Response time of a storage system

A small company mainly uses a Costumer Relation Management (CRM – resource 1) software, and a File Sharing (FS – resource 2) service. Each of them is hosted on a separate server, which works in processor sharing, and serves two type of users: employees and providers. Requests of both type of users arrive according to Poisson processes respectively of rates:

λ_E = 5 req./s. λ_P = 10 req./s.

Since the CRM uses resources on the FS, requests need always to be handled by both servers. The demand at each server for the two types of users have been measured as follows:

D_{1E} = 50 ms. D_{1P} = 60 ms.
D_{2E} = 100 ms. D_{2P} = 40 ms.

Determine (using a programming language, and ***NOT*** a tool like a JMT):

1. The utilization of the two servers
2. The residence time of the two servers
3. The system response time