Can the introduction of D2D communication in cellular networks reduce the burden on base stations

What are the advantages of D2D communication in cellular networks?
Optimization of Power Levels: since D2D links exist between proximate devices,over a small distance,transmission power is less. This enhances the battery life of the devices. As a result,higher energy efficiencycan be achieved with D2D communication in cellular networks. 4.

What is the difference between D2D and conventional cellular communication?
Conventional cellular communication is supported by the macro cell tier, while D2D communication is supported by the device tier. These cellular networks thus are similar to the existing networks. The difference lies in the fact that faithful services can be achieved by the devices at the cell edges and those in the congested areas within the cell.

Is D2D communication in cellular networks a public safety feature?
Another organization involved in examining D2D communication in cellular networks is 3GPP (Third Generation Partnership Project) (3GPP,2013a,2014a,2013b). D2D communication is under investigation by the 3GPP as Proximity Services (ProSe). It is expected to function as a public safety network feature in Release 12 of 3GPP.

Which network scenario supports device-to-Device (D2D) communication?
A next generation network scenario,supporting device-to-device (D2D) communication along with some general use cases is depicted in Fig. 1. The most popular use cases of D2D include public safety services,cellular offloading,vehicle-to-vehicle (V2V) communication,content distribution.

The evolution of Device-to-device (D2D) communication represents a significant breakthrough within the realm of mobile technology, particularly in the context of 5G and ...

Cellular network is now four generations old. Need for fast multimedia-rich data exchange along with high quality voice calls has been the primary motivation in this forward ...

Given the context of the challenge of exponentially increasing data traffic on communication networks brought by the 5G era, this paper focuses on how to apply deep ...

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Abstract--Device-to-Device (D2D) communication is expected to satisfy the rapidly increasing capacity, and it can also alleviate the burden of base stations (BSs) by offloading ...

Abstract Device-to-Device (D2D) communication is a promising solution to meet the growing demands of 5G and future 6G networks by enabling direct communication between ...

A number of features of 5G networks can be integrated with device-to-device (D2D) communication (Fig. 8.), which acts as an enabler for D2D communication in the existing ...

Device-to-Device (D2D) communications facilitate direct data exchange between two devices, bypassing the necessity of routing through a central base station. This proximity-based ...

Based on the introduction of Device-to-Device (D2D) assisted communication in cellular networks, this paper proposes a probabilistic relay forwarding mechanism, which uses ...

D2D communication allows communication between two devices, without the participation of the Base Station (BS), or the evolved NodeB (eNB). Proximate devices can ...

In contrast to traditional cellular connection, device-to-device (D2D) communication is a direct connection amidst adjacent mobile users that does not pass through the base ...

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