VoLTE: Convergence of IMS-based Voice and LTE

Course Format:
Online Course
Date:
Tue, April 30, 2013 - 9:00am - 4:30pm EDT
Location: Online
Price:

$300 non-member
$250 IEEE/ComSoc member

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LTE and VoLTE (Voice-over-LTE) are the hottest topics in wireless in 2013. Barron's reported that VoLTE was "the Talk of Mobile World" referring to the tremendous interest in VoLTE at the highly influential Mobile World Congress this year. Barron's went on to say, "There's a big change coming to wireless networks in the next 12 months, called 'voice over LTE,' or VoLTE" "This year, LTE networks will continue to be deployed at a rapid pace in preparation for the market explosion of voice over LTE in 2014. In 2013, VoLTE will still be in an 'early adoption' phase, trying to iron out customer quality of experience issues." wrote RCR Wireless News in January 2013.

LTE is the culmination of the trend towards All-IP networks due to the increased demand for multimedia services which prompted the wireless industry to assess the need for a long-term evolution of the radio-access technology and an optimization of the packet core network. Evolved Packet System (EPS), consisting of Evolved UTRAN (E-UTRAN) and the Evolved Packet Core (EPC) - with an industry-adopted name of Long Term Evolution (LTE) has become the most dominant technology in the race for 4G wireless. IP Multimedia Subsystem (IMS), once thought as the key technology for multimedia services over IP networks, has struggled to maintain momentum in its competition with other VoIP and over-the-top (OTT) technologies. Though LTE can be used by OTT technologies to challenge IMS even further, it is also seen as

the savior of IMS. LTE network deployments around the world have outpaced projections and the predictions for LTE deployment in the next few years are even more staggering.

This course addresses opportunities and challenges of Voice over LTE (VoLTE) as 4G wireless evolves to an all-IP network.

Beginning with a brief overview of GSM/UMTS/HSPA technologies (that are serving over 5 billion wireless users worldwide), the topics in the lecture include the architectural details of EPS capable of supporting not only E-UTRAN and legacy 3GPP radio access technologies, but also other radio access such as eHRPD (EvDO), WLAN, and WiMAX. EPC design that enables QoS support for real-time services and seamless mobility within and across multiple radio access networks is addressed. The lecture also covers IMS protocols for supporting multimedia over all-IP networks and alternatives to IMS including OTT solutions like Skype. The relationship of IMS to Rich Communication Services (RCS) is included in the discussion. VoLTE, adopted by industry and GSMA as a subset of LTE and IMS capabilities, fulfills the vision of multimedia services over LTE. Roles of CS Fallback (CSFB), Simultaneous Voice and LTE (SVLTE), and Voice Call Continuity (VCC) in providing an evolution to VoLTE will be addressed.

The instructors will explain the differences between VoLTE and VOLGA (an alternative which has fallen out of favor). The course concludes with an update on the deployment status and market projections for these technologies.

Instructors:
Daniel Wong
Vijay K. Varma
Who Should Attend:

Practicing engineers, research scientists, and mid-level managers in telecom and Internet sector (wired and wireless, vendors, service providers and application developers), engineers and scientists involved in standards activities. This course could be most beneficial to somebody who has either taken the ComSoc one-day LTE course before, or has work experience in wireless networks and/or a basic understanding of LTE.
Learning Objectives:

Gain an uderstanding of how VoLTE occupies a central role in the following crucial debates within the wireless industry:

- How should the various players adapt to the potential and capabilities of the all-IP network?
- What should be the nature and role of OTT services and applications (skype, etc.), including, but not limited to, voice? Will the mobile operators be playing a diminished role in the future as OTT becomes more dominant?
- What is the role and place of Rich Communication Services in the above debate?
- LTE brings a new playing field where traditional models may (surprisingly or not) no longer hold. How should services, including voice, be provided in the new models?

The objectives of the course are to:

- Lay out, analyze and explain the issues related to VoLTE in a way such that a communications professional/engineer/scientist or manager who is not familiar with the details will be attain a good foundation and grasp of the issues
- Have students come out of the course being able to confidently explain the pros and cons of the various options for voice in LTE networks, to colleagues and customers.

Course Materials:

A copy of the instructor's PowerPoint slides will be provided in hard copy.Earn 0.6 IEEE Continuing Education Untis for participating.

COURSE CANCELLATION and REFUND POLICY

Requests for online course cancellations must be received 7 business days prior to the course date for a full refund. Once course materials have been shipped to a course participant, if a cancellation request is made, only a 50% refund can be issued and transferring the seat to a future course date cannot be accommodated. Refunds for in-person courses can be issued up to 5 days prior to the course.

Clarification on Course Materials and Delivery.

A copy of the instructor's PowerPoint slide presentation is provided via post to all online course registrants. For in-person courses the handout is distributed on site. The handout is provided as a courtesy and is made available for the course participants future reference. For registrants who purchase a seat in a course less than 7 business days prior to the course being taught, there is no guarantee that the course materials will arrive by the date the course is taught online. Having a copy of the slides in hand does not preclude a registrants ability to participate in the live teaching of the course or their ability to review the recorded session.

Registration Link: https://register.comsoc.org/content/volte-convergence-ims-based-voice-and-lte-april-2013
Registration Note:
Register by April 29 at 1:00pm (New York time) to save your seat.
Registration Ends:
Mon, 04/29/2013 - 12:00
General Contact: marilyn.catis@comsoc.org
Technical Support Contact: t.gallus@comsoc.org
