Exercise 7 – Architecture

Tasks:

1. Draw a component diagram and a sequence diagram each to design the architectures of the following systems
    a. a ticket vending machine which can be used by travellers at a train station
    b. a video conferencing system which can be used to collaborate via video, voice and a computer-aided white board
    c. a cleaning robot which can clean obstacle free rooms. However, it should turn on walls or closed doors.
2. Which conflicts might arrise when you have to design an architecture for a secure **and** highly available system? Justify your answer.
3. Look at the architecture depicted in https://applicationarchitecture.files.wordpress.com/2010/06/f0030-layer-diagram-complex.png
    a. Which aspects of the software architecture can be seen?
    b. Name a bunch of stakeholders and their interests in this architecture

Exam example

Figure 1 shows a view on Oracle's WebLogic Network Gatekeeper's architecture, a system to manage tele- phone calls.

Figure 2 shows a view on an example distributed system.

For each of the two views work on the following sub tasks. Provide a very brief justification for each item you provide!

a) (2Pt, per view 1Pt) Name the view type(s) covered by the given figures.

b) (6Pt, per view 3Pt) Name stakeholders which might be interested in the respective view (at least 3 each).

c) (6Pt, per view 3Pt) Name concerns relevant for those stakeholders (at least 3 each).

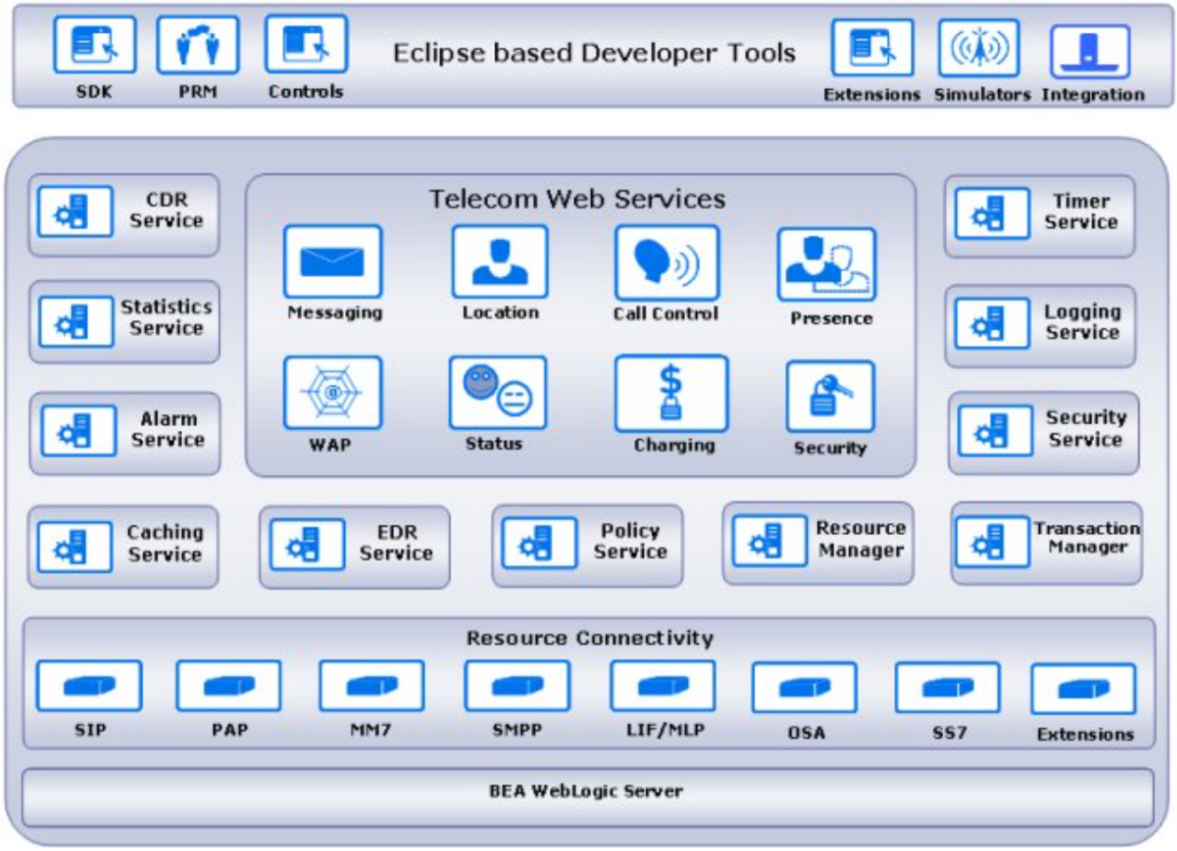

Figure 1 - Architecture view of Oracle WebLogic Network Gatekeeper [http://docs.oracle.com/cd/E13209 01/wlcp/wlng30/open/archoverview/softwarearch.html]

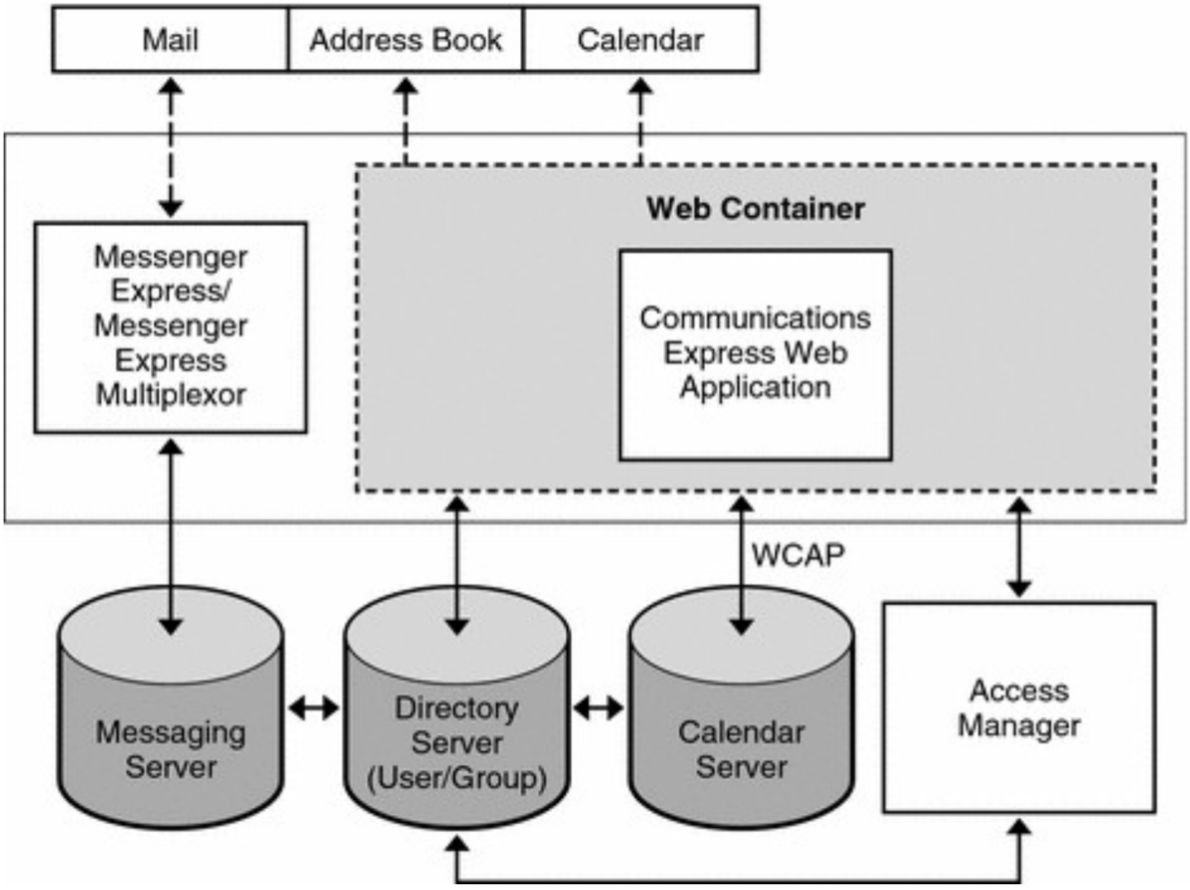

Figure 2 - Architecture view of an example Java communication service [http://docs.oracle.com/cd/E19636-01/819-2660/fvydt/index.html]