

CPT Justin J. Frank Top 3

1) Class Association: An entity's associations with other entities and/or locations. For each association, this record shall specify the type of the association, the associated entity's EntityID and/or the associated location's world coordinates. This record may be used (optionally) in a transfer transaction to send internal state data from the divesting simulation to the acquiring simulation (see 5.9.4). This record may also be used for other purposes. Section 6.2.9 IEEE Std 1278.1-2012, IEEE Standard for Distributed Interactive Simulation - Application Protocols

It is imperative to the simulation community because it associates ID with and/or associated world location. This is extremely important when conducting live and constructive together because you are using accurate military maps with live units moving on the same terrain space. To have constructive fires element kill a live unit, you will need the associated location of the enemy, thus making the simulation more lethal.

2) .5.6 Communicate the offer of supplies by a supplying entity to a receiving entity. IEEE Std 1278.1-2012, IEEE Standard for Distributed Interactive Simulation - Application Protocols

This PDU communicates with the that has supplies with the receiving entities I don't particularly appreciate simulating supply in simulation because it is not very sexy and is challenging to replicate. However, as the military pushes towards Multi Domain operations it crucial to understand supply resupply. Thus, the training units need to understand how they plan to resupply the units. It also reminds the commanders how necessary logistics is to the fight that generally overlooks.

3) Class Fire PDU: 7.3.2 Used to communicate the firing of a weapon or expendable. IEEE Std 1278.1-2012, IEEE Standard for Distributed Interactive Simulation - Application Protocols

Fire PDU is essential because it communicates fire the weapon or expendable. What is the point of having a simulation if you do not fire munitions to kill units in the Army simulations world? The commanders want to see units destroyed on the screen. The protected field Vector 3d is responsible for where the munition is fired using a real-world coordinate system. The range field determines the specified range munition range of the system to hit a target, which is extremely important to make the simulation as accurate as possible. For example, if 155mm can fire 200k, it is not very realistic for that type of munition to hit a target from that distance which takes away from the realism of the sim and loses credibility with the training audience.