

## AN EXTENDED PUSH TO MULTIMEDIA SERVICE FOR IP MULTIMEDIA SUBSYSTEM

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**ABSTRACT.** *Fixed Mobile Convergence and Service Delivery Platform allow us to create services independent from the network architecture. In this regard, different architectural frameworks have been developed, i.e., IP Multimedia Subsystem (IMS). Push to Multimedia (PTM) is one of the main services provided by the IMS based Next Generation Networks (NGN). It is half duplex service that is controlled by a centralized server and allows the users to communicate by using push technology. Currently, in PTM, message sent by one user will be received by all the other members of the group. The sender has no authority to send its information to the selected members of the PTM group. This scenario limits the scope of the PTM in daily life and puts unnecessary load on the network. Moreover, in PTM, all the members of the group are allowed to send and receive all types of data, i.e., audio, video, text (triple play). There is no mechanism to limit the rights of a user in a PTM session. This mechanism increases the network load and reduces the scalability. In this paper, we proposed a new casting technique to deliver the information to selected users only. Moreover, we also proposed a mechanism to allocate different rights to the members of the same group. This solution reduces the network load and results in efficient utilization of resources. Moreover, this solution also increases the applicability of the PTM service in daily life. Scalability of the PTM group is also enhanced by the solution proposed in the paper.*

**Keywords:** Push to multimedia, Next generation networks, Triple play

**1. Introduction.** Next Generation Network (NGN) provides telecommunication services using packet switched network. Packet switching makes NGN able to use multiple broadband and transport technologies. In NGN, service related functions are independent from transport technologies. NGN supports various types of architectural framework including IP Multimedia Subsystem (IMS). IMS serves different functions such as to provide a global system for IP based connectivity with independent access for end user. IMS also provides the multimedia session control in packet switched domain and brings circuit switched functionality in the packet switched domain. Call Session Control Functions (CSCFs) play a vital role during registration and SIP routing. There are three types of CSCF. These are Proxy CSCF (P-CSCF), Serving CSCF (S-CSCF) and Interrogating CSCF (I-CSCF). P-CSCF and S-CSCF have common features. For example, on the user behalf, both entities release the session and check Session Description Protocol (SDP) payload, its media types or codes. If the request of proposed SDP does not full fill the requirement of operator's policy, it is rejected and user equipment receives a SIP error