Cloud RAN for Mobile Networks - a Technology Overview

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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 base-band 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, Radiocom ApS
Contributors: Checko, A., Christiansen, H. L., Yan, Y., Scolari, L., Kardaras, G., Berger, M. S., Dittmann, L.
Pages: 405-426
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: IEEE Communications Surveys and Tutorials
Volume: 17
Issue number: 1
ISSN (Print): 1553-877X
Ratings:
BFI (2019): BFI-level 2
Web of Science (2019): Indexed yes
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 26.26 SJR 3.661 SNIP 11.681
Web of Science (2017): Impact factor 20.23
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 23.8 SJR 3.494 SNIP 11.502
Web of Science (2016): Impact factor 17.188
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 16.88 SJR 2.992 SNIP 9.768
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 13.78 SJR 3.403 SNIP 8.638
Web of Science (2014): Impact factor 6.806
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 11.14 SJR 2.433 SNIP 8.508
Web of Science (2013): Impact factor 6.49
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): CiteScore 13.43 SJR 3.194 SNIP 10.063
Web of Science (2012): Impact factor 4.818
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 12.07 SJR 3.102 SNIP 9.525
Web of Science (2011): Impact factor 6.311
ISI indexed (2011): ISI indexed no
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 2.459 SNIP 5.495