Response time of a storage system

The storage system of a small company is composed by two NAS. Each of them is configured to serve requests in parallel (i.e. processor sharing), and serves two type of users: employees and costumers. Requests of both type of users arrive according to Poisson processes respectively of rates:

λ_E = 0.1 req./s. λ_C = 10 req./s.

Each request accesses files from both NAS. The demand of the two NAS for the two types of users have been measured as follows:

D_{1E} = 2 s. D_{1C} = 0.06 s.
D_{2E} = 5 s. D_{2C} = 0.04 s.

Determine:

1. If the considered system is stable
2. The utilization of the two NAS
3. The residence time of the two NAS
4. The system response time