

Converged Architecture for Broadcast and Multicast Services in Heterogeneous Network

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Abstract

This paper proposes a converged architecture for broadcast and multicast services in the heterogeneous network. To support the broadcast/multicast services in the long-term evolution (LTE) network, the standard enhances multimedia broadcast multicast service (MBMS). In the broadcast network, digital video broadcasting for handhelds (DVB-H) is the standard for broadcasting IP data services to user equipment (UE). Accordingly, the converged LTE and DVB-H network can be used to service the broadcast/multicast services. To employ the converged network, additional entities are required for the contents management, electronic service guide (ESG) management and resource management. Therefore, we propose several logical entities to fulfill functionality from the above mentioned issues. The proposed logical entities are as follows: integrated contents server, integrated ESG server and integrated management server. We also present several scenarios for implementing the converged architecture and describe the advantage of each scenario. Each service provider can exploit the converged architecture according to preference and equipped devices. This study is of particular interest to the service providers because it provides the service providers with an insight of the various scenarios to make the converged architecture for broadcast/multicast service.

Index Terms

Broadcasting, converged architecture, digital video broadcasting for handhelds (DVB-H), multimedia broadcast multicast service (MBMS), long-term evolution (LTE).



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