4.1   Introduction

Chapter works on second non functional feature of IoT architecture as Heterogeneous Interoperability (HI) of networks. Things mobility of constrained devices in IoT requires gateways for translating information between two different networks, as it is not optimal to have number of interfaces on tiny constrained things. When a node moves from one network to other, handoff occurs. A seamless handover of data sessions is the main focus at the time of handover. Moreover, handoffs can be vertical or horizontal and can be network based or client based. Heterogeneous Interoperability of networks command vertical handover and so is a topic of our research.

TCP/IP protocol is scaled down [140] to 8 bit micro-controller in the form of uIP protocol. Next aim is to scale down OFDM technology for Bluetooth and Zigbee. Figure 4.1 displays simple outline of this chapter. Section one compares Wi-Fi, Zigbee, Bluetooth. State of the art of co-existence of Wi-Fi, Zigbee, Bluetooth, and all three or in pair is discussed in the same section. We propose new concept for heterogeneous interoperability of networks in section two. Section proposes the solution for vertical handoff (VHO) with co-existence of Wi-Fi, Zigbee, and Bluetooth. Wi-Fi access point is proposed with modifications and named as BZ- Fi. Name is entitled to indicate that all three technologies protocol stacks are present at one place. What is the need of co-existence of all three, challenges in it, all are discussed here. Section two also proposes the deployment of OFDM in Zigbee and Bluetooth technologies. Detailed discussion is provided with the challenges and possibility of implementation of OFDM in them.
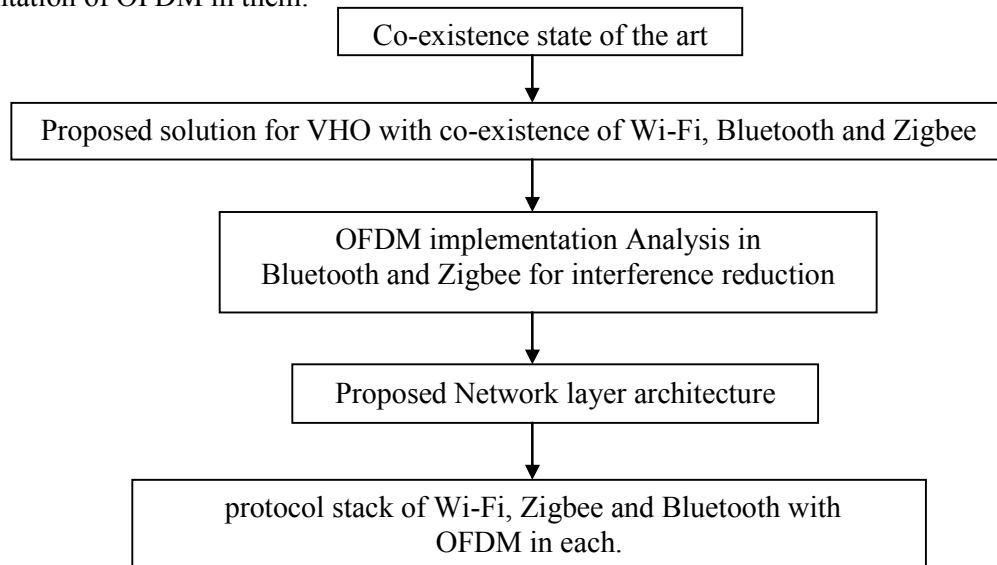

Figure 4.1: chapter flow diagram