

Petroleum Security Testbed (PetroSecT)

Petroleum Security Testbed (PetroSecT) will be established at the Center for Petroleum Security Research at UT Tyler. PetroSecT will host several pieces of equipment for validating security of components used in petroleum SCADA systems. The preliminary configuration of PetroSecT is expected to be as shown in Figure 1. At the core of the testbed is a complete small-scale replica of significant components of the petroleum industry including a refinery, pipelines, storage tanks, and oil rigs. The small-scale replica will employ water as a fluid flowing through the system to simulate petroleum flow. The small-scale replica will be instrumented with industry-grade remote terminal units (RTU's) including sensors and actuators. These RTU's will be connected to an industry grade master. The connections between the RTU's and the master will be through wired and wireless connections. The master will be controlled using the RSVIEW Human-Machine Interface (HMI) software. The test bed will have facility for generating threat vectors and distributing them to the simulator components using both wired and wireless means. The threat vectors will be configured through the Threat Vector Server which will obtain inputs from the VectorBase. The VectorBase will be populated with data from Threat Tree Analysis. The results from the HMI will be stored in a Test ResultBase, and the Adaptable Security Verifier (ASV) will verify the adaptable security of the system. The ASV will use the ADSEC to qualitatively evaluate adaptable security.

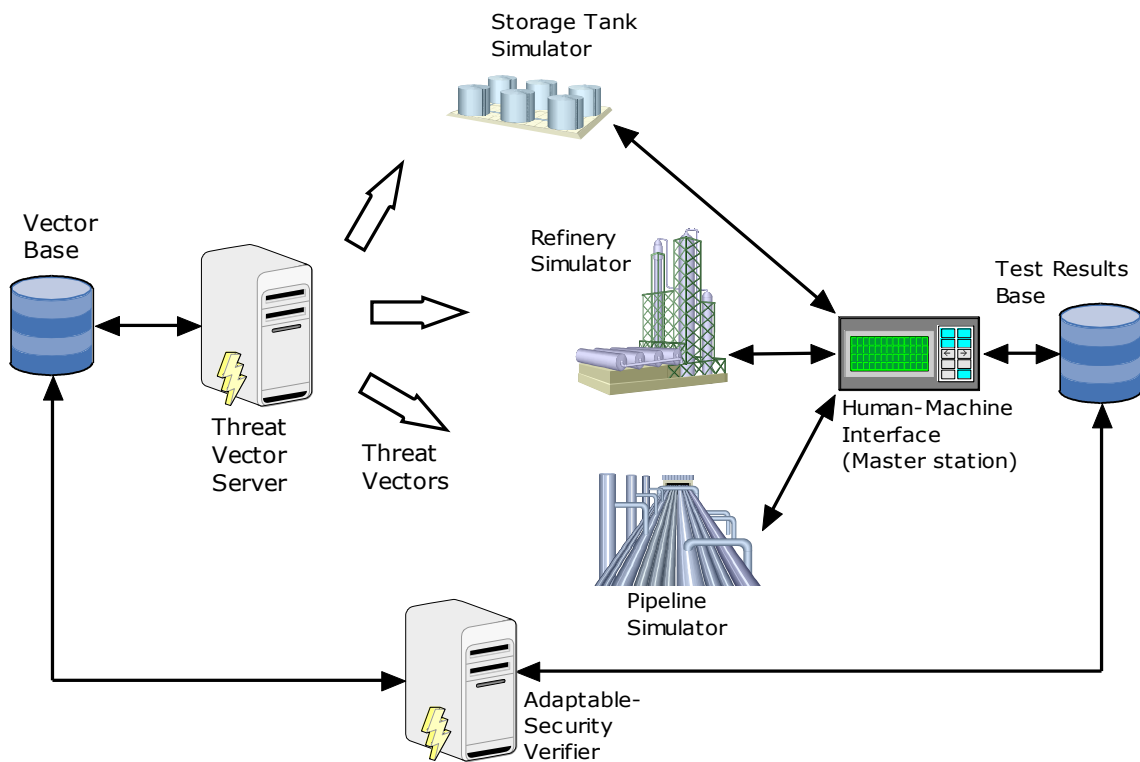


Figure 1. Configuration of Petroleum Security Testbed