



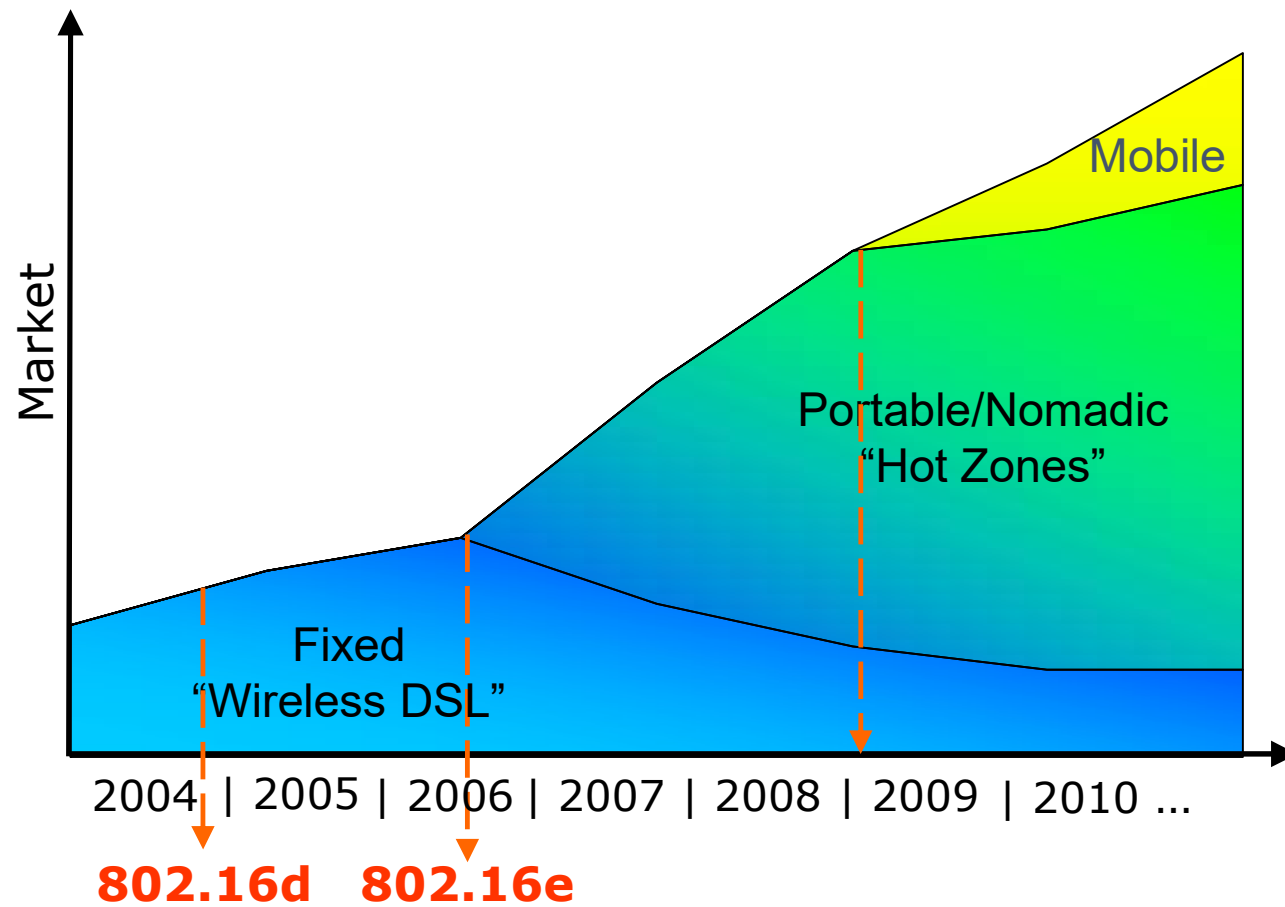
Worldwide Interoperability
for Microwave Access

Wimax ?

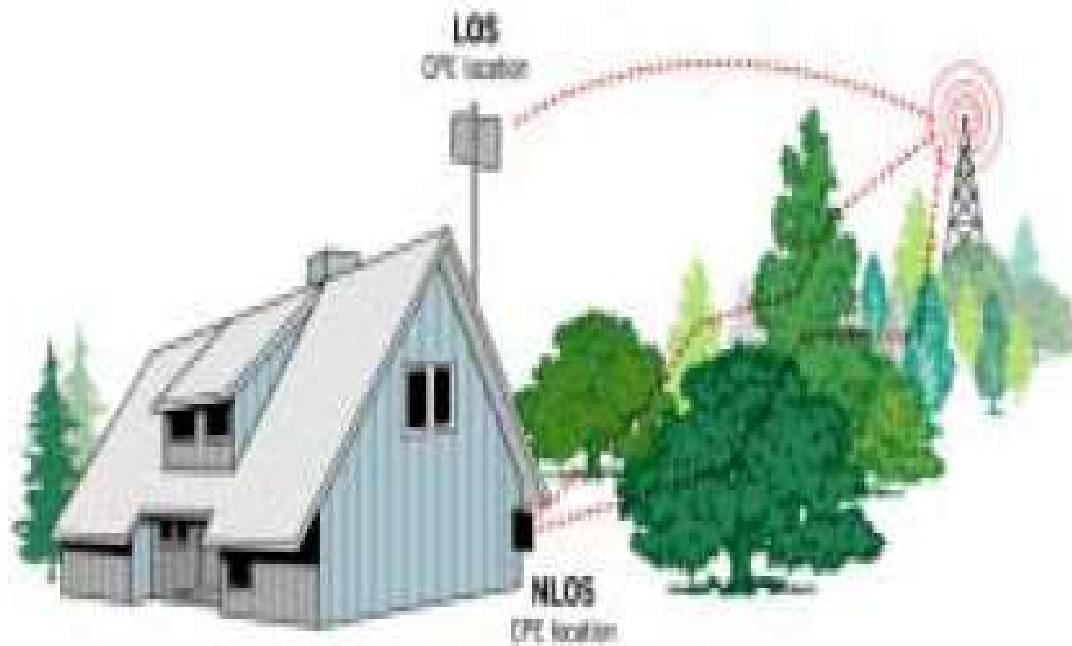
- Broadband Wireless Access (**BWA**).
- **Wireless MANs**

Wimax

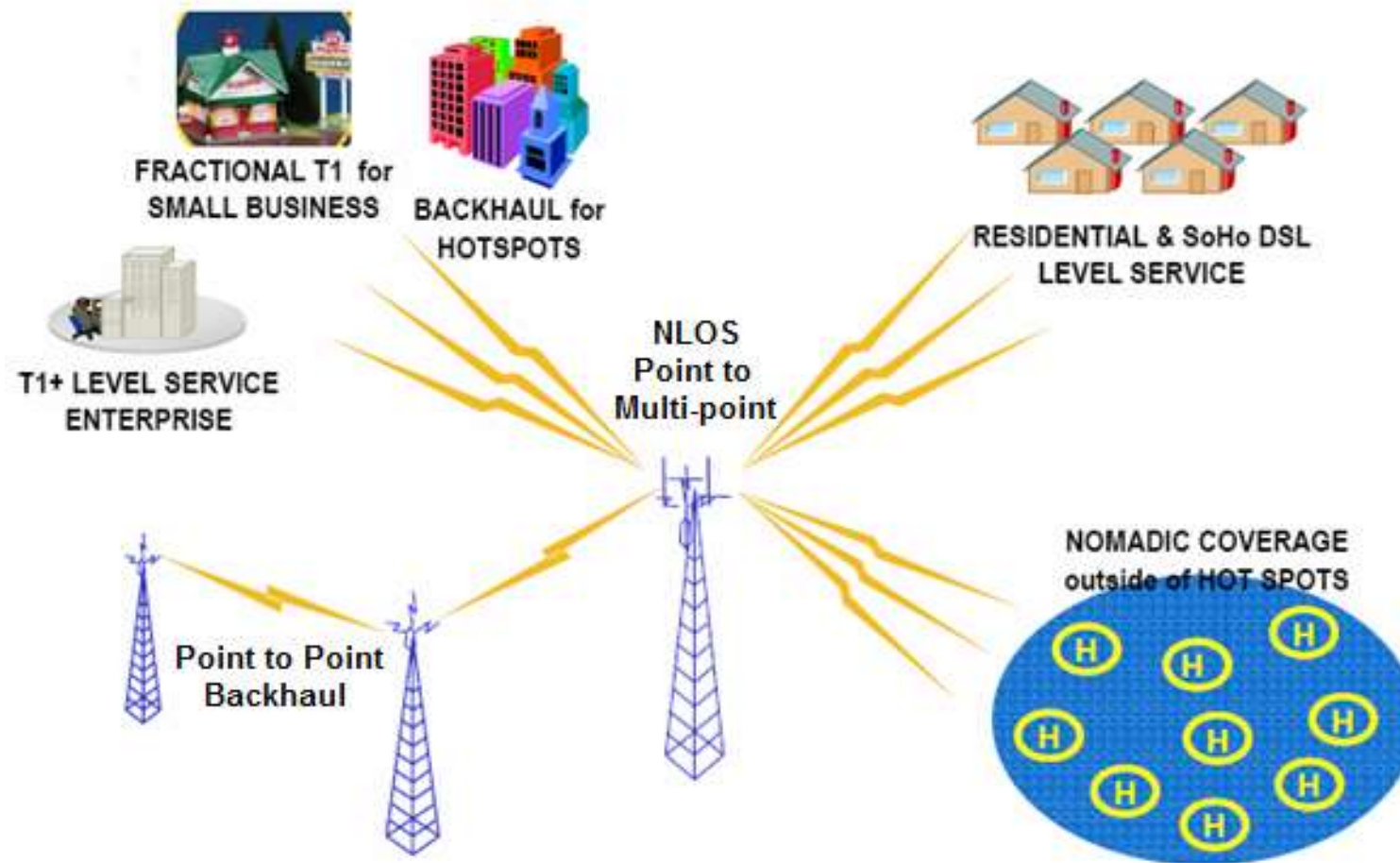
- Till 50 km;
- Max bit rate : 75 Mbps.
- WiMAX : [IEEE 802.16](#)



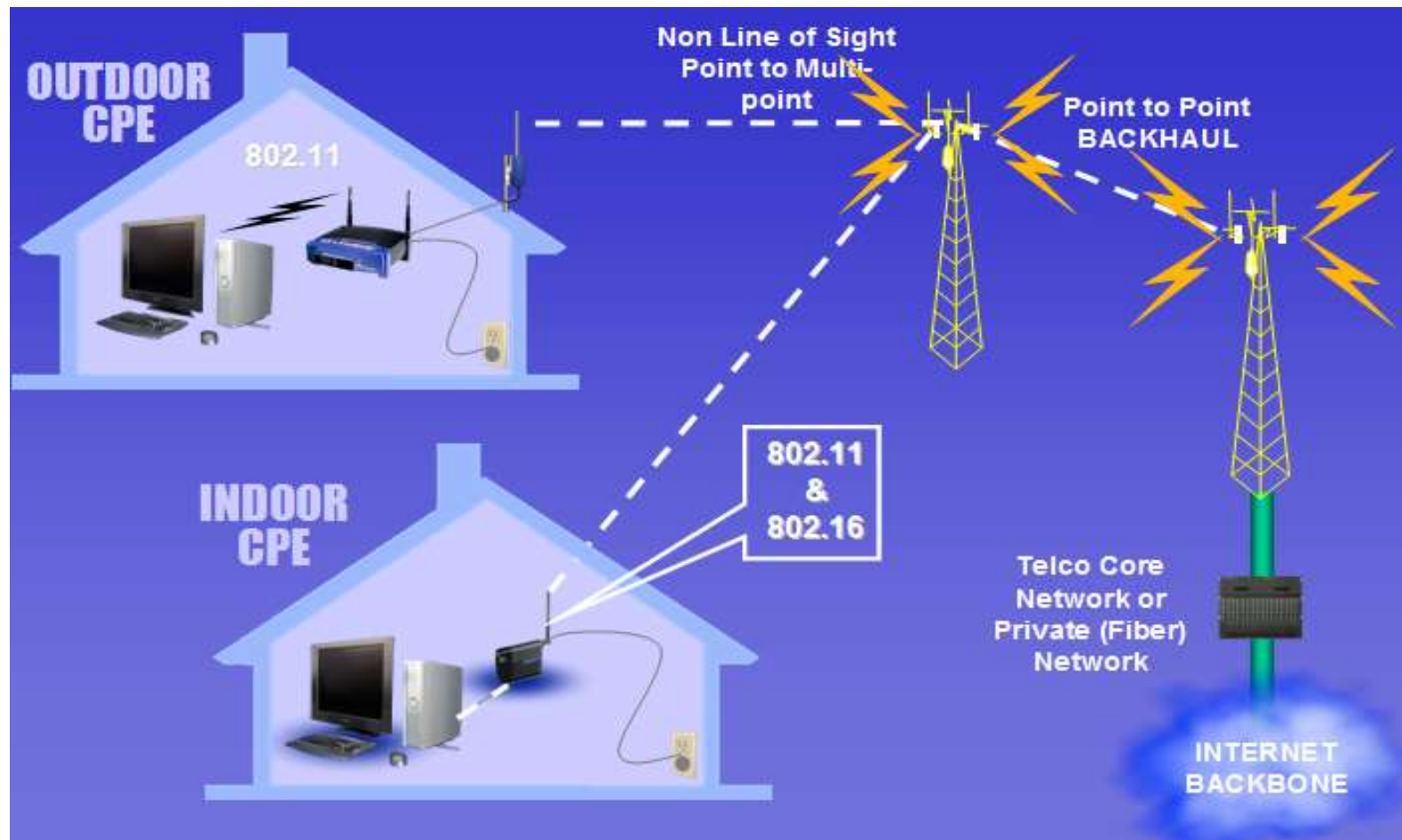
LOS- NLOS (Non-Line-Of-Sight)



Scenari



Scenari



IEEE 802.16

	802.16	802.16d	802.16e
	2001	2004	2006
Freq.	10-66 GHz	2-11 GHz	2-6 GHz
Channel	LOS	NLOS	NLOS
Bit rate	till 134 Mbps channel 28 MHz	till 75 Mbps channel 20 MHz	till 15 Mbps channel de 5 MHz
Modulation	QPSK, 16QAM, 64QAM	OFDM , BPSK, QPSK, 16QAM, 64QAM	OFDM , BPSK, QPSK, 16QAM, 64QAM
Access	Fixed	Fixed	Nomadic , Mobile

UGS (Unsolicited Grant Service)

nrtPS (non real-time Packet Service)

rtPS (real-time Packet Service)

BE (Best Effort)

Wimax vs WiFi [1]

WiFi (802.11)	WiMAX (802.16)
< 100 m	1-15 km
2.4 GHz (802.11b/g) 5 GHz (802.11a) (without licence)	10-66 GHz (LOS) 2-11 GHz (NLOS) (licence)
20 MHz (802.11a/g) 25 MHz (802.11b)	1.5 - 20 MHz
54 Mbit/s (802.11a/g) 11 Mbit/s (802.11b)	75 Mbit/s (20 MHz)
No QoS	QoS native
BPSK,QPSK,16-64QAM , QPSK (802.11b)	OFDM, BPSK, QPSK, 16QAM, 64QAM