Necessary:

* Distance/Direction/Grid Location
* Point target or line?
* Size of target (determine type of round)
* Tactical purpose (screen/destroy) (determine type of round and fuse time)
* Air space clear?
* Danger close?

Would like:

* Type of Target
* Description of target (i.e. armored or not)
* Weather/Temperature
* Optimal shell fuse combination
* Number of rounds
* FDC has MET data.

FSO Needs:  
1. Target location

2. Recommendation of shell, fuse, number of rounds

FDC Needs:

1. Target location and description
2. Will select shell fuse combinations and number of rounds
3. MET data
4. AFATaDs. Advanced FA Target

Determinations:

* Type of round
* Amount of rounds
* Which type of artillery

1. Based on priority/scheme of fire.
   1. Battalion FDCs
      1. Attack guidance matrix.
         1. Priorities to engage in.
         2. Mortar tube vs tank.
         3. Based off of threat
         4. Range vs threat
         5. Units fill them out on their own, based on level. Unit SOP.
            1. Based on biggest threats.

Can change OPN to OPN and phase to phase.

1. Moving guns based on threats, enemy with no artillery capabilities or mortar capabilities will be ok to keep shooting. Otherwise, there is counterfire. Every two missions you displace for large-scale arti capabilities. With al-quaeda, firebase.
   1. PAA move quadrants, 1 km grid square 300-400m , occupy as platoons, take turns to shoot and fire. Thirty minutes with M777.

Questions:

1. What is necessary, what is wanted
   1. Need target location and your location at a very minimum.
2. How long does it take for artillery to target and fire
   1. Depends on how many guns
   2. 45 seconds to load the round and fire.
      1. 30 seconds time of flight, 30 seconds to confirm effects and end that mission.
      2. 20 seconds to adjust deflection on the tube,
3. Best way to take into account moving gun/how often
4. Data set for observer and artilleryman
5. Different considerations for moving targets?



How long does it take for artillery to target and fire?

Retargeting time?

Break into data set, for both target and targetter.

Vectors from each firer to target, choose firer, same gun, movement time x seconds, targeting radius,

Have an artillery piece, make up values for each attribute for what artillery should have, how long takes to target, how big is blast radius, hit stationary targets, see how long it would take to fire on stationary targets.

Ideas:  
1. Radar for counterfires, based on angle of shot and distance and volume of fire.

2. Flock of birds can set it off, or it can go up and radar may not catch it coming down, so not pops heavy.



3. Good for conventional warfare, battery of guns shooting together with BNs doing so.

4. Can also calculating movement and rate that it displaced. Tracked vehicles move a lot faster, so it takes a lot less time.

5. Calculate based on civilians places, etc.

6. Confidence in firing without observers is mantra of training centers.

7. Acquisition and ability to rapidly determine whether to shoot. That is the human factor that comes in to see if it is worth shooting.

8. Aerial sensors in a counterfire fight. Communicate with one another, when there is a point of origin, radar picks it up and other sensors pinpoint where it comes from. Each has one hellfire,

9. Type of artillery or type of mortar.

10. Can be any sort of sensing data. Priority target, if shooting hellfire, worth shooting hellfire, need to conserve highest capability.



* Instances for targets/fires observed and want to do counterfires for (what type of target/where)
* Instances for environment
* Instance for firer
  + Type of weapon system
  + Location
  + Time to shoot
  + Conditions that you can’t use shell/gun?

20 targets and 5 firers, each firer can target each target, 15 minutes to destroy all 20 targets.

What have done, what future direction should look like? 2 diagrams and some kind of writeup 1.5-2 pages. Look at system’s department writeup.