Cloud RAN for Mobile Networks - a Technology Overview - DTU Orbit (07/01/2016)

Cloud RAN for Mobile Networks - a Technology Overview

Cloud Radio Access Network (C-RAN) is a novel mobile network architecture which can address a number of challenges the operators face while trying to support growing end-user's needs. The main idea behind C-RAN is to pool the Baseband Units (BBUs) from multiple base stations into centralized BBU Pool for statistical multiplexing gain, while shifting the burden to the high-speed wireline transmission of In-phase and Quadrature (IQ) data. C-RAN enables energy efficient network operation and possible cost savings on baseband resources. Furthermore, it improves network capacity by performing load balancing and cooperative processing of signals originating from several base stations. This article surveys the state-of-the-art literature on C-RAN. It can serve as a starting point for anyone willing to understand C-RAN architecture and advance the research on C-RAN.

General information
State: Published
Organisations: Department of Photonics Engineering, Networks Technology and Service Platforms, MTI Radiocomp
Authors: Checko, A. (Intern), Christiansen, H. L. (Intern), Yan, Y. (Intern), Scolari, L. (Intern), Kardaras, G. (Intern), Berger, M. S. (Intern), Dittmann, L. (Intern)
Keywords: (Cloud RAN, Mobile networks, Small cell, elCIC, CoMP, Virtualization, IQ Compression, CPRI)
Pages: 405-426
Publication date: 2014
Main Research Area: Technical/natural sciences

Publication information
Journal: I E E E Communications Surveys and Tutorials
Volume: 17
Issue number: 1
ISSN (Print): 1553-877X
Ratings:
BFI (2015): BFI-level 2
BFI (2014): BFI-level 2
ISI indexed (2013): ISI indexed yes
BFI (2013): BFI-level 2
BFI (2012): BFI-level 2
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
ISI indexed (2011): ISI indexed no
BFI (2010): BFI-level 1
BFI (2009): BFI-level 1
BFI (2008): BFI-level 1
Original language: English
Electronic versions:
COMST2355255PostPrint.pdf
DOIs:
10.1109/COMST.2014.2355255
Source: PublicationPreSubmission
Source-ID: 100218345
Publication: Research - peer-review » Journal article – Annual report year: 2015