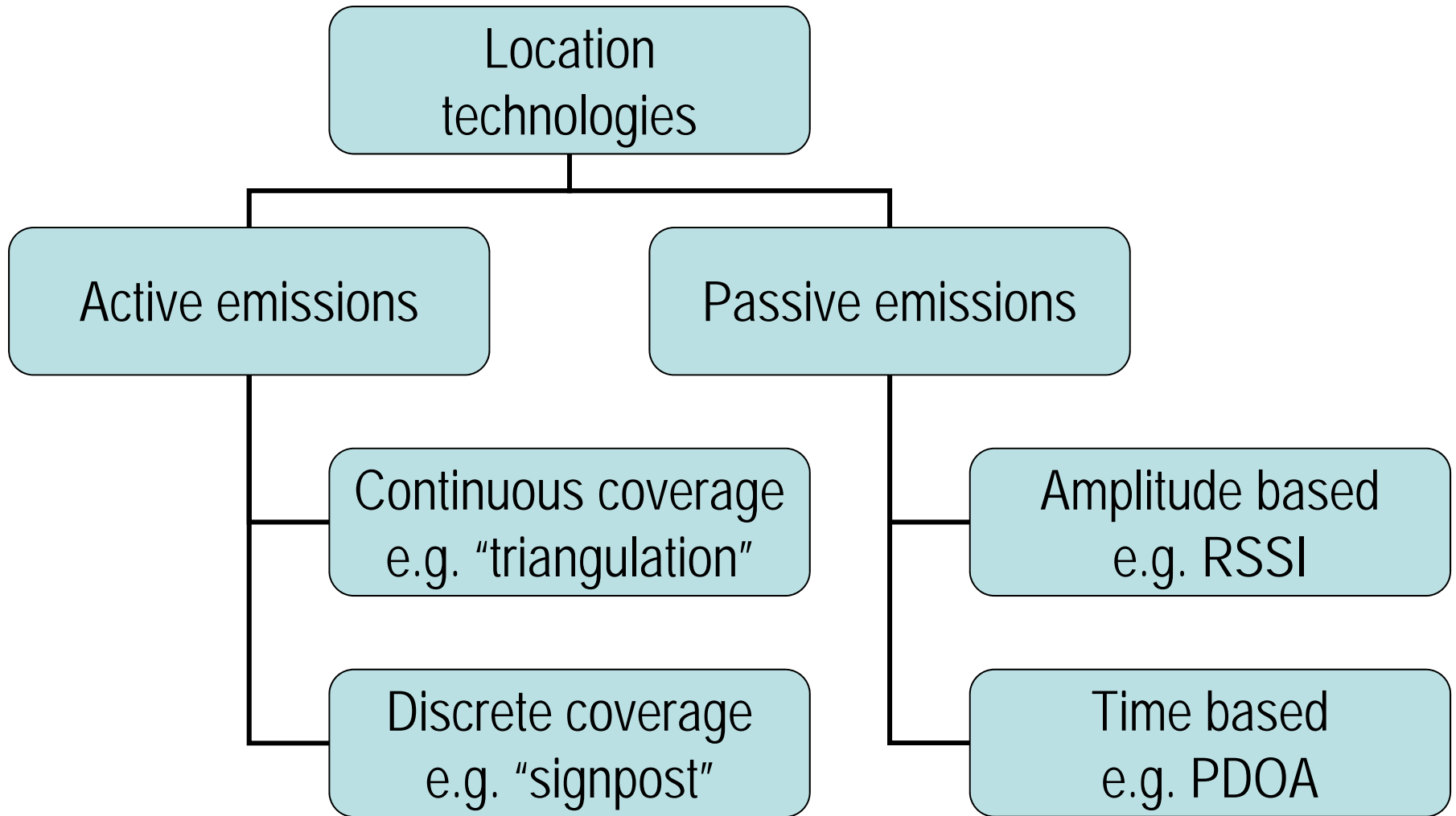


# Location Technologies for Passive and Active RFID

Rene Martinez  
Chief Technologist  
April 14, 2010

# Hierarchy of Location Technologies



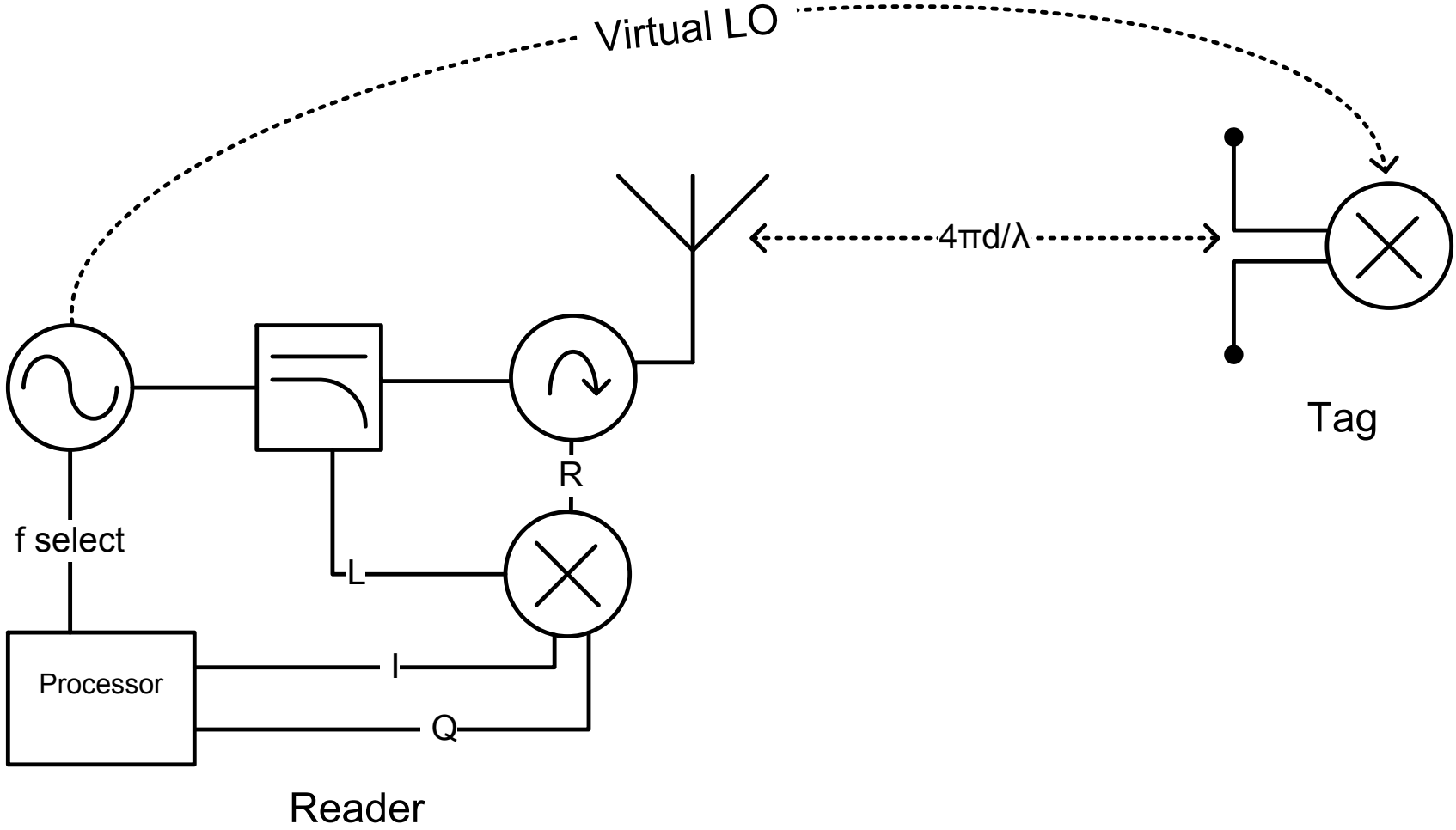
# Active RFID Location Technologies

- Continuous Coverage
  - CDMA – Traditional DS spread spectrum, e.g. GPS
  - UWB – Wideband impulse signal based on RF carrier
  - NFER – Low frequency (long wave) RF independently measures magnetic and electric fields\*
- Discrete Coverage
  - “Signpost” beacons emit energy; tags detect energy and relay beacon identity to reader
  - Examples of energy is infrared and LF radiofrequency

# Passive RFID Location Technologies

- Amplitude Based
  - Received signal strength indication (RSSI)
  - Focusing of transmission or reception of antenna beam\*
- Time Based
  - Impulse – Pulse measurement delay time\*
  - Carrier wave – Phase measurement infers delay time\*

# Location using Phase of Passive RFID



# Thank You