USING MEVTP DATA FILES

Files Sets from the MEVTP data base can be imported directly into the Tapestry System. However, due to implementation differences, it is important that you follow the procedures outlined in this document.

A review of the MEVTP file set is out of scope for this document. Suffice to say, there are several file sets that must be imported into Tapestry to implement an MEVTP test scenario.

IMPORTANT: Tapestry will transfer all of the data to be imported into the current Scenario Folder for processing. Your original files are left untouched and need not remain on the Tapestry computer.

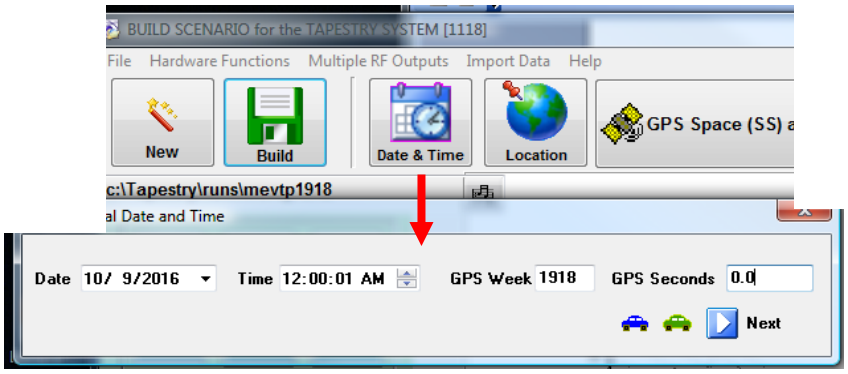
USING MEVTP DATA FILES

SIX STEPS TO FOLLOW

The following steps need to be followed in order to successfully import any of the MEVTP test sets.

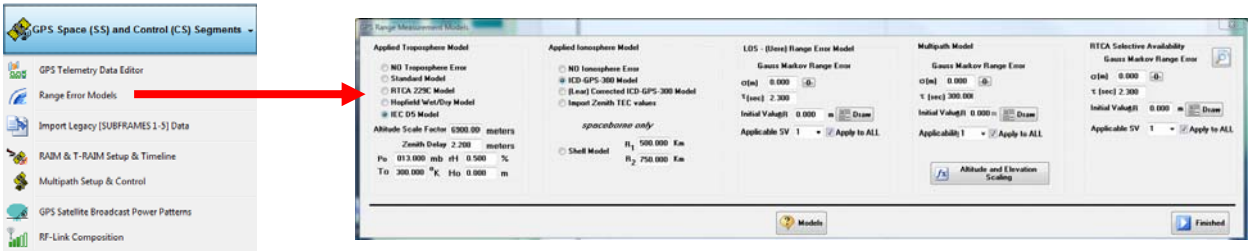
1. SET THE INITIAL SIMULATION TIME

MEVTP Data includes Multiple-Scenario-Initialization data within a single simulation file. Tapestry will select the appropriate data to incorporate based upon the Initial-Simulation-Time. You **must** enter this before proceeding with the actual file import.



Enter the whole value **Week** (*Not modulo 1024*) and **Time into Week** for the simulation to begin. Press NEXT. Tapestry will now parse through subsequent CON and NAV MEVTP files looking for data associated with this start time.

2. CONFIGURE RANGE ERROR MODELS



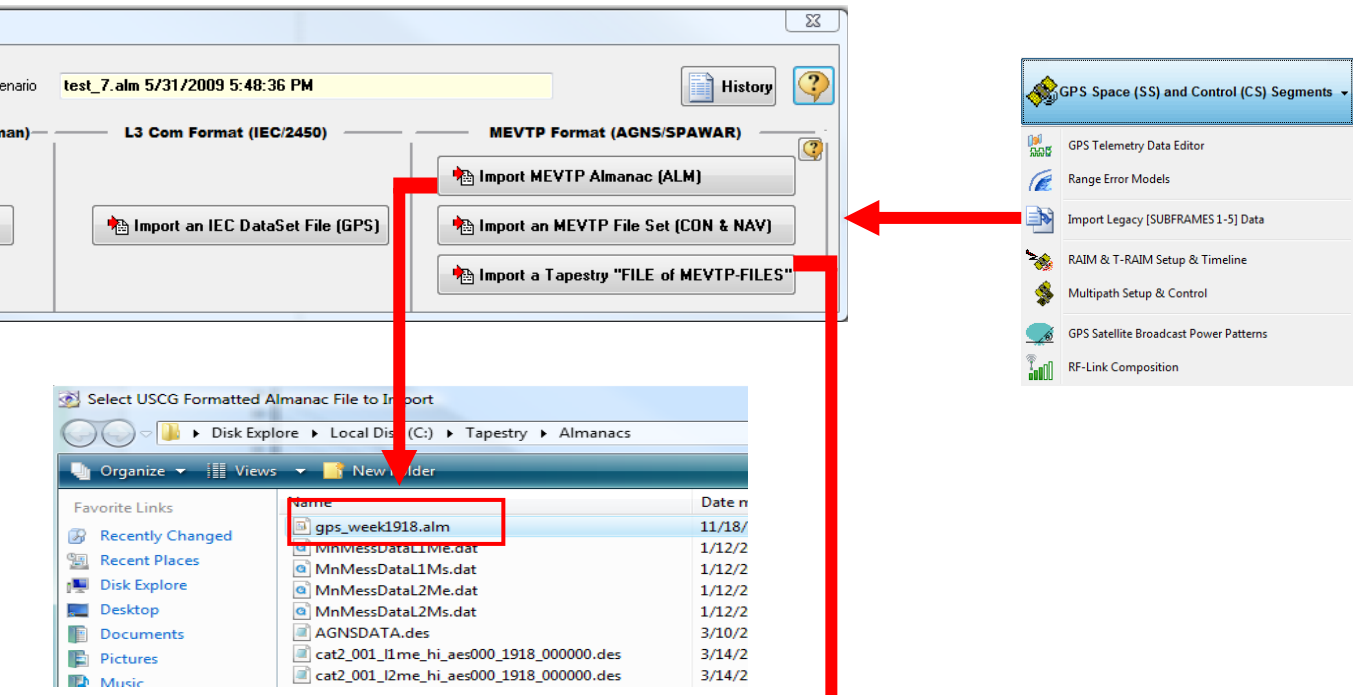
Set the **Troposphere** and **Ionosphere** models as specified in the MEVTP descriptions.

No Atmospherics: CHECK the
"No Troposphere" and "No Ionosphere" controls.

To use an MEVTP set as a general purpose Scenario, CHECK "Standard" and GPS-300 models.

3. IMPORT THE MEVTP ALMANAC FILE [.ALM]

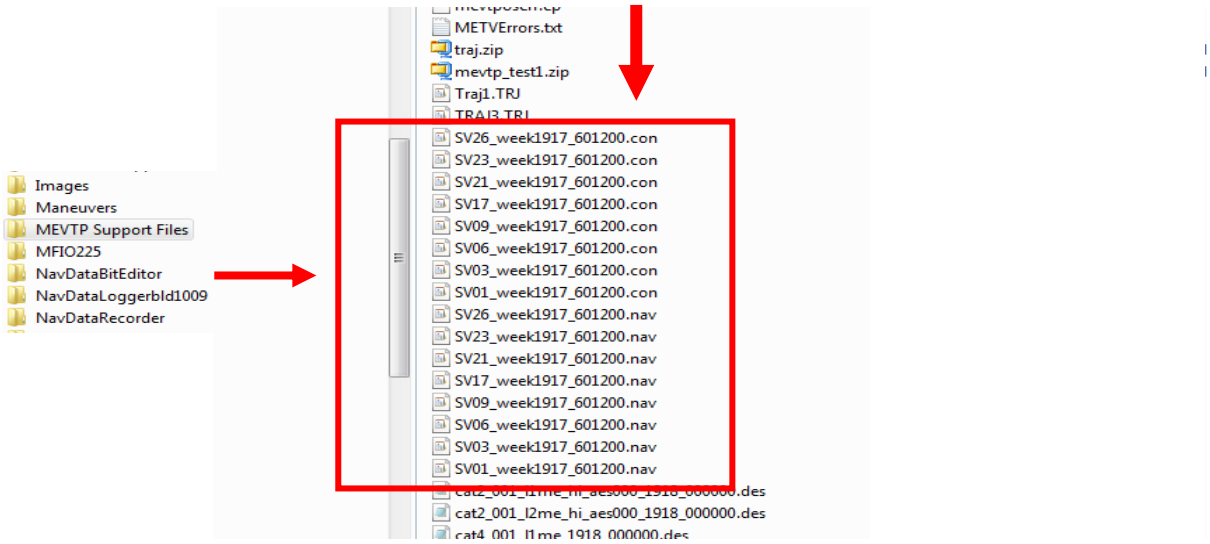
The MEVTP USCG formatted Almanac files with an "**ALM**" extension. Select the one appropriate to the initial time you've entered in step 1.



4. IMPORT THE CON & NAV FILES [.CON] [.NAV]

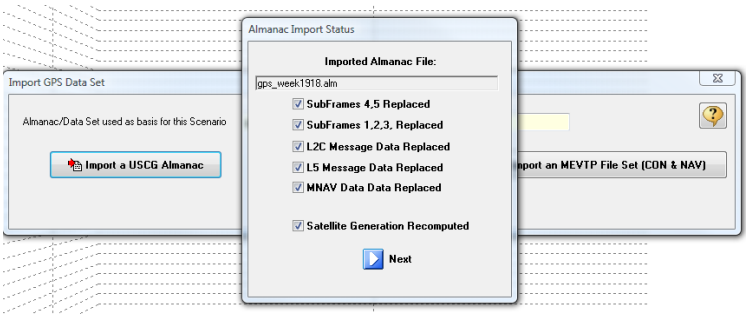
The NAV and CON files define the orbital parameters, health and status, and other data associated with the simulated SVID.

The CON and NAV files come in a pair for each SVID. For example for MEVTP **#8** the following SVID specific files are provided.



The Tapestry implementation is such that you need only select the various SVID specific CON files and the associated NAV file will be pulled in automatically. ***When the file selection dialog appears, the NAV files are not visible - this is normal because Tapestry will select them automatically once you've specified the CON file names.*** Tapestry will continue to prompt you for a CON file, when all have been selected press CANCEL in the file-selection dialog and processing will begin.

Once processing begins, Tapestry will incorporate all of the various settings within the file and present the following display



Using the Legacy data as defined in the ALM, CON, and NAV files, Tapestry will create a default set of data suitable for L_2C and L_5 operation, and $L_1M_{E/S}$, $L_2M_{E/S}$ MNAV data and messaging.

In addition, Tapestry will make the following settings to the GPS Data Base manager:

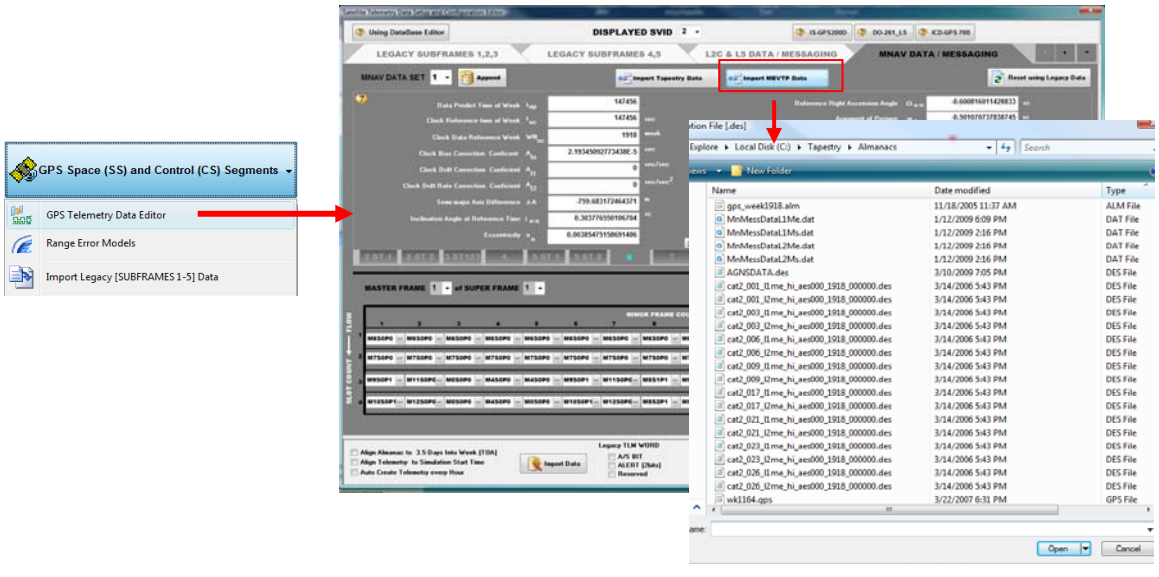
```
GPSControl.DataPropagate        = 0;    // DO NOT move data frames if time changes
GPSControl.BumpToa              = 0;    // DO NOT Make TOA 3.5 days passed TOE
```

If you change the simulation start time AFTER you have imported the MEVTP data, Tapestry will NOT propagate the Legacy data to the new start time.

If you want to use an MEVTP Scenario as a Tapestry Scenario that behaves "normally" you'll need to reset these item as well as review your Troposphere and Ionosphere settings.

5. IMPORT THE MODERNIZED MCODE FILES [.DES]

If you wish to important MNAV data from MEVTP input files proceed as follows. Using the **GPS Telemetry Data Editor** find the MNAV Tab and select it.



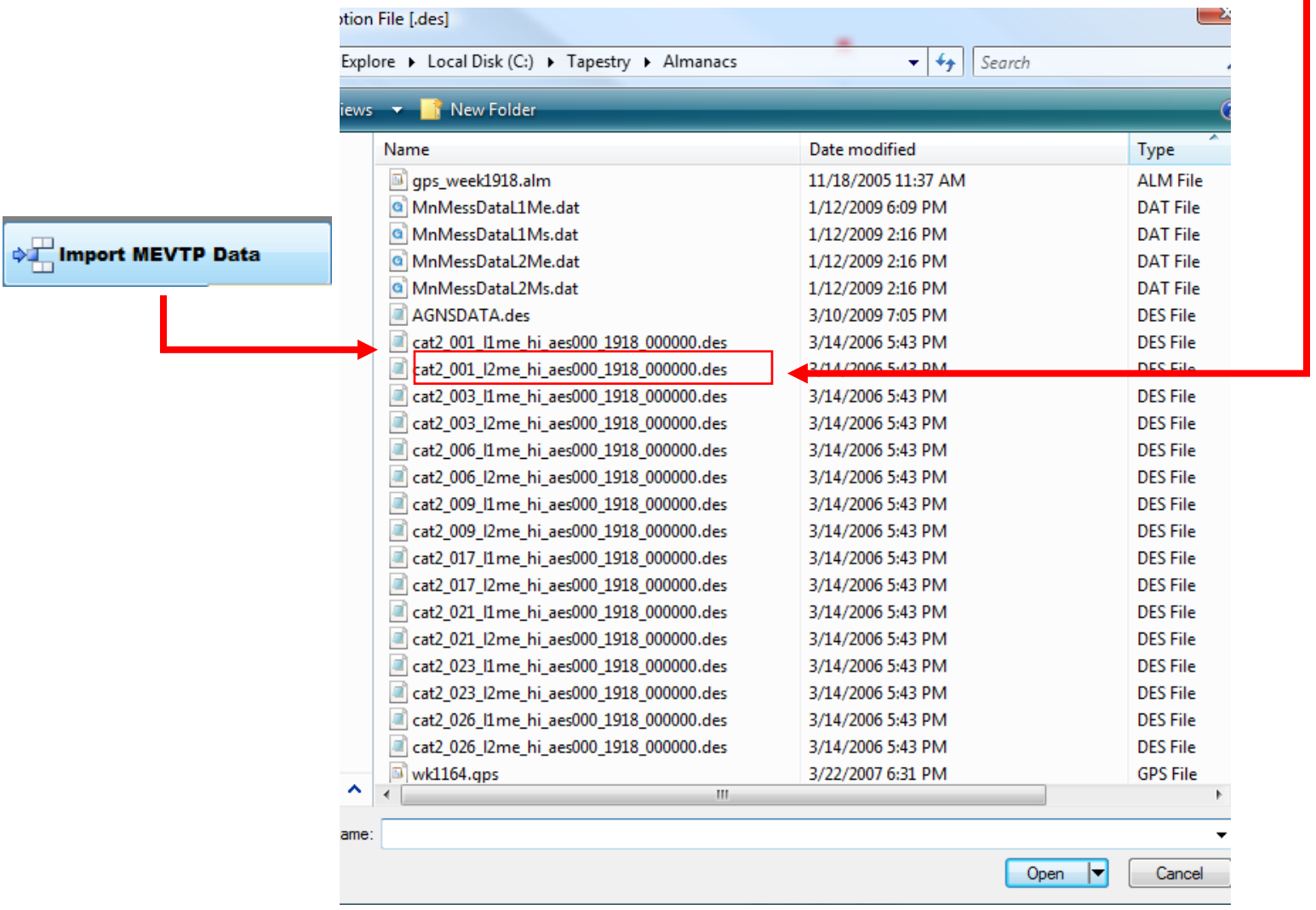
Ignore the MNAV data displayed in the form (it is the result of initialization USING Legacy data). Select the IMPORT MEVTP Button.

Note the SVID setting at the top of the Telemetry Data Form

Select SVID 003 file

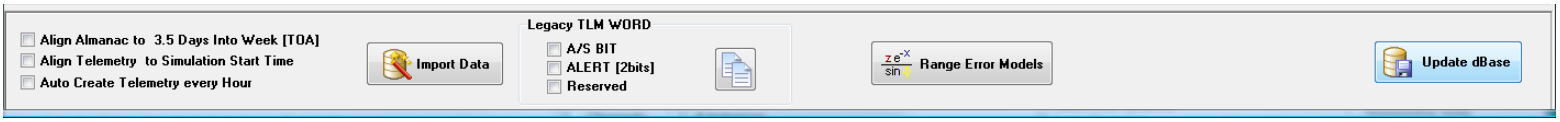
This SVID must match that associated with the MNAV file you wish to import. The MNAV files have a DES extension. They contain both the MNAV Data and Message sequencing assigned to this specific SVID. Once selected, Tapestry will complete processing for this SVID. When done, a text form like that shown will appear. It provides a summary of the data imported and the associated Message ID sequence. (This file is FYI only and has no function)

Continue importing DES files until you have completed all the SVIDS for the test.



6. SAVE THE DATA BASE

Upon completion, you must Update the Data Base, do so by pressing Tapestry will replace all of the various subframe and messaging files. The simulation is ready to be BUILT and SAVED.



APPENDIX

DATA SET CUT-IN

A CUT-IN is the Simulation Time as which a specified DataSet begins broadcast from a specified SVID.

The [Legacy] content of the DataSet is defined within two files:

The CON file: contains data definition(s) within the Tokens:

<ID> contains the SVID

<DEFINE_ORBITAL_PARAMETERS>
<DEFINE_CUTOVER_TIME>
<GPS_TIME> 603802 <WEEK> 893
<TOE> 0.0
<WEEK_TOE> 894

<DEFINE_CLOCK_DATA>
<DEFINE_CUTOVER_TIME>
<GPS_TIME> 603802 <WEEK> 893
<TOC> 0.0
<WEEK_TOC> 894

The Time related Tokens have been called out explicitly for later reference.

The NAV file: contains data definitions within the Tokens

<GPS_TIME> 603802 <WEEK> 893

There is no <ID> Token within the NAV file. To resolve this, TAPESTRY assumes the CON (species the SVID) and NAV files have the same PREFIX with the appropriate file suffix of CON or NAV. TAPESTRY doesn't care about the names as long as they are the same from per CON/NAV SVID grouping.

Wherever the source of the CON/NAV file set, TAPESTRY copies them into the local Scenario Folder associated with the simulation. Their names are contained in a **File-of-Files named [MVFILELIST.TXT]** within the scenario folder.

In general, the MEVTP tests have multiple data set CUT-IN within a single CON and NAV file. Selecting the appropriate DataSet at the appropriate Time is the purpose of this appendix.

ALGORITHM & ASSUMPTIONS

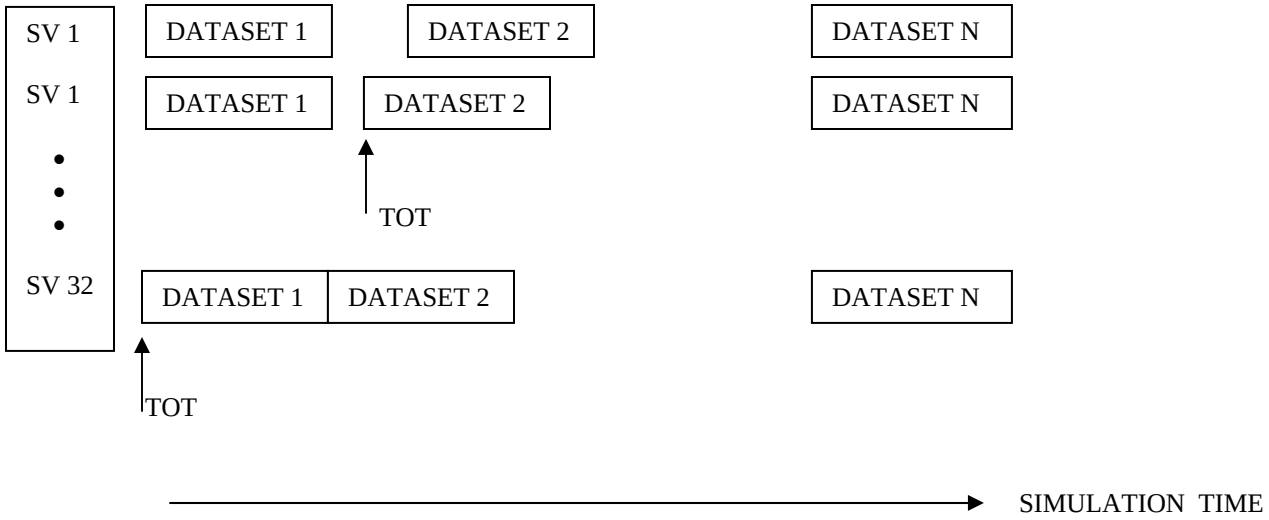
TAPESTRY reads each CON/NAV (henceforth referred to as the "CON" file with the "NAV" file assumed) file.

For each complete CON file set, TAPESTRY organizes the data as a function of

$$[\text{CUT IN} / \text{TOE}]_{\text{SVID}}$$

The user establishes the INITSEC and INITWEEK.

(algorithm)
TAPESTRY organizes DATA Sets internally as:



TOT is the **Time Of Transmission.** The TOT is the Time at which the applicable DataSet is to be output for the first time from the associated SVID. The boxes are staggered to illustrate that the TOT don't have to be the same ***except for DataSet 1***. However, for no other reason than SW-historical, TAPESTRY expects the ***same # of datasets for each SVID***. Therefore given that Data Set 1 for ALL SVIDS must be tran Nominally this would not be an issue except MEVTP has tests in which - in Tapestry vernacular – the first DataSet defined is NOT DataSet 1 – which effectively is unspecified.

Loop through $[\ ]_{\mathbf{SVID}}$ finding the DataSet (for each SVID) with the TOE closest to the simulation start time (INITSEC, / INITWEEK) but NOT Greater. The minimum TOE of the group establishes DATASET #1 in Tapestry.