

## Next Generation Network structure and regulatory principles

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**Abstract:** The imminent deployment of Next Generation Network (NGN) represents a new way of communications. This paper addresses the changes potentially in the NGN interconnection domain. We start from the structure of NGN, make comparisons with the case in legacy telecommunications network. Then we come up with a NGN interconnection layering model to analyze potential control points in NGN and give a foundation for interconnection framework establishment. At last, we discuss the Regulatory intervention on control points and the regulatory principles.

**Keywords:** network structure, layering model, control points, regulatory principles

### 1. INTRODUCTION

Numbers of operators are currently considering plans to deploy ‘Next Generation Networks’ (NGN). NGN essentially deliver convergence between the traditional world of public switched telephone networks, and the new world of data networks. From an operators perspective they provide a means of migrating from the old world to the new world, delivering substantial cost savings due to the economies of scope inherent in a single converged network. From a consumers perspective they can offer innovative new services, greater control and personalization, ease of migration between services as well as offering continuity for existing PSTN services. NGN are expected to run all kinds of service (including voice, data, multimedia) in a single IP-based network with Quality of Service (QoS) guarantees. And certainly, as a pre-requisite for any-to-any connectivity, the interconnection control points and the regulatory principles should be carefully studied.

In this paper, we first give some technical background knowledge about NGN. And then on the base of the above knowledge, we provide a NGN interconnection layering model to give an analysis of potential interconnection control points in NGN. Finally, we discuss the Regulatory intervention on control points and the regulatory principles.

### 2. Definition of NGN

The terms “Next Generation Network” and “NGN” are now in common use, but until recently there has not been a single widely accepted definition. At the broad level, many potential network arrangements are beyond the “current generation”, as indeed are networks now being introduced. There is, however, an emerging consensus in the telecommunications













