

***Summary of Requirements
identified during 3GPP RAN long
term evolution workshop***

**3GPP TSG RAN Workshop
Toronto, November 2nd and 3rd 2004**

Requirements for 3GPP RAN long term evolution



- **Reduced cost per bit**
 - Improve spectrum efficiency (e.g. 2-4 x Rel6)
 - Reduce cost of backhaul (transmission in UTRAN)
- **Increased service provisioning – more services at lower cost with better user experience**
 - Focus on delivery of services utilising "IP"
 - Reduce setup time and round trip time
 - Increase the support of QoS for the various types of services (e.g. Voice over IP)
 - Increase "cell edge bitrate" whilst maintaining same site locations as deployed today
 - Increase peak bitrate (e.g. above 100Mbps DL and above 50Mbps UL)
 - Enhance the bitrate for MBMS (e.g. 1-3 Mbps)

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Requirements for 3GPP RAN long term evolution



- **Flexibility of use of existing and new frequency bands**
 - Allow to deploy in wider and smaller bandwidths than 5 MHz (e.g. ranging from 1.25 to 20MHz)
 - Allow variable duplex technology within bands as well as between bands
 - Non-contiguous spectrum allocations to one UE should not be precluded
 - Should consider FDD/TDD convergence?
- **Architecture and mobility**
 - Need to consider UTRAN Evolution and UTRA Evolution at the same time aiming at simplifying the current architecture
 - Shall provide open interfaces to support Multi-vendor deployments
 - Consider robustness – no single point of failure
 - Support multi-RAT with resources controlled from the network
 - Support of seamless mobility to legacy systems as well as to other emerging systems including inter RAT Handovers and Service based RAT Selection
 - Maintain appropriate level of security
- **Allow for reasonable terminal power consumption**

Requirements for 3GPP RAN long term evolution



- **Guidance to the work:**
- **Proper flexibility – avoid unnecessary options and remove the existing unnecessary ones**
- **Long term evolution should focus on significant improvements**
- **Emphasize backward compatibility but possible to trade off vs performance and/or capability enhancements**
- **Need for input from SA on different subjects e.g.:**
 - **Potential New functional splits between Radio Access Network and Core Network**
 - **Evaluation of the ratio between Peak and Average throughput for service delivery to determine optimisation of the backhaul**
 - **Determine the throughput per user**

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