

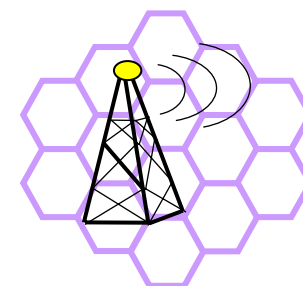
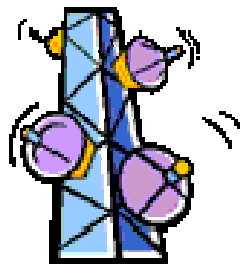


Relationship to IEEE802.16 & WiMAX

Max Riegel <maximilian.riegel@siemens.com>

2006-07-10

IEEE 802.16: 'One standard fits all'

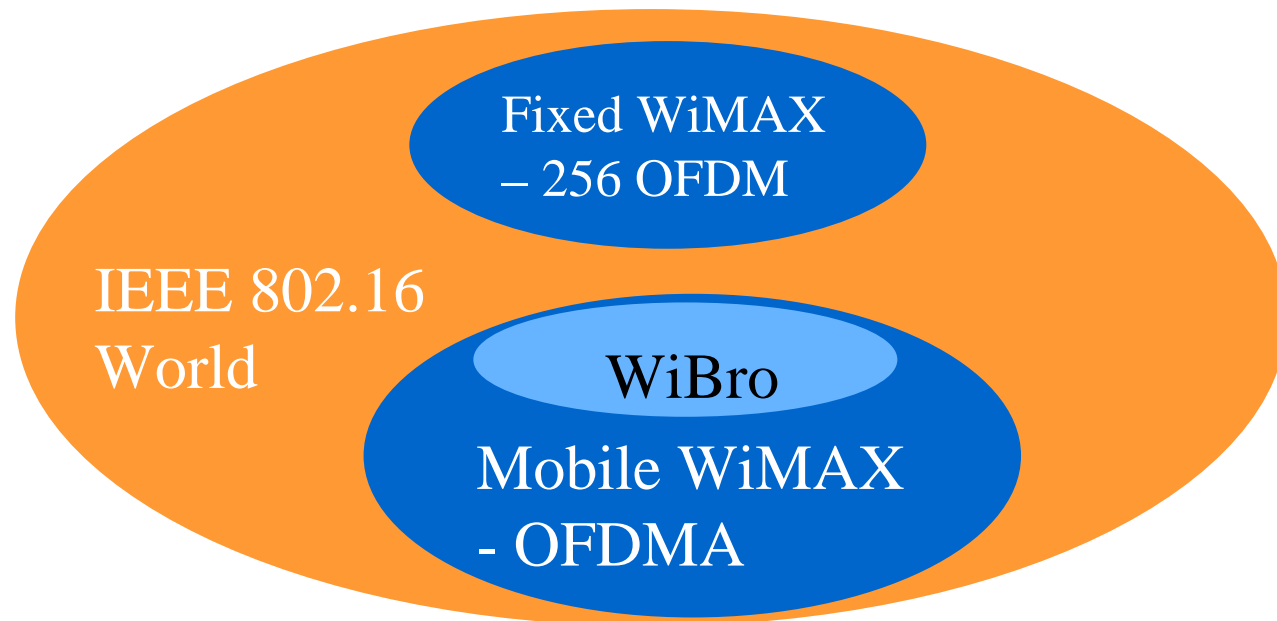


	Backhaul	FWA	Cellular
Completed	December 2001	January 2003	June '04/Mobility Dec '05
Spectrum	10 - 66 GHz	< 11 GHz	< 6 GHz
Channel Conditions	Line of Sight Only	Non Line of Sight	Non Line of Sight
Bit Rate	32 – 134 Mbps in 28MHz channel bandwidth	Up to 75 Mbps in 20MHz channel bandwidth	Up to 15 Mbps in 5MHz channel bandwidth
Modulation	Single Carrier QPSK, 16QAM, 64QAM	OFDM 256 sub-carriers QPSK, 16QAM, 64QAM	1x Scalable OFDMA QPSK, 16QAM, 64QAM
Mobility	Fixed	Fixed	Portable Mobile (up to 120 km/h)
Channel Bandwidths	20, 25 and 28 MHz	Scalable 1.5 to 20 MHz	Scalable 1,25 to 20 MHz
Typical Cell Radius	2-5 km	7 to 10 km Max range 50 km	1-5 km

WiMAX and IEEE 802.16

WiMAX is addressing a subset of IEEE 802.16

- ❑ **No new features can be added**
- ❑ **Mandatory features in 802.16 are mandatory in WiMAX, if included**
- ❑ **Optional features in 802.16 may be optional, mandatory or not included**



Preferred Convergence Sublayers

	Fixed/Stationary	Mobile
OFDM-256 ("16d")	IP*oETH CS	
OFDMA ("16e")	IP*oETH CS	IP*CS

[IP* means IPv4 as well as IPv6]