

17 WES Main Program Files: enhanced_case_review, start_simulator, start_awips, start_GFE and start_avnfps

Background: There are three main programs used in running WES. The `enhanced_case_review` application was designed for static review of cases with D2D. The `start_simulator` application prepares cases and runs simulations. The `start_awips` application launches D2D in a simulation. To gain more experience with these applications, read the sections below and step through the 2006Aug24test WES test case installation verification (Section 5).

Two additional programs (`start_GFE` and `start_avnfps`) start the graphical user interfaces of the Graphical Forecast Editor and the Aviation Forecast Preparation System, respectively. These two programs can only be used in simulation mode (e.g., only after running `start_simulator`).

17.1 enhanced_case_review

The `enhanced_case_review` application is the primary way to launch D2D to review case data when not running a simulation. The `enhanced_case_review` application permits full functionality of FFMP and SCAN data along with text database queries outside of a simulation (i.e. in static case review). For example, you can step through FFMP data, and if you change the FFMP table "Thresh Type" from "precip" to "ratio" and select "Refresh D2D", the D2D will update. **WarnGen, however, will not work when using enhanced_case_review.** `enhanced_case_review` works on both original and DRT format data. This script starts the AWIPS CommsRouter, notificationServer, TextDB_Server Write and Read, and postgres, along with the D2D.

1. To launch `enhanced_case_review`, run `/awips/fxa/DRT/enhanced_case_review`, or type `enhanced_case_review` as user `fxa` (it is in the path).
2. Next, select the case from the listing of `/data/awips`, and select the localization (if only one localization exists, it will fill in the value automatically).
3. Click the **OK** button to launch the AWIPS D2D. If more than one localization exists in this case, a pull-down menu may appear to select the localization.
4. Click the **Start** button to launch D2D.

5. The `enhanced_case_review` application will not work during a simulation because of conflicts in the AWIPS decoders. There are popup warning messages if you try to do this. Use `start_awips` to launch a D2D during a simulation.
6. For additional D2D sessions, simply run another `enhanced_case_review` after the first `enhanced_case_review` has started loading D2D. The subsequent `enhanced_case_review` will only start D2D without starting more AWIPS decoders. A warning popup message occurs when trying to launch multiple versions before one has started the AWIPS decoders (to prevent AWIPS decoder conflicts).
7. When `enhanced_case_review` is shut down, the decoders are killed to prevent impacting subsequent D2D sessions or simulations. In the event that `enhanced_case_review` was shut down uncleanly with leftover processes, both the `enhanced_case_review` and `start_simulator` programs will notify the user of this bad condition, and recommend the processes be killed.

17.2 start_simulator

The `start_simulator` application prepares case data for simulations and runs simulations. To launch the simulation, just type "`start_simulator`" as user `fxa` at a shell prompt and hit return. The main simulator interface contains these features:

- **Log window:** Processing information is provided in the center of the main window.
- **Help menu:** Pull-down menu with background on WES and simulation instructions.
- **Exit button:** Exits `start_simulator`.
- **Run Simulation button:** Select a case and run a simulation.
- **Simulation Entry window:**
 - **FXA_DATA:** case inside `/data/awips`,
 - **FXA_INGEST_SITE:** localization id,
 - **Case Start Time:** simulation start time,
 - **Case End Time:** simulation end time,
 - **WESSL Script (optional):** wessl file inside `<data_case>/wessl`
 - **WESSL Case Flags (optional):** any desired wessl case flags
 - **GFE Directory:** GFE dataset created with WES. Selecting this directory turns on GFE processing in a simulation.

- **TAFs Directory:** Directory containing TAFs to initial initialize a simulation. (stored in <data_case>/avnfps/archived_TAFs). Selecting this directory turns on AvnFPS processing in a simulation.
 - **Save Current Settings button:** Saves the current Simulation Entry to a user specified filename (Macro)
 - **Load Saved Settings button:** loads a saved Simulation Entry (Macro) to allow easy starting of different simulations
 - **OK button:** Starts the AWIPS decoders and prepares data relative to the case start time. This can take a few minutes on a large case.
 - **Cancel button:** Cancels the Simulation Entry window
- **Entry Verification and Simulation Control window:** Summarizes the simulation settings once the case is prepared.
- **Run Simulation:** Sets the clock back, starts the remaining AWIPS decoders, starts the selected WESSL file, and starts checking for data to process every 15 seconds. After the simulation is started the following buttons are available:
 - **Stop Simulation button:** Stops the simulation, kills the AWIPS decoders, and copies the simulation's newly created text and AvnFPS products to the appropriate directory in the <data_case> directory.
 - **Pause Simulation button:** Pauses the simulation, temporarily kills the notificationServer, and colors a crimson border around D2D and the simulation control window. When the simulation is paused, this button changes to "**Resume Simulation**".
 - **Resume Simulation button:** resets the clock based on the paused time, restarts the notificationServer, and restores the crimson border color to gray. Note that when you resume a simulation, the D2D time will wait for the simulation time to catch up to the time the simulation was resumed. To reset this cosmetic issue, just double click on the D2D clock on the lower-right part of D2D, and select "**Use Current Real Time**".
 - **Cancel button:** Cancels the Simulation Entry window.
- **Tools button:** Launches a window with WES data manipulation functions.
- **Convert Case Data to DRT Format button:** Hides data through renaming files, and builds inventories for use in a simulation. Typically, run this function only once before running a simulation. This can take 30-60+ minutes to run depending on the machine and the case.

- **Restore Case Data to Original Format button:** Restores files to their original names, and removes inventories used in a simulation. In most cases, only use this tool to add data to a simulation. This process is relatively fast (a few minutes)
- **Create FFMP DataSet button:** Creates FFMP datasets. This can take less than one minute if there is no HPE/BHPE data. This can take 10 minutes if you have HPE/BHPE data and a full case.
- **Write Archived Text to Database:** Writes archived text products into a Postgres database. This process is fairly quick (less than a minute).
- **Create GFE Dataset Button:** Creates a set of default GFE grids for later selection as the “GFE Directory” entry.
- **Batch Mode Point Data Conversion:** Converts all DRT format data cases located in `/data/awips` to support five minute point data processing
- **Cancel button:** Closes the Tools window.

17.3 start_awips

The `start_awips` application launches D2D after a simulation has been started.

1. To launch `start_awips`, run `/awips/fxa/DRT/start_awips`, or type `start_awips` as user `fxa`.
2. Next, select the case from the listing of `/data/awips`, and select the localization (if only one localization exists, WES will fill in the value automatically).
3. Click the **OK** button to start the AWIPS D2D. If more than one localization exists in this case, a pull-down menu may appear with the localization.
4. Click the **Start** button to launch D2D.

17.4 start_GFE

The `start_GFE` program uses the WES simulation information from a live simulation (`/awips/fxa/DRT/simustatus_history` temporary file) to start GFE. This program starts GFE using the standard “runGFE” program installed in the case. The IFPServer must be running prior to starting GFE. The IFPServer requires the clock to be reset to the simulation date and the AWIPS “Grid” data to be synchronized with the time. Therefore, you can only run `start_GFE` during a simulation.

By default `start_GFE` runs the “runGFE” with the practice mode flag so the VTEC line appears correctly. This mode also turns the background color to the official orange practice mode background.

1. To launch `start_GFE`, run `/awips/fixa/DRT/start_GFE`, or just type `start_GFE` as user `fixa` while a simulation is running. The IFPServer initialization may take a minute or two.
2. When the GFE Startup popup appears, select “`fixa`” as the “**User**”, “`gfeConfig`” as the “**Config**”, and “`practice`” as the “**Mode**”, then click the “**Start**” button.

17.5 start_avnfps

The `start_avnfps` program uses WES simulation information (`/awips/fixa/DRT/simustatus_history` temporary file) to start AvnFPS on a particular case. Also, to work correctly, the AvnFPS decoders started only during a simulation must be running to ingest time-dependant data. Thusly, AvnFPS can only be started during a simulation. The `start_avnfps` program uses an `avnstart.sh` script in `/awips/adapt/avnfps/bin` to launch AvnFPS.

1. To launch `start_avnfps`, run `/awips/fixa/DRT/start_avnfps`, or just type `start_avnfps` as user `fixa` while a simulation is running.
2. When the AvnFPS Menu appears, select your user then click the “**TAFs**” button.