Section 1   Introduction

1.1 Purpose

This document provides the TRACE DPS analyst with detailed work instructions for the daily operations of the DPS.

1.2 Scope

This document outlines the TRACE DPS work processes associated   with system startup, data capture, processing, delivery, and   accountability of TRACE spacecraft telemetry.

Section 2   Starting the DPS

2.1 Bringing Up the DPS Main Window

a.) Log into dptrace2 in the EOF.
    Username: ops
    Password: _____

b.) In the xterm window type: dps

The DPS Main window should appear.

2.2 Starting the Software Tasks

a.) From DPS Main, select Resource Monitor from the Resource   menu. Select Startup/Shutdown from the Resource Monitor Control   menu.

b.) Highlight PDP under subsystem, and click the StartUp button.   Continue to do a refresh of the window status by clicking Refresh   until the first five tasks - PSC, RM, CAS, PAS, and CGS are up.

c.) Highlight the PEP subsystem, and click the StartUp button. After several refreshes, PEP, PEI, PER and frame_sorter should be up.

d.) Startup the PTT subsystem in the same manner. Now the PTT   task should be up. Shutting down the DPS is very similar, with the   exception that the tasks are shut down in the reverse order, starting   with the PTT task.

e.) From the the Resource Monitor window, choose File/Refresh, and   observe the active tasks. All tasks should be up at this time.

f.) Close the Resource Monitor window and check for a PDP activation message in the Event Log in DPS Main.

Note: All of the tasks under the three subsystems can be individually shutdown and restarted in the same manner as the subsystems.

The DPS processes will remain up unless system maintenance is required. This process will ensure that product generation and transmission are not interrupted.

2.3 Troubleshooting Problems

a.) If for some reason all of the software tasks do not come up, try   shutting down the software and restarting them again.

b.) Call the DPS Representative or CSC developer.

Section 3   Session Monitoring in Real Time

3.1 Bringing Up the Session Monitor Window

a.) From DPS Main, choose PDP/PDP Session List to bring up a list of sessions. First filter the list of sessions by going to View/Filter and uncheck the Last Data Capture Receipt Time box.

b.) Choose File/Refresh to display a total listing of the sessions. Sessions that have successfully preprocessed will have a PDP Capture State of "Complete" and a Preprocessing State of "Complete." Active sessions will have a PDP Capture State of "In Progress" and a Preprocessing State of "In Progress."

c.) Highlight the session to monitor and choose Session/Session Monitor.

3.2 Monitoring the Session

a.) Once data capture has begun, verify that DPS is collecting and processing telemetry by observing the Data Unit Count field on the Acquisition Session Monitor. This field should continue to update every 60 seconds as long as the session is active and data is on line. If DPS is not capturing telemetry, refer to Section 3.3.

b.) Once the session has terminated, PDP preprocessing should begin. Observe messages on the DPS Main stating that session passed threshold checking and that PDP processing is complete. If session terminates abnormally and does not preprocess, refer to Section 3.3.

c.) Assess the general quality of the session by looking at the PDP Statistics fields, more specifically the "Good Data Units" field and the "Data Units w/Errors" field. Also, verify that the last column of the session monitor, "Available Only for Receive Order Products," does not contain any yes's. If it does, the session did not preprocess correctly for that source I.D. (s) and might contain backward time jumps causing the hash tables to expand over the limit. As a result, a spacecraft time ordered product cannot be generated. Only an "as received" ordered product can be generated for that source I.D. See Section 13.

3.3 Troubleshooting Problems

Sometimes sessions do not preprocess properly and may require manual intervention.

A PDP Capture State of "Complete," in conjunction with a Preprocessing State of "Idle," means that for some reason preprocessing failed for that session, and the user has to perform manual preprocessing as described below:

a.) Either choose Session/Start Preprocessing from the Acquisition   Session Monitor or from the PDP Session List with that particular   session highlighted.

b.) If the session still does not preprocess, replay the data back into   DPS using the data archive file.

c.) If all of the above fails, it could be a disk problem or database   table storage problem. Contact the DPS representative or CSC   developer.

3.4 The Capture File, DU and DUS Files

The capture file collects the packet data from the frame sorter for a   given session. This file becomes active each time a new session sets   up and closes each time a session terminates. Once the session terminates and preprocesses, the contents of this file are written as   data unit files (du files) and data unit summary files (dus files), both   grouped by ApID, into the capture directory.

Note: On dptrace2, the data1 partition has been reconfigured to data0.

a.) In order to look at the capture file, cd to /export/data1/tmp/143/   ####/, where #### is the active session number.

b.) In order to look at the du files and dus files, cd to /export/data1/tmp/143/####/1/app000#, where #### is the preprocessed session number and app000# is the ApID number.

Note that both the capture file and the du/dus files are binary data   files.

Section 4   Monitoring Alarms, Advisories, and   Errors

4.1 Acknowledging Alarms and Advisories in DPS Main

It is important to view the DPS Main window event log for any alarms or advisories that might occur during DPS processing. This is   especially important during software startup, session capture and preprocessing, and product generation. An unacknowledged alarm is   preceded by two asterisks. Double click on the alarm to acknowledge   it and remove the asterisks.

4.2 Local Error Log in /export/data1/tmp/

There is a local error log in the capture directory that gets appended   each time the DPS software encounters an error condition. This log is   named with the convention, <machine name>-Log, such as dptrace2- Log, or dptrace3-Log, where <machine name> refers to the DPS host   machine.

Note: On dptrace2, the data1 partition has been reconfigured to data0.

a.) cd to /export/data1/tmp

b.) View the end of the file by performing a tail command:
                    tail -100 dptrace2-Log | more

4.3   Reference the DPS Users Guide

Appendix B of the DPS Users Guide contains a listing of all of the   alarms, advisories, and notifications that will appear on the DPS Main window. In addition, it states why the message was generated and the   steps to be taken in response to the message.

Section 5   Data Maintenance

5.1   Archiving Products

All TRACE VC2 quicklook products and VC0&1 routine products   will be archived to 8mm tape. In addition to logging products to   tape, the retention period configured in the DPS database will allow   products to reside on disk for a period of 3 days. The process of   logging products to tape is described below:

a.) Insert an 8mm tape into the tape drive configured for dptrace2.

b.) From DPS Main, select PDP/PDPS Data Maintenance.

c.) Check the Data Type.

d.) Filter the window, if needed, by choosing View/Filter. The user   can filter the window based on either log status of sessions or products, or deletion status of sessions or products.

e.) Highlight the products that are going to be logged to tape for that   week, both quicklook and level-zero products.

f.) Click on the Log button in the PDPS Data Maintenance window.

g.) Click on the Log button in the PDPS Data Maintenance Log Dialog window. Once the logging is complete, log status should

show "complete" in the log dialog window and "logged" in the PDPS Data Maintenance window after doing a File/Refresh on that window.

h.) Label the tape using the tape name given in the log dialog window. DPS keeps a record of all logging transactions, therefore when recovering the data onto disk, the user will need to know and specify the tape name that was originally given to the tape during the logging process.

5.2 Deleting Products and Sessions from Disk

Once the products or sessions have been archived to tape, they need to be manually deleted from disk to ensure enough disk space for the current products. The same applies to the session data as well.

a.) From DPS Main, select PDP/PDPS Data Maintenance.

b.) Check the Data Type.

c.) Highlight the products or sessions to be deleted and click on the delete button.

d.) Do a File/Refresh on the PDPS Data Maintenance window until all of the products chosen show a deletion status of "Deleted."

Note: When deleting session data from disk, do not delete the three most recent days worth of data. This current data may still be needed.

5.3 Placing Sessions or Products on Hold

a.) From the PDPS Data Maintenance window, highlight the sessions or products to be placed on hold.

b.) Click on the Hold button and observe the deletion status change to "On Hold." To release the hold, click the Release button.

5.4 Recovering Products from Tape

Products will only have to be recovered if the principle investigators   request that a product be resent and the product no longer exists on   disk.

a.) From DPS Main, go to the PDPS Data Maintenance window by   selecting PDP/PDPS Data Maintenance.

b.) Check the Data Type as "Product Data."

c.) Click the Recover button to pull up the PDPS Data Maintenance   Recover Dialog window.

d.) Highlight the tape name and the products that are to be recovered and click on the Recover button.

e.) Once the recovery is finished, the Recover Status will display   "Complete." Select File/Refresh from the main PDPS Data   Maintenance window to observe that the deletion status has changed   from "Deleted" to "Active." See Section 6.4.2, Step b, for   transmitting a recovered product to the end user.

Section 6   Quicklook Production

6.1 Creating and Saving the Product Specification

The product spec lets the DPS software know what type of product is   being generated, what data is being chosen, how much data is being   chosen, how to organize and arrange the data within the product, etc.   Before any product can be generated, a product spec must exist. The   quicklook product generation will be run automatically.

a.) From DPS Main, choose Product/Product Spec List.

b.) Highlight the product spec "VC1" or "VC2" and select Specification/Copy. This will display the quicklook template spec.

c.) Change the specification name to reflect the version of the quicklook (e.g. VC1 _1). Make sure the name is a unique specification name.

`   d.) Update the Schedule Start Time and the Expiration Time.

e.) Change the specification state to "Active."

f.) Click the Save button to save the spec.

g.) Go back to the Product Specification List and select File/Refresh.   The newly created spec should appear in the list and should display an "Active" spec state.

VC1 Quicklook Product Specification (Single Session)

Product Type	Quicklook
Generation Mode	Automatic
Delivery Mode	Automatic
Dataset Type	Single
Select Group Option	ApID
Order Option	Spacecraft Time
Merge Option	Redundant Data Deletion
Maximum File Size	No Limit
Data Type	Playback
Data Selection (Can Change)	ApIDs: 2, 3, 4, 10, 11, 14, 77, 78
Trailer Contents	QAC
Threshold Checks	None
Scheduling Option	Schedule Count

Schedule Start Time	Desired start time of the specification
Expiration Time	Desired time of expiration of the specification
Partial Data Duration	None
Repeat Option	Repeat
Repeat Count	1

VC2 Quicklook Product Specification (Single Session)

Product Type	Quicklook
Generation Mode	Automatic
Delivery Mode	Automatic
Dataset Type	Single
Select Group Option	ApID
Order Option	Spacecraft Time
Merge Option	Redundant Data Deletion
Maximum File Size	No Limit
Data Type	Playback
Data Selection (Can Change)	ApIDs: 60-76
Trailer Contents	QAC
Threshold Checks	None
Scheduling Option	Schedule Count
Schedule Start Time	Desired start time of the specification
Expiration Time	Desired time of expiration of the specification
Partial Data Duration	None

Repeat Option	Repeat
Repeat Count	1

6.2 Monitoring Product Generation

There are several different windows that are available to monitor product generation. The DPS Main window should show a collection   of messages relating to the generation of either a quicklook product or a level-zero product. Once the product spec is saved for a given   product, the PDP subsystem takes this spec and tries to create a   product. DPS Main should display the following advisory messages during this generation process:

   1.) Session added to product window: product_name
   2.) Checking product quality: product_name
   3.) Product threshold checking completed: product_name
       (only for level-zero products where missing data unit
       threshold check is performed)
   4.) PDP Product Create Start
   5.) PDP Product Create Complete

Once the product spec is saved, the product and its status will also   appear in the Product List window.

a.) From DPS Main, choose Product/Product List.

b.) Choose View/Filter and deselect the "by Product Generation Time" check box. Click the Apply button.

The new product should appear on the list with the same product spec   name that was given to the saved spec. The "Processing Status" column will display the current state of that product. It may be necessary to do a File/Refresh of the Product List to view the most   recent state of the product.

If the quicklook product does not generate or terminates with an error message:

a.) Verify that the product specification is correct (contains the correct options copied from the quicklook spec template), and that the correct acquisition session was chosen. Also verify that the spec was made active.

b.) Verify that the session chosen for the product successfully preprocessed as noted in the DPS Main window and in the Acquisition Session Monitor, and that no ApIDs are flagged as "Available Only for Receive Order Products" in the session monitor. If the latter is true, an "As Received" product must be generated for this session. See Section 13.

c.) Verify that the CGS task is up under the PDP subsystem.

d.) Verify that the session has not been deleted from disk.

e.) Contact the DPS Representative or database administrator.

6.3 Evaluating the Product Results

The product results can be viewed from the Product Monitor window, regardless of whether it was successfully generated, or failed to generate for some reason.

a.) From the Product List window, highlight the product to be evaluated.

b.) Select Product/Monitor to bring up the Product Monitor.

c.) View the Assessment portion of the window to see whether the session chosen for the quicklook product passed or failed. A specified session will only be included in a product if it has been given a passing quality. This session quality check is configurable in the DPS database. If a session fails the quality check, but needs to be included in the product, the DPS analysts

must manually "approve" that session by highlighting that session number in the Product Monitor, choosing Session Monitor to bring up the session window, and selecting Session/Approve Session. The product must then be regenerated by simply shutting down and restarting the CGS task. See Section 2.2. For quicklook products, there will be no threshold test results or data gaps displayed since this option is not chosen in the quicklook product spec.

d.) View the Generation portion of the window. There should be two files - one SFDU file and one product data file. The SFDU file is a header file, that is transmitted along with the product data file containing summary information. It is given an .SFDU file extension. The data file is given a .DAT extension and contains all of the packet data for that specific session.

e.) Verify that the total data unit count of the product agrees with that shown on the session monitor.

f.) Pull up the Dataset Message Statistics by selecting View/Dataset Message Statistics from the Product Monitor. Assess the quality of the product by looking at the fields in the Dataset Message Statistics, particularly the columns dealing with data unit errors, missing data units, and QAC entries (Quality Accounting Capsules for packets with a source sequence count discontinuity).

6.4 Transmitting the Quicklook Product

Both quicklook and level-zero products can be transmitted either automatically or manually. In order for the product to be automatically transmitted once generation is complete, the Delivery Mode in the product spec must be set to Automatic. Manual Delivery must be performed from the Product Monitor Window. It is recommended that product specs be set for automatic generation and automatic transmission.

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a.) From the Product Monitor, select Transmission/Transmit All Files   for Product (if performing manual transmission).

b.) Select View/Transmission Statistics to pull up the Transmission Statistics. All DPS product files are transmitted via   FTP. Verify that both the .SFDU file and the .DAT file were successfully transmitted. It will take a minute or two before the Transmit Status changes from "Not Transmitted" to "Transmitted."

6.4.1 Troubleshooting Transmission Problems

a.) Verify that the PTT subsystem/task is up in the Resource Monitor.

b.) Verify that the user's system is up and running.

c.) If an error message appears in the Transmission Statistics indicating login failure, the password probably has changed for   user's system, therefore it must be changed in the DB_PRODUCTHOST database table.

(1) Log into sqlplus using the DPS Oracle login and password (sqlplus dpsdba/<password>).

(2) At the SQL prompt, type:

select password from db_producthost;

This displayed password should be the current password needed to log into user's system. If it has expired, the table   must be updated to reflect this change.

(3) To update the db_producthost table, type the following at   the SQL prompt:

update db_producthost set password='current password'   where hostname='<user system name>';

(4) At SQL prompt, type: commit;

(5) Shutdown all of the software and then restart the tasks.

6.4.2 Retransmitting the Product

a.) Products that have failed the original transmission can be retransmitted from the Product Monitor by either choosing Transmission/Retransmit All Files Marked "Not Transmitted" for   Product or by clicking on the Retransmit button in the Transmission Statistics portion of the window.

b.) Products that have originally been transmitted but need to be retransmitted will have to be manually placed in the ~dps directory.   Both the .SFDU file and .DAT file will need to be transferred to this   location using FTP procedures below:

> On dptrace2
> Type: cd /export/data6/tmp/143/product####
> Type: ftp cherokee (when cherokee is the PI's prime system
>> Username: dps
>> Password: _____
> Type: bin
> Type: mput *
> Type: bye

6.5 Viewing Product Files

Although not routinely done, it may be necessary to look at the actual   product files on disk to view the contents of either the .SFDU file or   the .DAT file. These can be found in /export/data6/tmp/143/prdouct# where # is the product ID number. The .SFDU file is a text file,   however, the .DAT is a binary file.

Section 7   Routine Production

7.1 Creating and Saving the Product Specification

The routine product is a 24-hour level-zero product that will contain TRACE packet data from DOY/00:00:00 to DOY/23:59:59.   The product specification for this product can be up set in such a way   so that it will automatically generate each day, provided that the   product passes the percentage missing packet threshold check. This   threshold check is configurable in the database.

The spec can also be set up to manually generate each day (non-repeating spec). It is recommended that the non-repeating spec be   used during the early stages of the mission so that any data problems with the products can be quickly detected.

The routine product will generate automatically everyday, provided   that the percentage missing packet threshold check passes the set   mission criteria. This spec should be created prior to the set up   of the session that contains data that falls within the product   spacecraft time window.

a.) From DPS Main, choose Product/Product Spec List.

b.) Highlight the product spec "RP" and select Specification/Copy. This will display the routine product template   spec.

c.) Change the specification name to be "RP_#", where the # represents the version.

d.) Change the specification state to "Active."

e.) Fill in the First Data Start Time with the data start time of the   first product to be generated.

f.) Fill in the Expiration Time with the time at which the product spec is to become inactive. This can be set to any time in the future.

g.) Click the Save button to save the spec.

h.) Go back to the Product Specification List and select File/Refresh.   The newly created spec should appear in the list and should display an "Active" spec state.

Routine Product Specification (Repeating)

Product Type	Routine Production (repeating)
Generation Mode	Automatic
Delivery Mode	Automatic
Dataset Type	Single
Select Group Option	ApID
Order Option	Spacecraft Time
Merge Option	Redundant Data Deletion
Maximum File Size	No Limit
Data Type	All
Data Selection (Can Change)	ApIDs: 2, 3, 4, 10, 11, 14, 77, 78
Trailer Contents	QAC
Scheduling Option	Spacecraft Time
First Data Start Time	Desired date and time
Expiration Time	Desired time of expiration of the specification
Data Duration	1 day
Repeat Option	Repeat

Boundary Data Type	All
Sessions to Wait	5

7.2 Evaluating the Product Results

a.) View the Assessment portion of the Product Monitor. Only sessions with a passing quality will be included in the product (currently set at 98 percent quality and quantity in the database). If a   session fails the quality check, but needs to be included in the product   because it is the best obtainable data, highlight the session ID   number in the Assessment section to bring up the session monitor and select Session/Approve. Regenerate the product with the newly   qualified sessions by shutting down and restarting the CGS task. See   Section 2.2.

b.) View the Threshold Test results Data Gaps. The product will not   generate if the percentage missing packets threshold check exceeds   mission standards. If there is a gap in the product data such that it   does not generate, it has to be determined whether this data is   recoverable through an archived file replay or a retransmission from   the station. If the data is not recoverable, create a new non-repeating   product spec for that day group, but uncheck the threshold   checking. This product will be released below criteria.

If the data is recoverable, the DPS analyst must first retrieve the data   and then create a new non-repeating product spec for that specific day group. Regardless of whether the data is recoverable or not, a new   repeating product spec must be created, starting with the day after the   day of the failed product, so that all subsequent products will   automatically generate. To do this, first delete the current repeating   product spec from the Product Specification List by highlighting it   and selecting Specification/Delete. Then refer to Section 7.1 for   creating a new repeating product specification.

c.) View the Generation portion of the window. There should be two   files - one SFDU file and one product data file. The SFDU file is   a header file that is transmitted along with the

product data file. It   contains summary information about that product and its associated   data file. It is given an .SFDU file extension. The data file is given   a .DAT extension and contains all of the packet data for that day   group.

d.) Pull up the Dataset Message Statistics by selecting View/Dataset   Message Statistics from the Product Monitor. Assess the quality of   the product by looking at the fields in the Dataset Message Statistics,   particularly the columns dealing with data unit errors, missing data   units, and QAC entries (Quality Accounting Capsules for packets   with a source sequence count discontinuity).

7.3   Transmitting the Routine Product

Transmitting routine products is performed in the same manner as   transmitting quicklook products. Both can be transmitted automatically or manually. It is recommended that the routine products be transmitted manually during the first few days after launch so that full product quality can be assessed before they are   transmitted. See Section 6.4.

Section 8   Database Table Cleanup Tools

8.1   Clearing the Event Log

Transactions that take place within DPS are logged to the   db_eventlog table as alarms, advisories, or notifications. The DPS   Main window will display the 100 most recent alarms and the 100   most recent advisories from this table. It is recommended that this   table be cleared on a regular basis. To clear the eventlog:

Type: cll

8.2 Clearing Session and Product Accounting Information

It is recommended that the session and product accounting information that reside in various database tables be cleared every two weeks to minimize any table storage problems.

a.) From the /export/home/ops directory, run the qadata.sql script in the xterm window.

Type: qadata

b.) The script will prompt the user for a file name to which the accounting information is to be exported. Give the file a name such as qadata_082597.dmp, where 082597 represents the month, day, and year of the export. These weekly exports will be archived to 8mm tape each week in case they need to be imported back into the system at a later time. The export files will be copied to 8mm tape using the append option of the tar command: tar -rv <exportfile.dmp>. Once the export files are archived to tape, they can be removed from the export/home/ops directory. A new export tape will be started each month.

NOTE: Only accounting data from session or products with a deletion status of "Deleted" will be cleared from the database tables.

The export file generated from running the qadata.sql script can be imported back into DPS. Either all of the tables that were exported can be recovered, or only selected tables specified in the import procedure can be recovered.

a.) Load the export file onto disk using the tar command. The file can be placed in the /export/home/ops directory:

tar -xv <export file name>

b.) From the DPS_Terminal xterm window, cd to the directory where   the qadata export file is located.

c.) At the unix prompt, type: imp
This will start the import procedure.

d.) Enter the username as dpsdba.

e.) Enter the dpsdba password.

f.) Enter the import file. This will be the name of the qadata export   file that was created during the export.

g.) Hit <ENTER> for the insert buffer size. The default buffer size   of 30720 will be used.

h.) Respond "no" to listing contents of import file only.

i.) Respond "yes" to ignoring create error due to object existence.

j.) Respond "no" to importing grants.

k.) Respond "yes" to importing table data.

l.) Either respond "yes" to importing entire export file or choose only   selected tables to import. If importing only selected tables, enter   the username as dpsdba.

m.) Enter the tables to be imported and then a "." when complete.

Messages will appear to indicate the status of the import.

Section 9   Hashinit

9.1   Explanation

The PDP software of DPS uses what are called hash files to sort the packets when a product is generated. Once a session terminates, the session data undergoes preprocessing, in which hash table entries are created for each packet and inserted into the hash tables. These entries contain information about the packets that they reference. There is a hash file and a hash duplicate file for each ApID. The entries in the hash tables are ordered by time and grouped by ApIDs.

The hashinit program is run when the user either needs to create the hash files for the first time (when software is first installed), or when the user needs to reinitialize them, possibly due to hash table corruption. Sessions that were preprocessed originally will have to be re-preprocessed (see Section 3.3.1, Step a) before they can be used in any product.

9.2   Running Hashinit

a.) cd to /export/home/cm/trace /pdp/tools from the xterm window.

b.) Type hashinit <user account name> 143.

c.) cd to /export/data2/tmp/143 to verify that there is a hash file and hash duplicate file for all ApIDs.

Section 10   Product Workarounds for As Received Products

Whenever a source I.D. is flagged in the session monitor as "Available Only for Receive Order Products," normal spacecraft time   ordered products cannot be generated because a problem was encountered during preprocessing of that session (ApID) that caused the data not to be inserted into the hash tables. Backwards   time jumps in the data can cause the hash tables to expand beyond the   set limit, causing the session not to preprocess correctly. The   workaround for this is to generate an "As Received" ordered product   for that ApID, instead of a spacecraft time ordered product.

a.) From DPS Main, choose Product/Product Spec List.

b.) Highlight the product spec "Manual_Qlk" and select Specification/Copy. This will display the product template spec.

c.) Change the specification name to reflect the session number of   the data, such as Manual_QLK_1198, where 1198 is the session number

d.) Change the specification state to "Active."

e.) Select the ApIDs under the Data Selection portion of the Product Specification window that are to be included in the product.

f.) Change the order option to "As Received".

g.) Click the Save button to save the spec.

h.) Go back to the Product Specification List and select File/Refresh.   The newly created spec should appear in the list and should display an "Active" spec state.

The procedures for monitoring product generation, evaluating product   results, and transmitting the product are the same as in Section 6.

The number of packets in the product should be equal to the number   of packets in the session (s) for the chosen ApIDs included in the   product.

Section 11   Using GSsim to Flow VC0 Data

Sometimes it is necessary to use GSsim to flow raw VC0 data into the   DPS. GSsim is located in the /export/home/ops/intf_tools/bin directory. To run GSsim use the following command:

GSsim 30000 -h dptrace2 -i /filepath/filename

where 30000 is the port on the DPS host, -h dptrace2 specifies the   DPS host, and -i specifies the VC0 file's name and its path.

An alias has been created to simplify this procedure. To use the alias,
type:

GS /filepath/filename

Note: It is important not to use GSsim while ITOS is connected
during a realtime data pass. To insure that ITOS is not connected,   type the following command and make sure that port 30000 is in aLISTEN state:

netstat -a | grep 30000

It is important to check the TRACE downlink schedule to insure that　GSsim is not in use while ITOS is trying to connect to DPS. ITOS　makes its connection to DPS 10 minutes prior to each realtime pass.　During the time ITOS is connected to DPS, it is not possible to use　GSsim.

Section 12   Changing the Frame Wrapper

Sometimes it is necessary to change the frame wrapper configuration   in the database. To accomplish this task a script named   Wrapper_changer has been written and is located in /export/home/ops/SCRIPTS. To use Wrapper_changer, change to the SCRIPTS directory, and type:

Wrapper_changer

The script first displays the current configuration, then prompts the user to enter the desired new configuration. The choices are: SMEX, ITP, None, or EXIT. Once the new configuration is chosen,   the PEP task must be restarted through the Startup/Shutdown portion   of the Resource Monitor Window. Once the PEP task is   restarted,   the new frame wrapper configuration will be active.

Section 13   Logging Session Times

A script has been written to keep track of sessions and packet times for each ApID within each session. The script, /export/ops/SCRIPTS/Session_Times, can be run in the SCRIPTS   directory by typing the following command:

Session_Times

The script creates two output files. The first output file, /export/ops/SCRIPTS/Times.output, lists all the ApIDs and times for   all sessions that are currently in the database. The second output file,   /export/ops/SCRIPTS/Log_Session_Times, is a current list of all   ApIDs and times for all sessions since the beginning of the mission.

Note: This script is automatically run when the Archiver script is   executed. It is important to run this script before any sessions are   deleted to insure that the session information is stored in the log file.

Section 14   Logging 8mm Tape Information

Since products and sessions are logged to tape, it is important to keep   a record of which products and sessions are on which tapes. A script has been written to keep a record of archive tapes. The script, /export/ops/SCRIPTS/Archiver can be run in the SCRIPTS directory using the following command:

Archiver

The Archiver script has two output files. First, /export/ops/SCRIPTS/Archive_Log_Sessions is a record of all sessions and the tapes on which they are archived. Second, /export/ops/SCRIPTS/Archive_Log_Products is a record of all products and on which tapes on which they are archived.

Note: This script should be run after any session or product archiving   has completed.

Section 15   Analysis Tools

15.1 Raw Frame Dumps

There are three versions of the raw frame dump. The versions are   the same, except each is designed for a particular frame wrapper. The   three versions are:

/export/home/ops/ANALYSIS/None_frmdmp
/export/home/ops/ANALYSIS/ITP _frmdmp
/export/home/ops/ANALYSIS/SMEX_frmdmp

The None_frmdmp expects data without any wrapper, ITP_frmdmp   expects data with an ITP wrapper, and SMEX_frmdmp expects data   with a SMEX wrapper. The output of each frame dump is the same: it contains list frame header and packet header information for every   frame. To execute any of the frame dumps the user needs to copy   the correct frame dump to the same directory in which the raw data   file is located, and then type the following command:

> (None, ITP, or SMEX)_frmdmp rawdata_filename

where rawdata_filename is the file the user wishes to dump. The dump's output will be located in a file named frmdmp.output.

15.2 Session Dump

The session dump /export/home/ops/ANALYSIS/SDump is run from   any directory by typing:

> SD

The SD command will change the current directory to the ANALYSIS directory and start the session dump. Once Sdump is   started, the user is given the choice of three dump options: 1. SSC   Jumps, 2. All Packets, and 3. Evaluation. After the dump type is   selected, the user then selects the session and ApIDs to be dumped.   The output of the session dump is written to /export/home/ops/DUS_info.

15.3 Product Dump

The product dump /export/home/ops/ANALYSIS/PDump, is run from any directory by typing:

> PD

The PD command will change the current directory to the ANALYSIS directory and start the product dump. Once Pdump is started, the user is given the choice of three dump options: 1. SSC Jumps, 2. All Packets, and 3. Evaluation. After the dump type is selected, the user then selects the product and ApIDs to be dumped.   The output of the product dump is written to /export/home/ops/Product_####, where #### is the product number   of the dumped product. Old outputs of routine products should be   moved to the /export/home/ops/ANALYSIS/RP_DUMPS directory.

Section 16   Schedules

The TRACE schedules and schedule updates are located in the directory /export/data0/tmp/143/schedule. The schedule's filename   describes which week of the year the file represents. For example,   tracss.w23.3 is the third version of the schedule for the twenty-third week of the year. The script /export/data0/tmp/143/Compose_schedule has been created to allow users to generate a more readable schedule. To use the script type the   following command:

Compose_schedule filename

where filename is the schedule that the user wishes to format. The   script's output /export/data0/tmp/143/schedule.out is a printable text   file.

Note: All old schedules should be moved to the /export/data0/tmp/143/Old_schedules directory.