

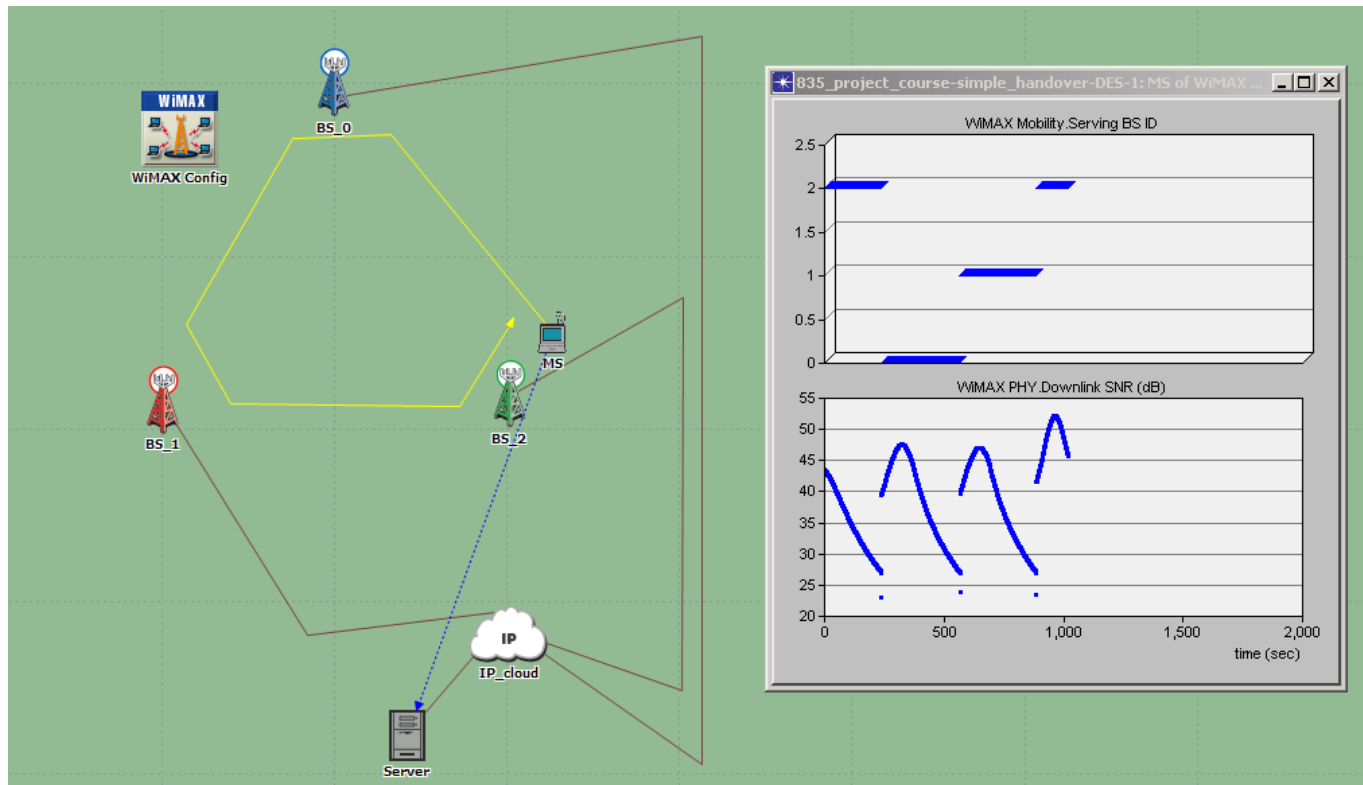


# Handover Mechanism of Mobile WiMAX (802.16E) Technology

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WiMAX: Worldwide Interoperability for Microwave Access

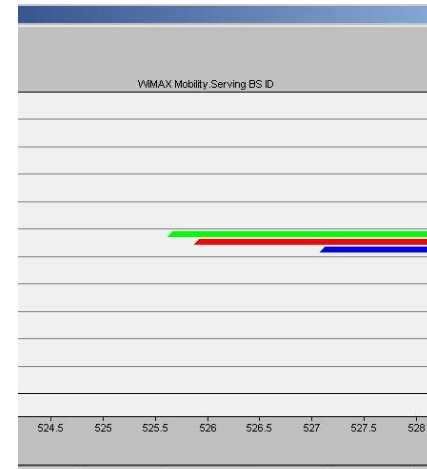
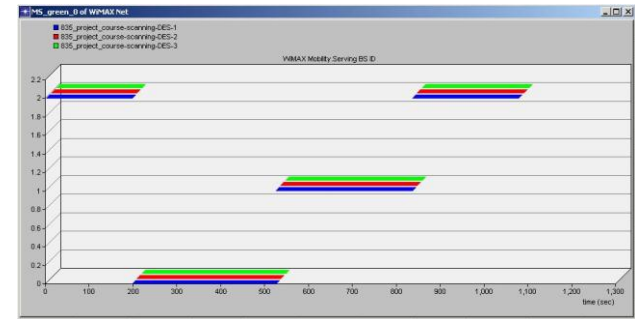
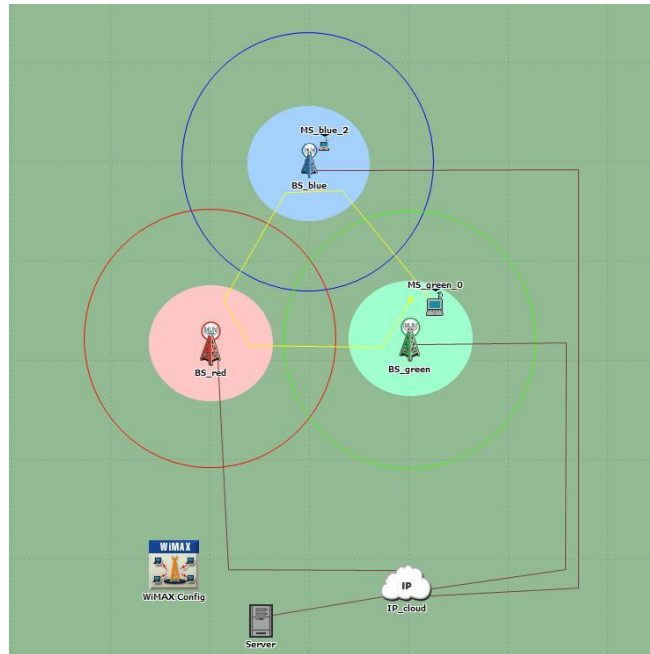
# SNR based Handover



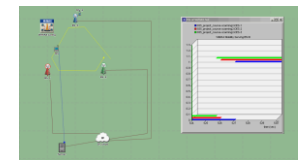
$$SNR_{TH_S}[dB] \geq 20 \text{ dB}$$
$$SNR(TBS) - SNR(SBS) \geq 0.4(dB)$$

MS: Mobile Station  
BS: Base Station  
SNR: Signal To Noise Ratio

# Effect of Scanning Interval on handover



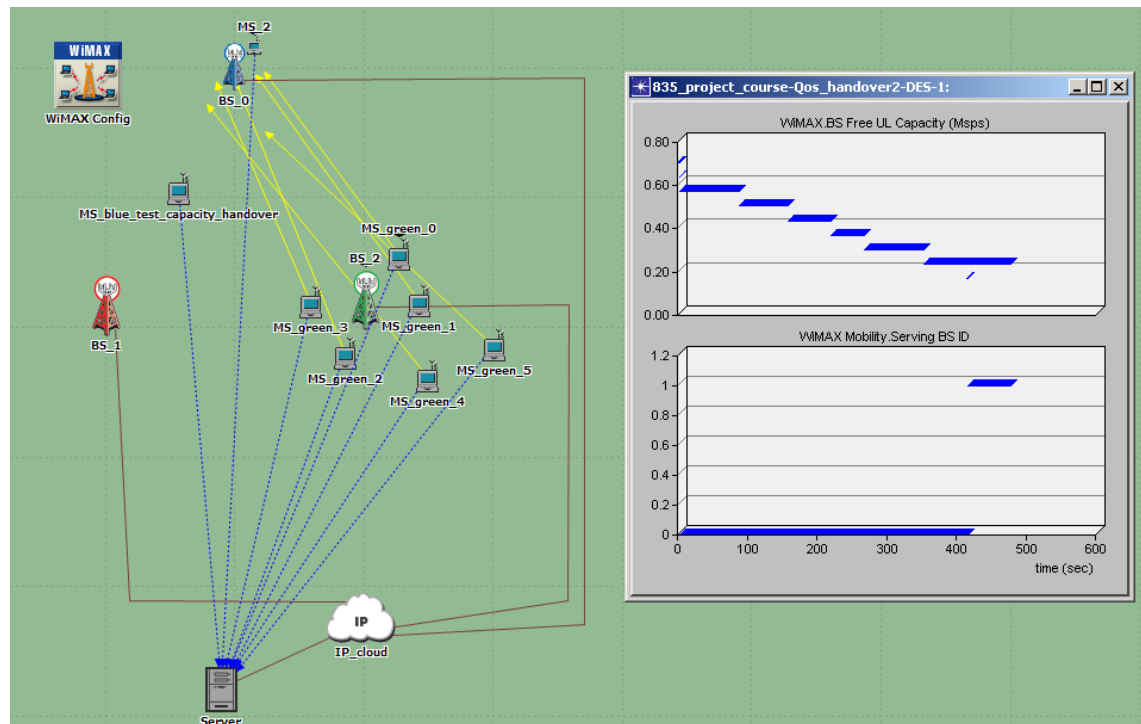
Scanning Threshold (dB)	Scan Duration (N) (Frames)	Interleaving Interval (P) (Frames)	Scan Iterations (T)
20	3	255	5



# QoS Criteria Handover

QoS is characterized by the service level prediction that indicates the level of service expected by MS from target BS. According to the criteria:

$$(\text{current capacity}) \leq 0.75 * (\text{maximum capacity})$$



QoS: Quality Of Service  
UL: Uplink  
DL: Downlink

# Second Phase Initial Results

- Challenges we faced:
  - Criterias to choose the handover decision:
    - Cost
    - SNR
    - Capacity
    - QoS
  - Modifying the mac port for MS by adding some control process for switching between the heterogeneous technology

