

Overview

Requirements

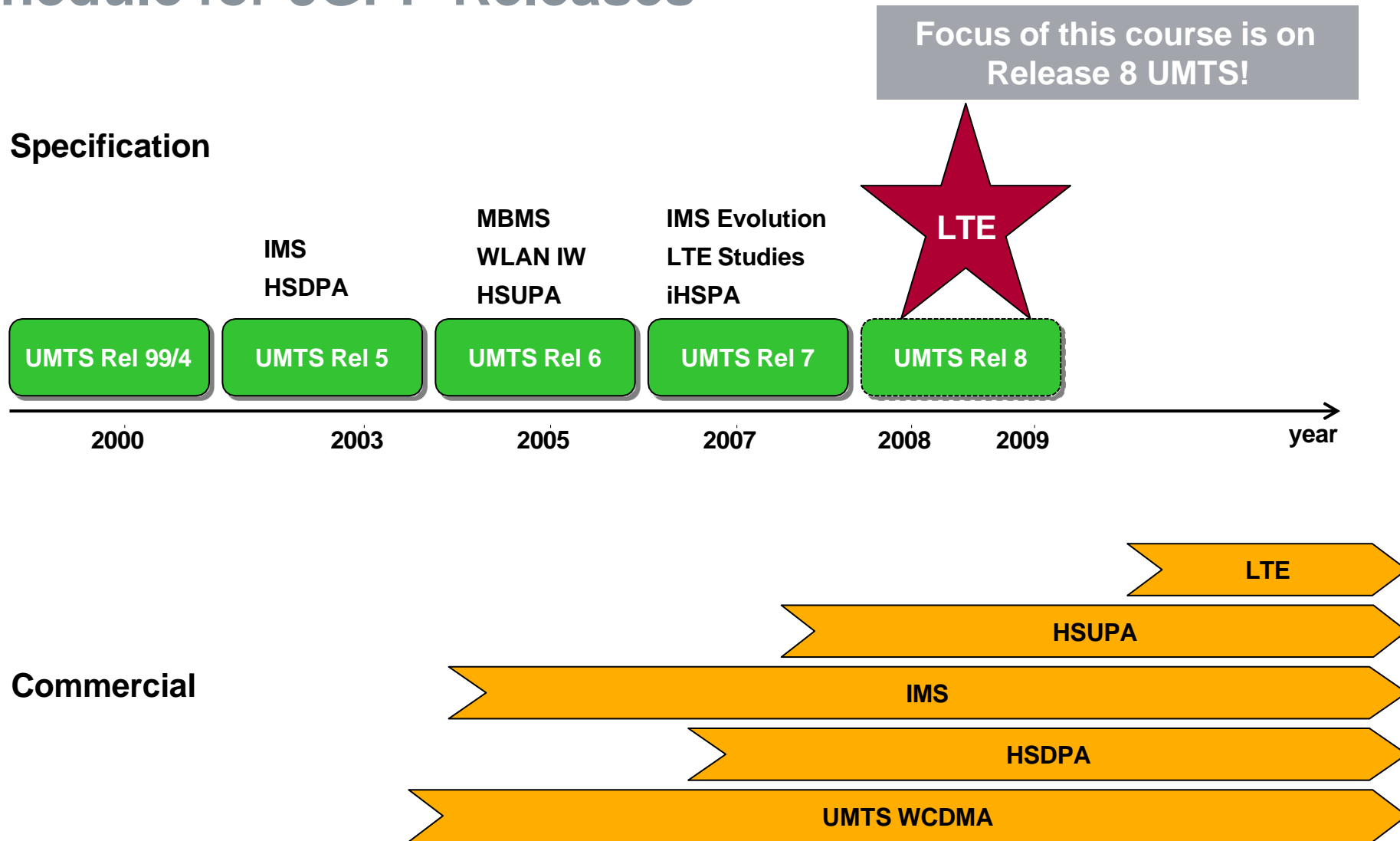
- Delay & QoS
- Throughput & data rates
- Spectrum

LTE/ SAE key features

- Network architecture
- LTE Air Interface

Specification





Summary of Capabilities & Benefits of LTE/EPC

➤ Fully packet-oriented mobile broadband network providing:

- ✓ Peak data rates of 150 Mbps (DL)
- ✓ Peak data rates of 50 Mbps (UL)
- ✓ Very low latency
- ✓ Seamless and lossless handover
- ✓ Sophisticated QoS to support important real time applications such as voice, video and interactive gaming
- ✓ Support for terminal speeds of 150-500 Km/h
- ✓ Cell ranges of up to 100 Km.

➤ Reduced cost per bit

- ✓ Simplified Architecture
- ✓ All IP

➤ Maximised exploitation of frequency Resources

- ✓ Supports flexible frequency bandwidths
- ✓ by means of OFDM, MIMO, HARQ etc. an outstanding spectrum efficiency can be achieved

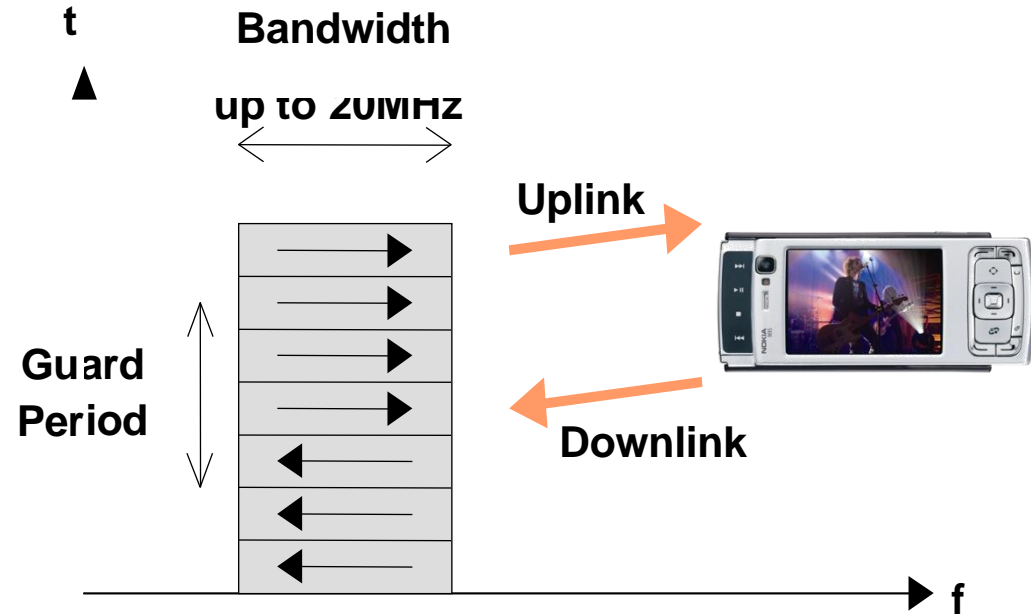
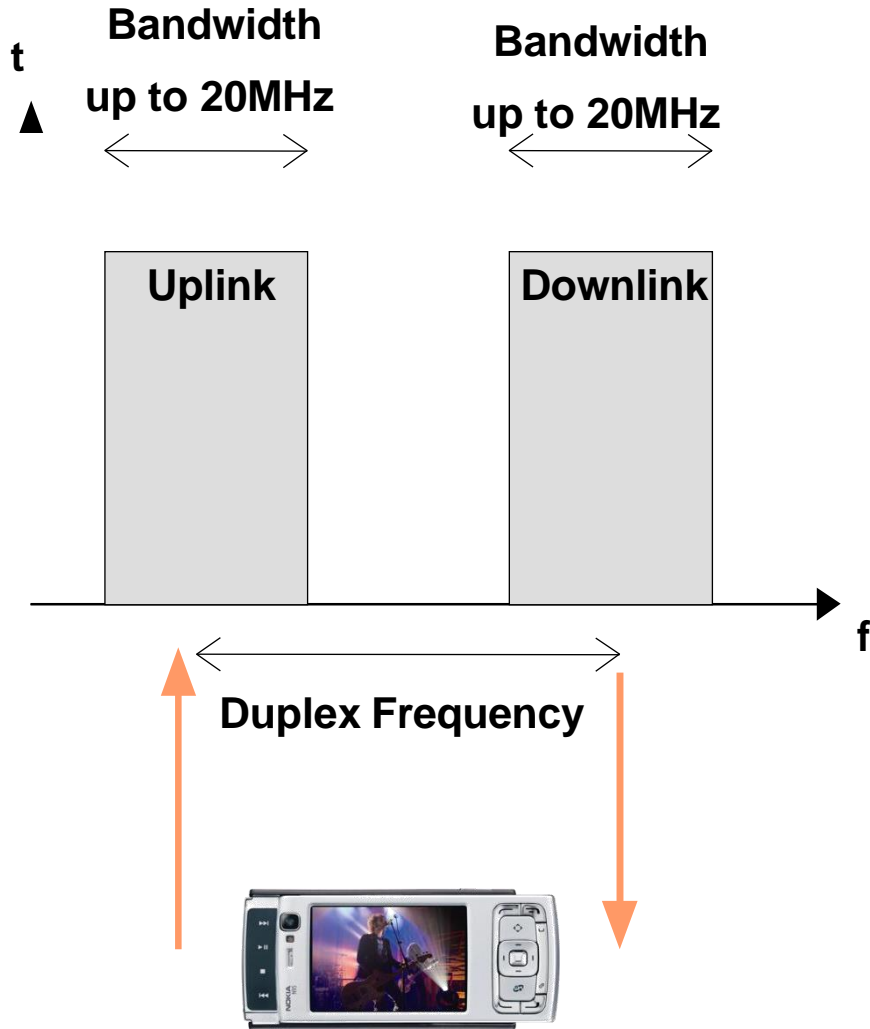
➤ Extended Interworking Functionality

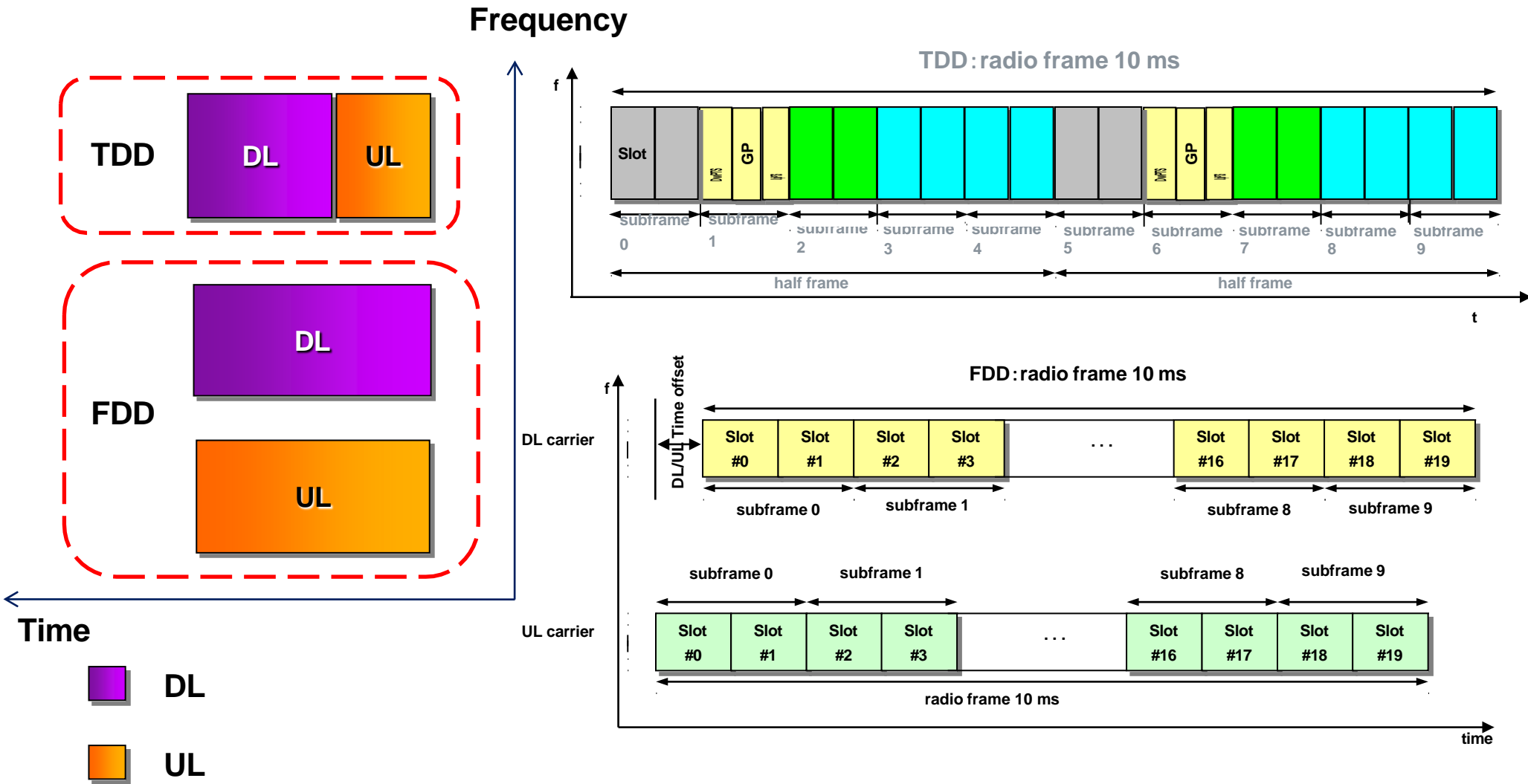
- ✓ seamless mobility with other 3GPP access systems (UMTS, GPRS), with 3GPP2/cdma2000

➤ Reduced Terminal Complexity

- ✓ Specific transmission schemes
- ✓ Minimize power consumption







FDD and TDD modes Harmonisation (commonalities)

FDD and TDD mode included together in the same specification

Same radio interface schemes for both uplink and downlink

Same subframe formats

Same network architecture

Same air interface protocols

Same physical channels procedures

FDD and TDD modes differences

FDD developed in the paired 3GPP spectrum

TDD developed in the unpaired 3GPP spectrum

Small differences in the physical channels design

Different frame formats

FDD mode has commonalities with 3G UMTS

TDD mode has commonalities with TD-SCDMA (developed in China)



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