How has Mobile LTE transformed the Telecommunication landscape?

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4GLTE (Long Term Evolution)

- What is 4GLTE??
- Any different from 3G?
- Impact on way of life?
- Is it revolutionary?
- Conclusion?
- Questions?

4GLTE defined?

- LTE is a wireless broadband technology that is designed to support Internet access via mobile devices with architecture firmly based on the internet protocol (IP)
- It is an upgrade on the UMTS (Universal mobile telecommunications system)
- It is simply a faster network technology
- Average peak speeds are uplink: >50Mbps and downlink: >100Mbps

Up to 3G circuit switched LTE is packet switched

Background

- Telecom standards are moving from one generation to another generation time to time. Updated generation is always presenting advanced capabilities and better services.

Comparison with previous generations

Generation	Speed	Technology	Features
2G	9.6/14.4 kbps	TDMA, CDMA	2G capabilities are achieved by allowing multiple users on a single channel via multiplexing. 2G enabled mobile phones can be used for data along with voice communication.
3G	3.1 Mbps (peak) 500-700 Kbps	CDMA 2000 (1XRTT, EVDO) UMTS, EDGE	3G provides amazing internet browsing speeds. Opens the door to a whole bag of oppurtunities with video calling, video streaming, etc. In 3G, universal access ad portability across different device types are made possible. (Telephone & PDA's)
3.5G	14.4 Mbps (peak) 1-3 Mbps	HSPA	3.5G supports even higher speeds and enhances higher data needs.
4G	100-300 Mbps (peak) 3-5 Mbps	WiMAX LTE	Speeds for 4G are increased to lightning fast in order to keep up with data access demand used by various services. It also supports HD streaming. HD phones can be fully utilized on a 4G network.

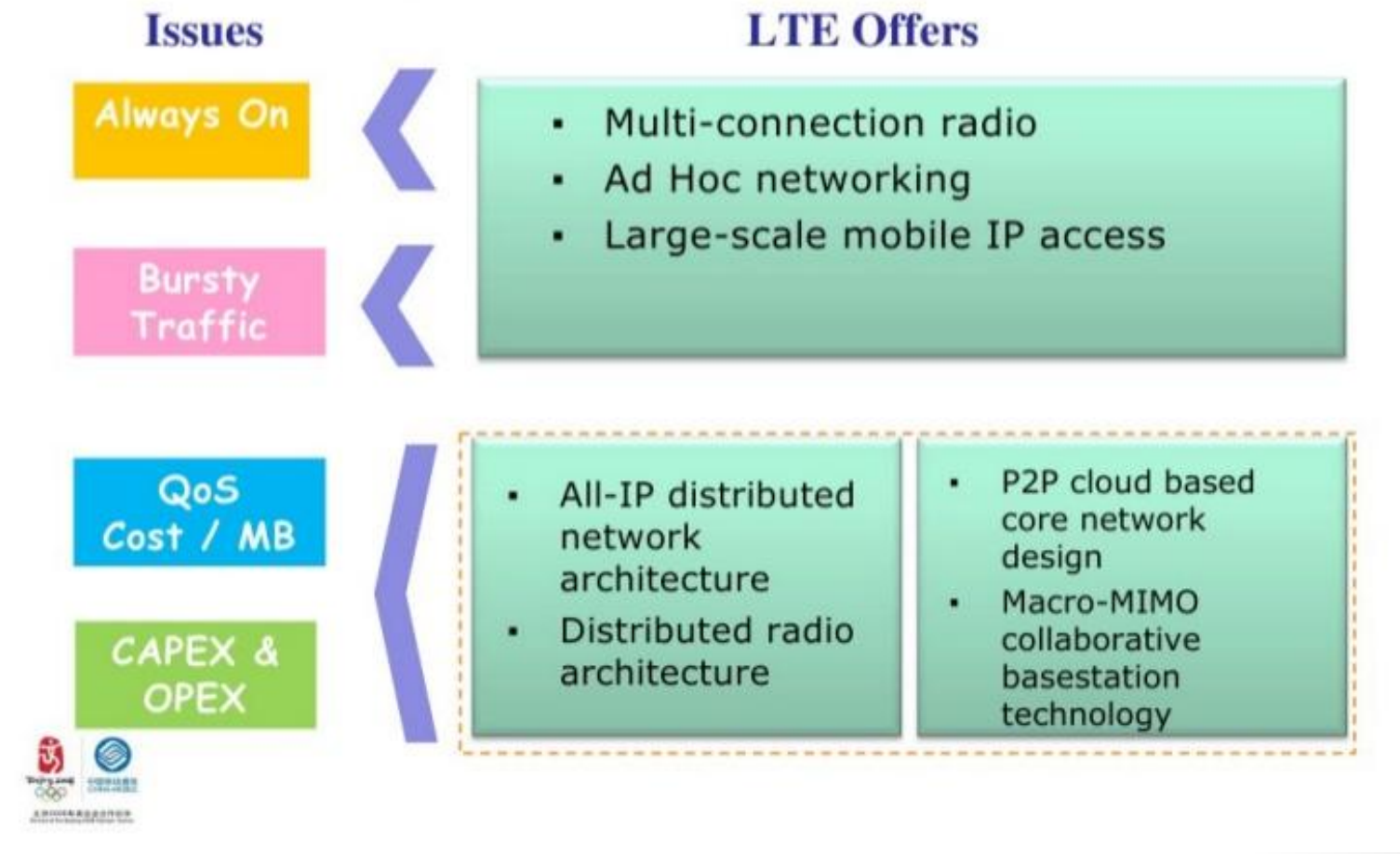
Why LTE?

- Packet switching
- VOIP best for voice data transfer
- Needed and shared data is continuously growing
- Better QOS demand by users to accept new services
- Fixed broadband speeds on the go

Impacts on way of life

- We need large file transfers
- Rapid workplace set up
- Videoconferencing and Tele-presence
- Remote access to business apps
- Rich m2m applications

LTE - The Right Solution for Mobile internet



Case scenario 1

- In Germany, one city hospital is testing a 4G LTE-enabled ambulance, aimed at improving survival of stroke patients. The vehicle is equipped with a portable CT scanner and on-board operators can perform scans on patients, transmitting images to nearby hospitals/clinics and receiving instructions for immediate treatment. CT scans are high resolution images hence need for data transfer speed The trial saw a reduction in median time from alarm to therapy decision by 54%.

Case Scenario2

- BMW released in November 2012, an in-car LTE mobile hotspot. This removable device provides Wi-Fi connectivity to any car passengers. The device connects to the vehicle aerial when plugged into the car, improving reception. Other than navigational purposes the system may alert travellers of accidents or delays on route allowing drivers to change course The LTE hotspot enhances BMW's customer proposition in its premium car segment, allowing business travellers to use the car as a mobile office and passengers to access entertainment in the car with any Wi-Fi enabled device.

Case Scenario 3

- A medium-sized financial services company implemented a unified communications platform, which included videoconferencing on any connected device. ½ of the company's employees spend >40% of their time out of the office.3G-connected tablets use resulted in 'jumpy' visuals and often poor sound quality. The quality was also considered insufficiently professional to use with customers until the introduction of 4G

Is it revolutionary??

- Direct cost reductions: reduces travel costs, saves office space by increasing teleworking
- Improved employee motivation: effective remote working, reducing wasted time, or improving application functionality.
- Improved flexibility and decision-making: provides rapid access and ability to respond to business information, or enabling improved interaction and collaboration.

Conclusion


LTE Will Ensure the Success of Mobile Internet
Meeting Higher Demand for Data Speed
-Peak Data Rate: Downlink > 100Mbps / Uplink > 50Mbps
-Newest Standard Peak Downlink: 326Mbps /Uplink: 86Mbps
-Increased Data Speed at Cell Edge
Lowering Packet Delay
- Wireless User Data Packet Delay < 10 ms
- Control Plane Wake-up Delay < 50 ms
OFDMA
SC-FDMA
MIMO SDMA
1.25MHz
20MHz
Increasing Spectral Efficiency
- Is 2 – 4 Times of 3GPP release 6 HSPA
Flexible Spectrum Allocation
- Can Be Deployed on Different Band Sizes
- Can Support Both FDD or TDD

Conclusion

- 4GLTE can lead to true convergence
- What MS windows 10 is attempting??
- In Africa data communication is outpacing voice
- Voice apps and video calls can only increase

Questions?

- Thank you for listening
- Questions??