst dmgsc_1001]$ md5sum */**/* > /home/mdc/rmdc/checksum_orig_level4.out
[mdc@starburst dmgsc_1001]$ md5sum */**/*/* > /home/mdc/rmdc/checksum_orig_level5.out
md5sum: */**/*/*: No such file or directory
[mdc@starburst dmgsc_1001]$
```

Create a symbolic link to the data volume

```
[mdc@starburst mdc]$ cd mpga_v3
[mdc@starburst mpga_v3]$ ls
bvers run stage_in stage_out sys
[mdc@starburst mpga_v3]$ cd stage_in
[mdc@starburst stage_in]$ ls
[mdc@starburst stage_in]$ ls
dataset.dir
[mdc@starburst stage_in]$ rm dataset.dir
[mdc@starburst stage_in]$ ln -s ../../../../data/dmgsc_1001/ dataset.dir
[mdc@starburst stage_in]$ ls -l
total 0
lrwxrwxrwx 1 mdc users 28 Mar 29 11:00 dataset.dir -> ../../../../data/dmgsc_1001/
[mdc@starburst stage_in]$
```

Run the MPGA-Packager generator utility

```
[mdc@starburst stage_in]$ pwd
/home/mdc/mpga_v3/stage_in
[mdc@starburst stage_in]$ cd ../run/
[mdc@starburst run]$ pwd
/home/mdc/mpga_v3/run
[mdc@starburst run]$ ./START-JOB--MPGA-package_generator_v5_7beta.com
```

Check that the MPGA-Packager generator is working

Run the “ps x” command

```
[mdc@starburst run]$ ps x
  PID TTY          STAT TIME COMMAND
13227 ?        S    0:00 sshd: mdc@pts/2
13228 pts/2    S    0:00 -bash
13729 pts/2    S    0:00 -bash
13730 pts/2    S    0:00 ./MPGA-launch -workdir=./MPGA_WORKING_DIR/ -setup=PDS-PACKAGE-
GENERATOR.v2.setup -input=../run/stage_in_directory.lst -mlst_tspec=./TEMPLATE_SPE
```

```
13731 pts/2  Z   0:00 [MPGA-makelist <defunct>]
13732 ?      S   0:00 ./MPGA-makelist
13733 ?      S   0:00 /bin/ls -lpr ../stage_in/dataset.dir/
13734 pts/2  R   0:00 ps x
```

Monitor progress by looking in the ../stage_out directory for the log files and the AIP package

```
[mdc@starburst run]$
[mdc@starburst run]$ cd ../stage_out/
[mdc@starburst stage_out]$ ls -l
total 4
-rw-r--r--  1 mdc   users    54 Apr 26 15:45 out-MPGA-package_generator-msgs.diag
-rw-r--r--  1 mdc   users     0 Apr 26 15:45 out-MPGA-package_generator-msgs.log

[mdc@starburst stage_out]$ tail -f out-MPGA-package_generator-msgs.diag
*   DMLST NOTE: Started module "local:./MPGA-makelist"
*   DMLST NOTE: Processed 3943 Files in 1 AIP(s) in 158 sec
* VERBOSE: init registry, SRVR: dbase file="./MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX"
initialize_registry - normal return
*   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 "../stage_out/TPDS0000000001_AIPfile.sfd.testfile"
3900572061   5ab736fc
0   AIPGEN-P_TREP PASS: FINAL REPORT - PROCESSED 1 FILES FOR 3893921881 DATA-BYTES
IN 1578 SECs INTO 3900572061 PACKAGE-BYTES AT 2.4718 MEGABYTES/SEC
```

PROGRAM OUTPUT

SUCCESS

```
real 28m57.835s
user 0m0.450s
sys 0m0.090s
```

3 output files were created in the /stage_out directory: 1 .log, 1 .diag, and the AIP package

```
out-MPGA-package_generator-msgs.diag    753 bytes
out-MPGA-package_generator-msgs.log     116 bytes
TPDS0000000001_AIPfile.sfd.testfile    3900572061 bytes
```

```
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ pwd
/home/mdc/mpga_v3/stage_out
[mdc@starburst stage_out]$ more out-MPGA-package_generator-msgs.log
TPDS0000000001 0   AIPGEN-P_OK PASS: packaged "../stage_out/TPDS0000000001_AIPfile.sfd.testfile"
3900572061   5ab736fc
```

```

[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ more TPDS0000000001_AIPfile.sfd.testfile
CCSD3ZB00001
OBJECT_TYPE_VERSION = "3";
BEGIN_OBJECT = PACKAGE_IDENTIFICATION;
  ARCHIVAL_STORAGE_ID = "TPDS0000000001";
  PRIMARY_COLLECTION_ID = "PSPG-00729";
  DATE_TIME_OF_GENERATION = "2006-03-29T11:10:22";
  CRC_TYPE = "NSSDC_A:V0";
  ATTRIBUTE_OBJECT_CRC = "61db474c";
END_OBJECT = PACKAGE_IDENTIFICATION;
BEGIN_OBJECT = MULTI-STREAM_STRUCTURE;
  GROUPING_RATIONALE = "Maintain directory structure / view";
  GROUPING_CRITERIA = "DIRECTORY_CONTENT";
  GROUPING_RECOMMENDED_NAME = "TPDS0000000001_groupname";
  NUMBER_OF_STREAMS = "3943";
  NUMBER_OF_BYTES_IN_CANONICAL_STREAMS = "3893921881";

```

...

AIP EXTRACTION UTILITY TEST

Execute the restorer utility to extract the contents of the AIP

```

[mdc@starburst stage_out]$ cd ../run/
[mdc@starburst run]$ ./START-JOB--MPGA-restorer-and-aplitter_v5_7beta.com

```

Look in the stage_out directory for the existence of a .dir file. This shows that the restorer utility is working.

```

[mdc@starburst stage_out]$ cd ../run/
[mdc@starburst run]$
[mdc@starburst run]$
[mdc@starburst run]$
[mdc@starburst run]$ cd ../stage_out/
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ ls -lrt
total 3819104
drwxr-xr-x  2 mdc  users   4096 Apr 21 08:59 dmgsc_1018
drwxr-xr-x  2 mdc  users   4096 Apr 26 15:39 dmgsc_1001
-rw-rw-r--  1 mdc  users 3900572061 Apr 26 16:14 TPDS0000000001_AIPfile.sfd.testfile
-rw-r--r--  1 mdc  users   116 Apr 26 16:14 out-MPGA-package_generator-msgs.log
-rw-r--r--  1 mdc  users   753 Apr 26 16:14 out-MPGA-package_generator-msgs.diag
-rw-r--r--  1 mdc  users    0 Apr 26 16:31 out-MPGA-splitter-msgs.log

```

```
-rw-r--r-- 1 mdc users 142 Apr 26 16:31 out-MPGA-splitter-msgs.diag
-rw-r--r-- 1 mdc users 6335807 Apr 26 16:31 TPDS0000000001_attribute_obj.testfile
drwxr-xr-x 3 mdc users 4096 Apr 26 16:31 TPDS0000000001_data.testfile.dir
[mdc@starburst stage_out]$
```

PROGRAM OUTPUT

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

```
real 25m55.998s
user 0m0.000s
sys 0m0.000s
```

3 output files created in stage_out directory

TPDS0000000001_attribute_obj.testfile	6335807 bytes
out-MPGA-splitter-msgs.log	185 bytes
out-MPGA-splitter-msgs.diag	423 bytes

Directory called TPDS0000000001_data.testfile.dir is created in stage_out directory, which contains the contents of the AIP we have just extracted.

```
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ more out-MPGA-splitter-msgs.log
TPDS0000000001 0 SPL PASS: "../stage_out/TPDS0000000001_AIPfile.sfd.testfile" into
"../stage_out/TPDS0000000001_data.testfile" and "../stage_out/TPDS0000000001_attribute_obj.testfile"
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ more out-MPGA-splitter-msgs.diag
* VERBOSE: init registry, SRVR: dbase file="/MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX"
* Splitter Started and Initialized:
```

Accessing AIPs...

```
TPDS0000000001 0 SPL PASS: "../stage_out/TPDS0000000001_AIPfile.sfd.testfile" into
"../stage_out/TPDS0000000001_data.testfile" and "../stage_out/TPDS0000000001_attribute_obj.testfile"
* SPL NOTE: module "local:/MPGA-splitter" completely processed 1 out of 1 AIPs in 1556 (secs)
[mdc@starburst stage_out]$
```

```
[mdc@starburst stage_out]$ ls -l TPDS0000000001_data.testfile.dir/
total 36
-rw-r--r-- 1 mdc users 4002 Apr 26 16:31 aareadme.txt
drwxr-xr-x 16 mdc users 4096 Apr 26 16:35 mgsc_1122
drwxr-xr-x 11 mdc users 4096 Apr 26 16:39 mgsc_1123
drwxr-xr-x 11 mdc users 4096 Apr 26 16:43 mgsc_1124
drwxr-xr-x 10 mdc users 4096 Apr 26 16:45 mgsc_1125
drwxr-xr-x 12 mdc users 4096 Apr 26 16:49 mgsc_1126
```



```
drwxr-xr-x 11 mdc users 4096 Apr 26 16:53 mgsc_1127
drwxr-xr-x 11 mdc users 4096 Apr 26 16:57 mgsc_1128
-rw-r--r-- 1 mdc users 2378 Apr 26 16:31 voldesc.cat
```

Gather checksums for every file located inside this directory

```
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ pwd
/home/mdc/mpga_v3/stage_out
[mdc@starburst stage_out]$ cd TPDS0000000001_data.testfile.dir/
[mdc@starburst TPDS0000000001_data.testfile.dir]$ md5sum * >
/home/mdc/rmdc/dmgsc_1001/checksum_aip_level1.out
md5sum: mgsc_1122: Is a directory
md5sum: mgsc_1123: Is a directory
md5sum: mgsc_1124: Is a directory
md5sum: mgsc_1125: Is a directory
md5sum: mgsc_1126: Is a directory
md5sum: mgsc_1127: Is a directory
md5sum: mgsc_1128: Is a directory
[mdc@starburst TPDS0000000001_data.testfile.dir]$ md5sum */* >
/home/mdc/rmdc/dmgsc_1001/checksum_aip_level2.out
md5sum: mgsc_1122/catalog: Is a directory
md5sum: mgsc_1122/document: Is a directory
md5sum: mgsc_1122/e01000: Is a directory
md5sum: mgsc_1122/e01001: Is a directory
md5sum: mgsc_1122/e01002: Is a directory
md5sum: mgsc_1122/e01003: Is a directory
md5sum: mgsc_1122/e01004: Is a directory
md5sum: mgsc_1122/e01005: Is a directory
md5sum: mgsc_1122/e01006: Is a directory
md5sum: mgsc_1122/e01007: Is a directory
md5sum: mgsc_1122/e01008: Is a directory
md5sum: mgsc_1122/e01009: Is a directory
md5sum: mgsc_1122/index: Is a directory
md5sum: mgsc_1122/software: Is a directory
md5sum: mgsc_1123/catalog: Is a directory
md5sum: mgsc_1123/document: Is a directory
md5sum: mgsc_1123/e01010: Is a directory
md5sum: mgsc_1123/e01011: Is a directory
md5sum: mgsc_1123/e01012: Is a directory
md5sum: mgsc_1123/e01013: Is a directory
md5sum: mgsc_1123/e01014: Is a directory
md5sum: mgsc_1123/index: Is a directory
md5sum: mgsc_1123/software: Is a directory
md5sum: mgsc_1124/catalog: Is a directory
md5sum: mgsc_1124/document: Is a directory
md5sum: mgsc_1124/e01015: Is a directory
md5sum: mgsc_1124/e01016: Is a directory
md5sum: mgsc_1124/e01017: Is a directory
md5sum: mgsc_1124/e01018: Is a directory
```

md5sum: mgsc_1124/e01019: Is a directory
md5sum: mgsc_1124/index: Is a directory
md5sum: mgsc_1124/software: Is a directory
md5sum: mgsc_1125/catalog: Is a directory
md5sum: mgsc_1125/document: Is a directory
md5sum: mgsc_1125/e01019: Is a directory
md5sum: mgsc_1125/e01020: Is a directory
md5sum: mgsc_1125/e01021: Is a directory
md5sum: mgsc_1125/e01022: Is a directory
md5sum: mgsc_1125/index: Is a directory
md5sum: mgsc_1125/software: Is a directory
md5sum: mgsc_1126/catalog: Is a directory
md5sum: mgsc_1126/document: Is a directory
md5sum: mgsc_1126/e02000: Is a directory
md5sum: mgsc_1126/e02001: Is a directory
md5sum: mgsc_1126/e02002: Is a directory
md5sum: mgsc_1126/e02003: Is a directory
md5sum: mgsc_1126/e02004: Is a directory
md5sum: mgsc_1126/e02005: Is a directory
md5sum: mgsc_1126/index: Is a directory
md5sum: mgsc_1126/software: Is a directory
md5sum: mgsc_1127/catalog: Is a directory
md5sum: mgsc_1127/document: Is a directory
md5sum: mgsc_1127/e02006: Is a directory
md5sum: mgsc_1127/e02007: Is a directory
md5sum: mgsc_1127/e02008: Is a directory
md5sum: mgsc_1127/e02009: Is a directory
md5sum: mgsc_1127/e02010: Is a directory
md5sum: mgsc_1127/index: Is a directory
md5sum: mgsc_1127/software: Is a directory
md5sum: mgsc_1128/catalog: Is a directory
md5sum: mgsc_1128/document: Is a directory
md5sum: mgsc_1128/e02011: Is a directory
md5sum: mgsc_1128/e02012: Is a directory
md5sum: mgsc_1128/e02013: Is a directory
md5sum: mgsc_1128/e02014: Is a directory
md5sum: mgsc_1128/e02015: Is a directory
md5sum: mgsc_1128/index: Is a directory
md5sum: mgsc_1128/software: Is a directory
[mdc@starburst TPDS0000000001_data.testfile.dir]\$
[mdc@starburst TPDS0000000001_data.testfile.dir]\$
[mdc@starburst TPDS0000000001_data.testfile.dir]\$
[mdc@starburst TPDS0000000001_data.testfile.dir]\$ md5sum */**/* >
/home/mdc/rmdc/dmgsc_1001/checksum_aip_level3.out
md5sum: mgsc_1122/software/pcwin: Is a directory
md5sum: mgsc_1122/software/sunos: Is a directory
md5sum: mgsc_1123/software/pcwin: Is a directory
md5sum: mgsc_1123/software/sunos: Is a directory
md5sum: mgsc_1124/software/pcwin: Is a directory
md5sum: mgsc_1124/software/sunos: Is a directory
md5sum: mgsc_1125/software/pcwin: Is a directory

```

md5sum: mgsc_1125/software/sunos: Is a directory
md5sum: mgsc_1126/software/pcwin: Is a directory
md5sum: mgsc_1126/software/sunos: Is a directory
md5sum: mgsc_1127/software/pcwin: Is a directory
md5sum: mgsc_1127/software/sunos: Is a directory
md5sum: mgsc_1128/software/pcwin: Is a directory
md5sum: mgsc_1128/software/sunos: Is a directory
[mdc@starburst TPDS0000000001_data.testfile.dir]$
[mdc@starburst TPDS0000000001_data.testfile.dir]$ md5sum */**/* >
/home/mdc/rmdc/dmgsc_1001/checksum_aip_level4.out
[mdc@starburst TPDS0000000001_data.testfile.dir]$ md5sum */**/*/* >
/home/mdc/rmdc/dmgsc_1001/checksum_aip_level5.out
md5sum: */**/*/*: No such file or directory
[mdc@starburst TPDS0000000001_data.testfile.dir]$

```

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

```

[mdc@starburst TPDS0000000001_data.testfile.dir]$
[mdc@starburst TPDS0000000001_data.testfile.dir]$ cd /home/mdc/rmdc/dmgsc_1001/
[mdc@starburst dmgsc_1001]$ diff checksum_orig_level1.out checksum_aip_level1.out
[mdc@starburst dmgsc_1001]$ diff checksum_orig_level2.out checksum_aip_level2.out
[mdc@starburst dmgsc_1001]$ diff checksum_orig_level3.out checksum_aip_level3.out
[mdc@starburst dmgsc_1001]$ diff checksum_orig_level4.out checksum_aip_level4.out
[mdc@starburst dmgsc_1001]$ diff checksum_orig_level5.out checksum_aip_level5.out
[mdc@starburst dmgsc_1001]$

```

Move output files to stage_out/dmgsc_1001

```

[mdc@starburst stage_out]$ mv out-MPGA-* dmgsc_1001/
[mdc@starburst stage_out]$ mv TPDS0000000001_* dmgsc_1001/
[mdc@starburst stage_out]$ cd dmgsc_1001/
[mdc@starburst dmgsc_1001]$ ls -l
total 3819620
-rw-r--r--  1 mdc  users    93 Apr 26 17:22 checksum_aip_level1.out
-rw-r--r--  1 mdc  users  1176 Apr 26 17:22 checksum_aip_level2.out
-rw-r--r--  1 mdc  users 248087 Apr 26 17:25 checksum_aip_level3.out
-rw-r--r--  1 mdc  users  2982 Apr 26 17:25 checksum_aip_level4.out
-rw-r--r--  1 mdc  users    0 Apr 26 17:25 checksum_aip_level5.out
-rw-r--r--  1 mdc  users   93 Apr 26 15:35 checksum_orig_level1.out
-rw-r--r--  1 mdc  users  1176 Apr 26 15:35 checksum_orig_level2.out
-rw-r--r--  1 mdc  users 248087 Apr 26 15:38 checksum_orig_level3.out
-rw-r--r--  1 mdc  users  2982 Apr 26 15:39 checksum_orig_level4.out
-rw-r--r--  1 mdc  users    0 Apr 26 15:39 checksum_orig_level5.out
-rw-r--r--  1 mdc  users  753 Apr 26 16:14 out-MPGA-package_generator-msgs.diag
-rw-r--r--  1 mdc  users  116 Apr 26 16:14 out-MPGA-package_generator-msgs.log
-rw-r--r--  1 mdc  users  423 Apr 26 16:57 out-MPGA-splitter-msgs.diag
-rw-r--r--  1 mdc  users  185 Apr 26 16:57 out-MPGA-splitter-msgs.log
-rw-rw-r--  1 mdc  users 3900572061 Apr 26 16:14 TPDS0000000001_AIPfile.sfd.testfile
-rw-r--r--  1 mdc  users 6335807 Apr 26 16:31 TPDS0000000001_attribute_obj.testfile

```

```
drwxr-xr-x  9 mdc  users  4096 Apr 26 16:53 TPDS0000000001_data.testfile.dir
[mdc@starburst dmgsc_1001]$
```

AIP successfully created and extracted for data set DMGSC_1001. Output files for this test are located in /home/mdc/rmdc.

DMGSC 1018 DATA SET TEST

Gather checksum values for every file in the original data set

I was getting an “Argument list too long” error generating checksum values the way I was executing the checksum command normally,

```
[mdc@starburst dmgsc_1018]$ md5sum */** > /home/mdc/rmdc/checksum_orig_level3.out
-bash: /usr/bin/md5sum: Argument list too long
[mdc@starburst dmgsc_1018]$
```

so I used a different method for gathering checksum values

```
[mdc@starburst dmgsc_1018]$
[mdc@starburst dmgsc_1018]$
[mdc@starburst dmgsc_1018]$
[mdc@starburst dmgsc_1018]$ find * -type f -name "*" -exec md5sum {} \; >
/home/mdc/rmdc/checksums_orig.out
```

Create symbolic link to the data set volume

```
[mdc@starburst mpga_v3]$ pwd
/home/mdc/mpga_v3
[mdc@starburst mpga_v3]$ cd stage_in/
[mdc@starburst stage_in]$ ls
dataset.dir
[mdc@starburst stage_in]$
[mdc@starburst stage_in]$ rm dataset.dir
[mdc@starburst stage_in]$ ln -s ../../../../data/dmgsc_1018/ dataset.dir
[mdc@starburst stage_in]$ ls -l
total 0
lrwxrwxrwx  1 mdc  users    28 Mar 29 14:22 dataset.dir -> ../../../../data/dmgsc_1018/
[mdc@starburst stage_in]$
```

Run the MPGA-Packager generator utility

```
[mdc@starburst stage_in]$ pwd
/home/mdc/mpga_v3/stage_in
[mdc@starburst stage_in]$ cd ../run/
[mdc@starburst run]$ ./START-JOB--MPGA-package_generator_v5_7beta.com
[mdc@starburst run]$
```

Check that the MPGA-Packager generator is working

Run the “ps x” command

```
[mdc@starburst run]$ ps x
  PID TTY   STAT  TIME COMMAND
13227 ?     S    0:00 sshd: mdc@pts/2,pts/3
13228 pts/2  S    0:00 -bash
14848 pts/3  S    0:00 -bash
15324 pts/2  S    0:00 -bash
15325 pts/2  S    0:00 ./MPGA-launch -workdir=./MPGA_WORKING_DIR/ -setup=PDS-PACKAGE-
GENERATOR.v2.setup -input=./run/stage_in_directory.lst -mlst_tspec=./TEMPLATE_SPEC/PDS-
PACKAGE-GENERAT
15326 pts/2  Z    0:00 [MPGA-makelist <defunct>]
15327 ?     S    0:00 ./MPGA-makelist
15328 ?     S    0:00 /bin/ls -lpR ../stage_in/dataset.dir/
15330 pts/2  R    0:00 ps x
[mdc@starburst run]$
```

Monitor progress by looking in the ../stage_out directory for the log files and the AIP package

```
[mdc@starburst stage_out]$ ls -l
total 8
-rw-r--r--  1 mdc  users    488 Apr 27 09:59 out-MPGA-package_generator-msgs.diag
-rw-r--r--  1 mdc  users      0 Apr 27 09:53 out-MPGA-package_generator-msgs.log
-rw-r--r--  1 mdc  users 2277498880 Apr 27 10:19 TPDS0000000001_AIPfile.sfd.testfile
```

PROGRAM OUTPUT

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

```
real 35m14.204s
user 0m0.730s
sys 0m0.310s
```

3 output files created in /stage_out directory: 1 .log, 1 .diag, and 1 AIP

```
out-MPGA-package_generator-msgs.diag      753 bytes
out-MPGA-package_generator-msgs.log      116 bytes
TPDS0000000001_AIPfile.sfd.testfile    4244923582 bytes
```

```
[mdc@starburst stage_out]$ more out-MPGA-package_generator-msgs.diag
* DMLST NOTE: Started module "local:./MPGA-makelist"
* DMLST NOTE: Processed 8417 Files in 1 AIP(s) in 337 sec
* VERBOSE: init registry, SRVR: dbase file=./MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX"
initialize_registry - normal return
* 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 "../stage_out/TPDS0000000001_AIPfile.sfd.testfile"
4244923582 5c934249
0 AIPGEN-P_TREP PASS: FINAL REPORT - PROCESSED 1 FILES FOR 4230742348 DATA-BYTES
IN 1776 SECs INTO 4244923582 PACKAGE-BYTES AT 2.3902 MEGABYTES/SEC
```

```
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ more out-MPGA-package_generator-msgs.log
TPDS0000000001 0 AIPGEN-P_OK PASS: packaged "../stage_out/TPDS0000000001_AIPfile.sfd.testfile"
4244923582 5c934249
```

```
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ more TPDS0000000001_AIPfile.sfd.testfile
CCSD3ZB00001
```

```
OBJECT_TYPE_VERSION = "3";
BEGIN_OBJECT = PACKAGE_IDENTIFICATION;
  ARCHIVAL_STORAGE_ID = "TPDS0000000001";
  PRIMARY_COLLECTION_ID = "PSPG-00729";
  DATE_TIME_OF_GENERATION = "2006-04-27T09:59:18";
  CRC_TYPE = "NSSDC_A:V0";
  ATTRIBUTE_OBJECT_CRC = "e2e75d22";
END_OBJECT = PACKAGE_IDENTIFICATION;
BEGIN_OBJECT = MULTI-STREAM_STRUCTURE;
  GROUPING_RATIONALE = "Maintain directory structure / view";
  GROUPING_CRITERIA = "DIRECTORY_CONTENT";
  GROUPING_RECOMMENDED_NAME = "TPDS0000000001_groupname";
  NUMBER_OF_STREAMS = "8417";
  NUMBER_OF_BYTES_IN_CANONICAL_STREAMS = "4230742348";
  GROUP_DATA_BEGIN_DATE_TIME = "n/a";
  GROUP_DATA_END_DATE_TIME = "n/a";
BEGIN_OBJECT = STREAM_STRUCTURE;
  STREAM_INSTANCE_POINTER = "1";
  DIRECTORY_PATHNAME = "./";
BEGIN_OBJECT = ORIGINAL_STREAM_STRUCTURE;
  STREAM_TYPE = "7-BIT ASCII";
  STREAM_TYPE_TO_PACKAGER = "BINARY";
  ORIGINATING_SYSTEM = "Linux";
  DATE_TIME_CREATED = "2003-09-24T13:22:00";
  DATE_TIME_LAST_MODIFIED = "2003-09-24T13:22:00";
  FILE_ORGANIZATION = "sequential";
  RECORD_FORMAT = "undefined";
  RECORD_CONTROL = "none";
  STREAM_SIZE_BYTES = "3261";
  MAXIMUM_RECORD_LENGTH_BYTES = "0";
  FILE_NAME = "aareadme.txt";
  CRC_TYPE = "NSSDC_A:V0";
  CRC = "5d0e6a07";
END_OBJECT = ORIGINAL_STREAM_STRUCTURE;
BEGIN_OBJECT = CANONICAL_STREAM_STRUCTURE;
  STREAM_TYPE = "BINARY";
```

```
STREAM_RECORD_DELIMITER = "NONE";
STREAM_SIZE_BYTES = "3261";
MAXIMUM_RECORD_LENGTH_BYTES = "0";
CRC_TYPE = "NSSDC_A:V0";
CRC = "5d0e6a07";
```

...

AIP EXTRACTION UTILITY TEST

Run the splitter utility to extract the AIP contents

```
[mdc@starburst run]$
[mdc@starburst run]$ ./START-JOB--MPGA-restorer-and-aplitter_v5_7beta.com
```

Check that the splitter utility is working

```
[mdc@starburst run]$ ps x
  PID TTY          STAT TIME COMMAND
 7958 ?        S    0:00 sshd: mdc@pts/7
 7959 pts/7    S    0:02 /usr/X11R6/bin/xterm -ls -display 137.79.16.54:0
 7963 pts/8    S    0:01 -bash
24922 pts/8    S    0:00 -bash
24923 pts/8    S    0:00 ./MPGA-launch -workdir=./MPGA_WORKING_DIR/ -setup=PDS-PACKAGE-
GENERATOR.v3.splitter.setup -input_listfile=./run/stage_in_directory.splitter.lst -output=./stage_out/out-
MPGA-splitter-msgs.diag -log=./stage_out/out-MPGA-splitter-ms
24924 pts/8    Z    0:00 [MPGA-splitter <defunct>]
24925 ?        R    0:02 ./MPGA-splitter
24926 pts/8    R    0:00 ps x
```

Look in the stage_out directory for the presence of the .dir directory, which is where the AIP contents will go

```
[mdc@starburst run]$ cd ../stage_out/
[mdc@starburst stage_out]$ ls -l
```

```
-rw-r--r--  1 mdc   users      0 Apr 27 11:14 out-MPGA-splitter-msgs.log
-rw-r--r--  1 mdc   users    142 Apr 27 11:14 out-MPGA-splitter-msgs.diag
-rw-r--r--  1 mdc   users 13508941 Apr 27 11:14 TPDS0000000001_attribute_obj.testfile
drwxr-xr-x  3 mdc   users   4096 Apr 27 11:14 TPDS0000000001_data.testfile.dir
```

PROGRAM OUTPUT

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

```
real 28m22.009s
user 0m0.010s
sys 0m0.000s
```

3 output files and 1 directory was created in the stage_out directory, which holds the AIP contents

```
out-MPGA-splitter-msgs.log          185 bytes
out-MPGA_splitter-msgs.diag        423 bytes
TPDS0000000001_attribute_obj.testfile 13508941 bytes
```

```
TPDS0000000001_data.testfile.dir  directory
```

```
[mdc@starburst stage_out]$ more out-MPGA-splitter-msgs.log
TPDS0000000001 0 SPL PASS: "../stage_out/TPDS0000000001_AIPfile.sfd.testfile" into
"../stage_out/TPDS0000000001_data.testfile" and "../stage_out/TPDS0000000001_attribute_obj.testfile"
```

```
[mdc@starburst stage_out]$
```

```
[mdc@starburst stage_out]$
```

```
[mdc@starburst stage_out]$
```

```
[mdc@starburst stage_out]$ more out-MPGA-splitter-msgs.diag
```

```
* VERBOSE: init registry, SRVR: dbase file="/MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX"
```

```
* Splitter Started and Initialized:
```

Accessing AIPs...

```
TPDS0000000001 0 SPL PASS: "../stage_out/TPDS0000000001_AIPfile.sfd.testfile" into
"../stage_out/TPDS0000000001_data.testfile" and "../stage_out/TPDS0000000001_attribute_obj.testfile"
* SPL NOTE: module "local:./MPGA-splitter" completely processed 1 out of 1 AIPs in 1702 (secs)
```

```
[mdc@starburst stage_out]$
```

```
[mdc@starburst stage_out]$ ls -l TPDS0000000001_data.testfile.dir/
```

```
total 44
```

```
-rw-r--r-- 1 mdc users 3261 Apr 27 14:31 aareadme.txt
drwxr-xr-x 14 mdc users 4096 Apr 27 14:33 mgsc_1235
drwxr-xr-x 20 mdc users 4096 Apr 27 14:38 mgsc_1236
drwxr-xr-x 11 mdc users 4096 Apr 27 14:39 mgsc_1237
drwxr-xr-x 19 mdc users 4096 Apr 27 14:43 mgsc_1238
drwxr-xr-x 11 mdc users 4096 Apr 27 14:45 mgsc_1239
drwxr-xr-x 19 mdc users 4096 Apr 27 14:49 mgsc_1240
drwxr-xr-x 11 mdc users 4096 Apr 27 14:51 mgsc_1241
drwxr-xr-x 21 mdc users 4096 Apr 27 14:55 mgsc_1242
drwxr-xr-x 16 mdc users 4096 Apr 27 14:59 mgsc_1243
-rw-r--r-- 1 mdc users 2331 Apr 27 14:31 voldesc.cat
```

```
[mdc@starburst stage_out]$
```

Generate checksum values for every file in the directory that was just created from the splitter utility

```
[mdc@starburst stage_out]$ pwd
/home/mdc/mpga_v3/stage_out
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ cd TPDS0000000001_data.testfile.dir/
[mdc@starburst TPDS0000000001_data.testfile.dir]$ find * -type f -name "*" -exec md5sum {} \; >
/home/mdc/rmdc/dmgsc_1018/checksums_aip.out
```

Compare the checksum values between the AIP contents and the original data set

```
[mdc@starburst TPDS0000000001_data.testfile.dir]$
[mdc@starburst TPDS0000000001_data.testfile.dir]$
[mdc@starburst TPDS0000000001_data.testfile.dir]$ cd /home/mdc/rmdc/
[mdc@starburst rmdc]$ cd dmgsc_1018/
[mdc@starburst dmgsc_1018]$
```

```
[mdc@starburst dmgsc_1018]$ diff checksums_aip.out checksums_orig.out
2,4d1
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1235/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1235/errata.txt
< 4eb9396fa5fb5c22444083dd78b3b44d mgsc_1235/voldesc.cat
719d715
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1235/software/softinfo.txt
726,728c722,725
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1236/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1236/errata.txt
< 606525395d692ea75158f2c2e811a25e mgsc_1236/voldesc.cat
---
> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1235/software/softinfo.txt
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1235/aareadme.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1235/errata.txt
> 4eb9396fa5fb5c22444083dd78b3b44d mgsc_1235/voldesc.cat
1693a1691
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1236/aareadme.txt
2095d2092
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1236/software/softinfo.txt
2102,2104c2099,2101
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1237/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1237/errata.txt
< 42d6c2f140f030616dd10c13e41e42c6 mgsc_1237/voldesc.cat
---
> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1236/software/softinfo.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1236/errata.txt
> 606525395d692ea75158f2c2e811a25e mgsc_1236/voldesc.cat
2482d2478
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1237/software/softinfo.txt
2489,2491c2485,2488
```

< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1238/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1238/errata.txt
< 196ebc9643053b4e7907fc55487808bf mgsc_1238/voldesc.cat

> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1237/software/softinfo.txt
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1237/aareadme.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1237/errata.txt
> 42d6c2f140f030616dd10c13e41e42c6 mgsc_1237/voldesc.cat
3482a3480
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1238/aareadme.txt
3784d3781
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1238/software/softinfo.txt
3791,3793c3788,3790
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1239/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1239/errata.txt
< 6d4bc0b5eb58eab905e9d3c512e6c26c mgsc_1239/voldesc.cat

> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1238/software/softinfo.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1238/errata.txt
> 196ebc9643053b4e7907fc55487808bf mgsc_1238/voldesc.cat
4217d4213
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1239/software/softinfo.txt
4224,4226c4220,4223
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1240/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1240/errata.txt
< a44f4bab00d3f955aa6e6f256841b79c mgsc_1240/voldesc.cat

> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1239/software/softinfo.txt
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1239/aareadme.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1239/errata.txt
> 6d4bc0b5eb58eab905e9d3c512e6c26c mgsc_1239/voldesc.cat
5226a5224
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1240/aareadme.txt
5527d5524
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1240/software/softinfo.txt
5534,5536c5531,5533
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1241/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1241/errata.txt
< 182732c0e601acf5a945faffcd6d845d mgsc_1241/voldesc.cat

> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1240/software/softinfo.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1240/errata.txt
> a44f4bab00d3f955aa6e6f256841b79c mgsc_1240/voldesc.cat
5915d5911
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1241/software/softinfo.txt
5922,5924c5918,5921
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1242/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1242/errata.txt
< efa78bd73f9b2beac9ccc177fe35f663 mgsc_1242/voldesc.cat

> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1241/software/softinfo.txt

```

> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1241/aareadme.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1241/errata.txt
> 182732c0e601acf5a945faffcd6d845d mgsc_1241/voldesc.cat
6917a6915
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1242/aareadme.txt
7388d7385
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1242/software/softinfo.txt
7395,7397c7392,7394
< c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1243/aareadme.txt
< 4bf6756e465b41b935eb237abbe1fc70 mgsc_1243/errata.txt
< 319941a396ec58a2308ffca0b9e591f2 mgsc_1243/voldesc.cat
---
> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1242/software/softinfo.txt
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1242/errata.txt
> efa78bd73f9b2beac9ccc177fe35f663 mgsc_1242/voldesc.cat
8310a8308
> c8e1ec1c4edcb5451f16d8c531fd49a4 mgsc_1243/aareadme.txt
8410c8408
< d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1243/software/softinfo.txt
---
> 4bf6756e465b41b935eb237abbe1fc70 mgsc_1243/errata.txt
8416a8415,8416
> d3313652b9f1ffc64ae08dee6b5fb03b mgsc_1243/software/softinfo.txt
> 319941a396ec58a2308ffca0b9e591f2 mgsc_1243/voldesc.cat
[mdc@starburst dmngsc_1018]$

```

Files between the two are simply in the wrong order, so run a sort command, pipe it to an output file and compare the 2 files again

```

[mdc@starburst dmngsc_1018]$
[mdc@starburst dmngsc_1018]$
[mdc@starburst dmngsc_1018]$ sort -d checksums_orig.out > checksums_orig_sort.out
[mdc@starburst dmngsc_1018]$ sort -d checksums_aip.out > checksums_aip_sort.out
[mdc@starburst dmngsc_1018]$
[mdc@starburst dmngsc_1018]$
[mdc@starburst dmngsc_1018]$ diff checksums_orig_sort.out checksums_aip_sort.out
[mdc@starburst dmngsc_1018]$

```

Output files moved to /home/mdc/rmdc/dmngsc_1018

```

[mdc@starburst stage_out]$
[mdc@starburst stage_out]$ mv * /home/mdc/rmdc/dmngsc_1018/

```

AIP successfully created and extracted with the MPGA software for dataset DMGSC_1018. Output files located in /home/mdc/rmdc/dmngsc_1018.