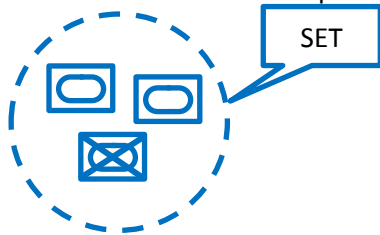


CAS Pragmatic approach

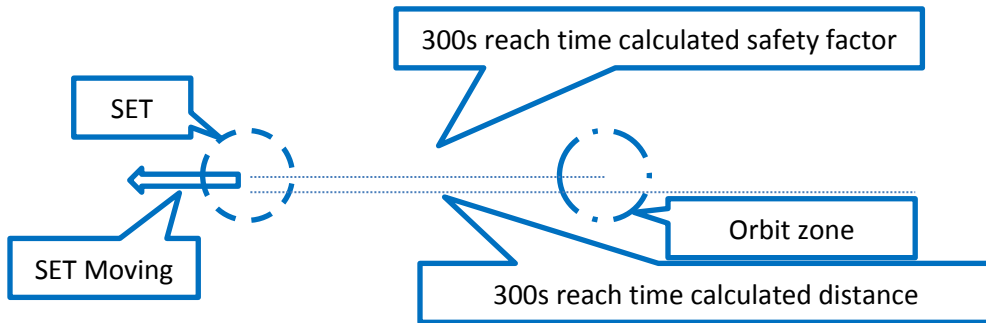
This approach includes real world operation elements, plus easily creatable environment for DCS

Basic principles:

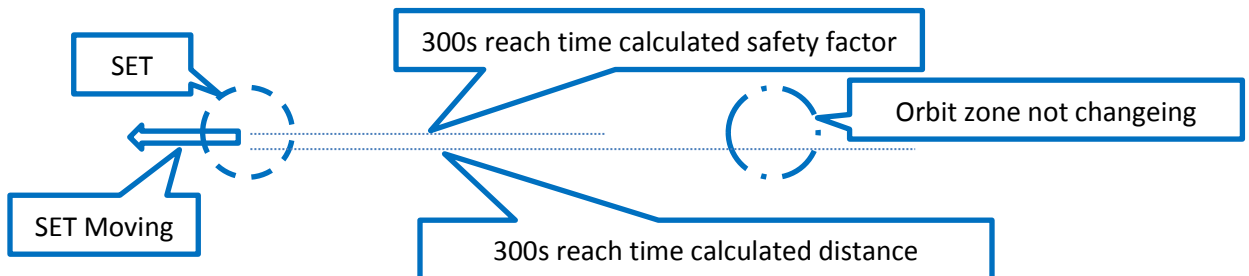
- „CAS task” or „CAS cover” what is more relevant naming linked to one set of friendly units. This can be any size of set. Pragmatical approach is to create one set for one „task force” like a position defending unit set or and attacker set for several columns heading in the same attack direction. Define the set size is up to the mission designer



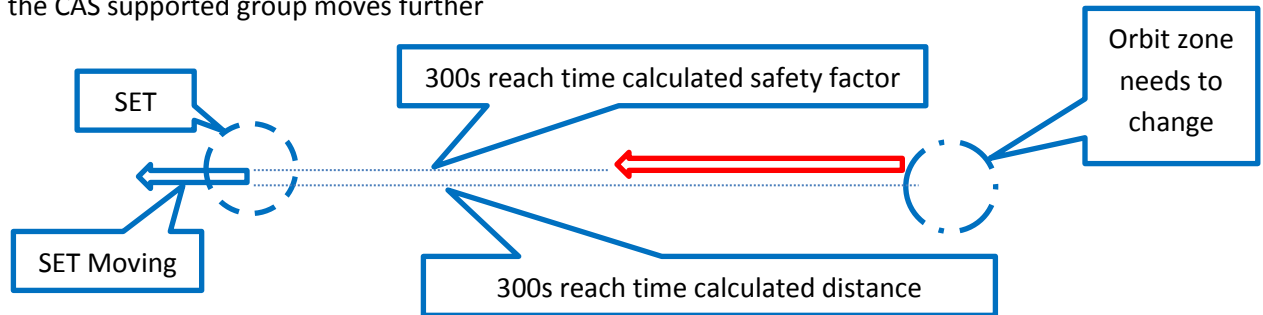
- CAS standby patrol area is calculated form three parameters:
 - o Max time to reach the friendly units in second
 - o Approach speed
 - o Heading of patrol area relative to the defending unit in degree
 - Maxtime = 300s
 - Approach speed = 700 km/h
 - Heading 90°
 - Calculation: $194 \text{ m/s} * 300\text{s} = 58200 \text{ m}$ Add safety factor to avoid constant replanning for moving targets let say 66% = 38000 m



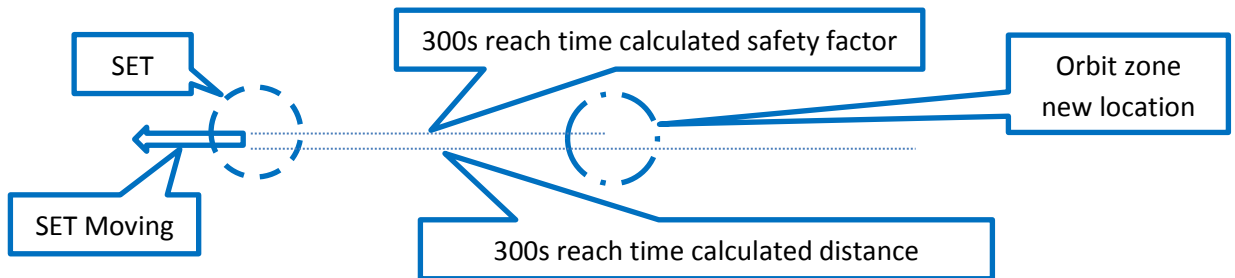
With time the cas supported group moves, but orbit zone still in withing 300s



With time the CAS supported group moves further



Orbit zone moved closer to the set



- CAS is called when the friendly set group detects enemies within a specified range with a specific threat level limit. It is up to the mission designer to define the threat level and distance based on their knowledge of friendly set composition.
 - o Range is set with a parameter (10000m)
 - o Minimum threat level engage limit is set with a parameter (min 3)
- I'm still thinking that scheduled dispatch is necessary to provide constantly refreshing cover

Overview:

So you need to define the following to make the CAS function work

- Name of the set that CAS is providing support for.
- Squadron name that provides the CAS
- Range of detection around the friendly set
- Minimum threat level to engage
- Heading of standby orbit zone relative to the supported set
- Maximum time to reach the set position
- Aircraft approach speed on engage.

Parameters you need to define for CAS dispatching

- Name of the squadron
- Number of plane groups to be maintained in the standby orbit zone.
- Refresh cycle time, when the aircrafts are relieved from providing support.

Pros and cons:

- CAS is linked to one set of unit, so it is not flexible if other friendly units needs help, but relieves the script to choose which troops to support on multiple need with limited resources. So no tactical decision making, this is up to the mission designer to set up
- Good for small and mid scaled missions but large scale missions could be difficult as lot of definitions needs to be done.
- Good level of planning, so you're more in control of the mission execution but lacks random events
- Uses mostly existing classes and features