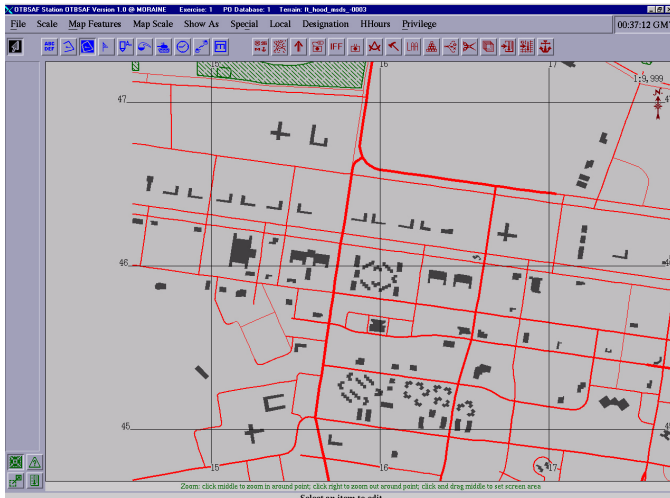
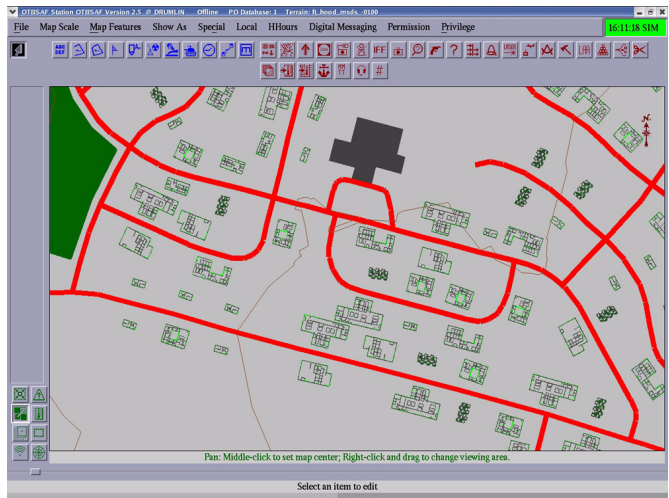


Export CTDB from TerraTools®



Portion of Ft. Hood base area from 1 degree cell

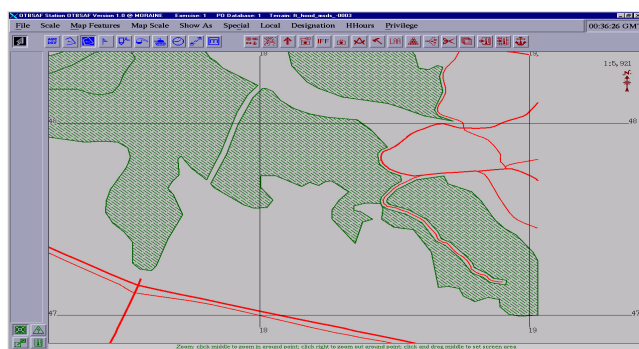


MES buildings in Ft. Hood residential area

TerraTools® supports the export of OneSAF Testbed Compact Terrain Data Base (CTDB) format 7 runtimes for use with Computer Generated Forces (CGF) in OTB 1.0, 2.0, and 2.5 applications as well as in the JFCOM JSAF runtime. Users can now create CTDB format complete with Integrated TIN (ITIN) terrain skins including roadways, rivers, buildings, treelines, canopies, and ocean areas with and without bathymetry.

The full power of TerraTools' OmniWizard makes the ingest of data layers from different sources easy, providing a rapid cycle of database content inspection, refinement, and build. Once built, the same TerraTools project can be easily modified to customize small areas for exercise planning and preparation. Using the coordinate processing features available in TerraTools, users can build databases in the native coordinate systems of the source data and then export CTDB in either UTM or GCS formats. Using TerraTools Batch Mode processing, large area CTDBs can be built as individual GCS cells and then loaded into the OTB or JSAF runtimes.

Configurable source data mapping nodes make it easy to define attributes to describe surface materials' type and trafficability and automatically populate CTDB PAT tables. Common mappings between FACC and DFAD FID are provided in TerraTools Tcl scripts and can be easily customized. TerraTools advanced feature processing nodes allows users to buffer forest areas away from roadways and construct a full topology transportation network from geospatial source data so that route planning and trafficability is guaranteed.



CTDB showing canopy and automated road corridors

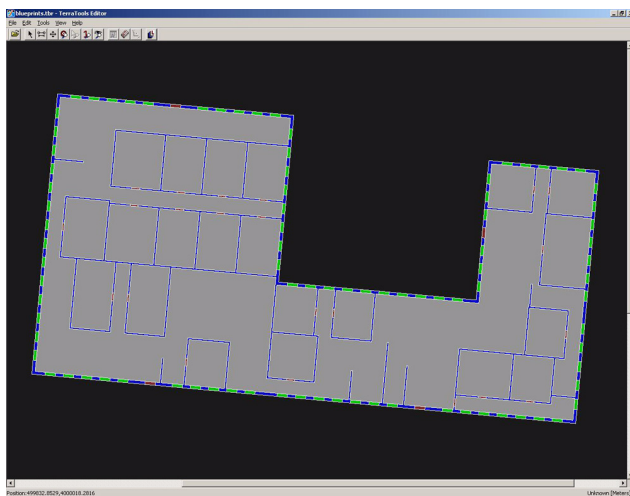


Correlated visual database with generic ground textures

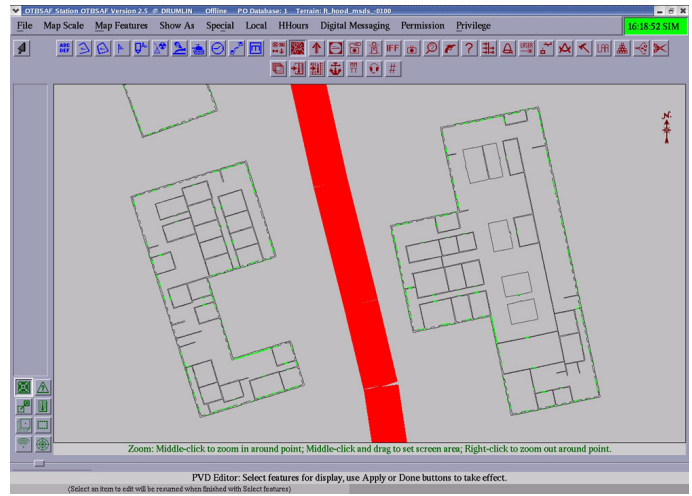
Multi Elevation Surfaces (MES) buildings can be generated in TerraTools using a floor plan editor or converted from annotated OpenFlight files. Using TerraTools model libraries, CTDB users can easily develop a collection of validated MES structures that can be easily placed using specific model references or scattered using TerraTools data processing nodes

The database on the previous page shows a portion of a CTDB database automatically generated in TerraTools from National Geospatial-Intelligence Agency (NGA) MSDS Prototype data over Fort Hood, TX. The database covers a one degree cell area with a mix of features including urban areas with buildings, natural areas with canopies and bare earth, and other man-made features such as roads, water towers, and power lines. The vector data was imported from the MSDS level 5. Data layers were processed using standard scripts for converting FACC attributes into additional attribution required for CTDB. Approximately 200 unique buildings were placed including 30 MES structures. A Level 2 DTED was used as the elevation source for the surface TIN generation. The remainder of the one degree cell was filled in with USGS Digital Line Graph (DLG) source data, demonstrating the flexibility of TerraTools to mix and match different data sources and maintain topology across source data boundaries.

From TerraTools Blueprints to MES Buildings




TerraTools building blueprint editor



TerraTools building (left) in CTDB

Using the TerraTools building blueprint editor, users can construct building floor descriptions for geospecific MES structures. These footprints can then be compiled into several representations including TerraTools Tiled Scene Graph (TSG), OpenFlight, MES .rdr and .le files or an alternative .mes file format. Also, TerraTools users can automatically generate MES buildings using TerraSim's building interior generator which produces a TerraTools building blueprint. As in the case of an interactively generated blueprint, users can edit the blueprint to refine or customize the building as needed. TerraTools will also accept MES buildings created using the ARA U2MG building generation system.

TerraTools can produce fully correlated OpenFlight with geotypical textures assigned to mimic the CTDB surface types or geometrically corrected imagery can be substituted depending on the exercise requirements. In addition, TerraTools supports the export of a number of correlated computer generated forces formats including OneSAF OTF, JFCOM JCATS, and MÄK VR-Forces.

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