

## **NGN Interconnect – IP Address Allocation**

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NICC Standards Limited

Michael Faraday House,  
Six Hills Way,  
Stevenage  
SG1 2AY

Tel.: +44(0) 20 7036 3636

Registered in England and Wales under number 6613589

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If you have any comments concerning the accuracy of the contents of this document, please write to:

The Technical Secretary, NICC Standards Ltd.,

Michael Faraday House,  
Six Hills Way,  
Stevenage  
SG1 2AY

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## Foreword

This NICC Document (ND) has been produced by NICC.

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## Introduction

This specification forms part of the Next Generation Network, Multi-Service Interconnect (MSI) Release Structure and ought to be read in conjunction with the associated releases of the standard ‘Multi-Service Interconnect of UK Next Generation Networks’ [1].

In line with the four level documentation structure defined in the release document ND1610 [1], this is a NICC layer 3 document.

This specification defines generic Address Allocation issues relating to interconnect architecture for services between UK NGNs using IP technology.

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## 1 Scope

The present document defines the allocation of IP addresses for the interconnection of services between NGNs. These IP addresses may be used only over the interconnect and the address schemes used within an NGN are out of scope.

Where reference is made to Common Transport Functions these refer to Figure 1 in ND1612 [2]

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## 2 References

For the particular version of a document applicable to this release see [ND1610](#) [**Error! Reference source not found.**].

### 2.1 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ND1610: Multi-Service Interconnect of UK Next Generation Networks
- [2] ND1612: Generic IP Connectivity for PSTN / ISDN Services between Next Generation Networks

### 2.2 Informative references

- [3] SR 001 262 ETSI drafting rules Section 23:- Verbal Forms For The Expression Of Provisions

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## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

The key words “shall”, “shall not”, “must”, “must not”, “should”, “should not”, “may”, “need not”, “can” and “cannot” in this document are to be interpreted as defined in the ETSI Drafting Rules [3].

### 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CP	Communications Provider
ETSI	European Telecommunication Standards Institute
IP	Internet Protocol
ISDN	Integrated Services Digital Network*
MSI	Multi-Service Interconnect
NAT	Network Address Translation
NGN	Next Generation Network
PSTN	Public Switched Telephone Network*
RIPE	Regional Internet Registry (RIR) for Europe, the Middle East, and Central Asia
RIR	Regional Internet Registry

\* PSTN and ISDN when used with the term 'service' defines the replication of the service set applied to NGNs rather than the legacy networks in themselves.

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## 4 Version of Internet Protocol

CPs shall support usage of IPv4 addressing across interconnects. IPv6 addressing may alternatively be used.

CPs may utilise either IPv4 addresses, or IPv6 addresses, or both.

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## 5 IP Address Ranges

Public IP addresses (assigned by a relevant RIR such as RIPE, and not used for any other purpose or link) shall be used for IP interconnect unless the interconnecting CPs mutually elect to use some other arrangement (e.g. private IP addresses). In the latter case, they will be responsible for resolving any incompatibilities which arise.

Each CP shall be responsible for obtaining addresses for use within its own network and for informing the other CP of the addresses used to reach interconnection functions.

Addresses for the shared network segment between CP network edges (i.e. between media or signalling border functions) should be provided by one of the two parties. In the absence of any other agreement, the requesting CP shall provide the addresses.

For usage of IPv4, the CP providing addresses shall allocate a least a /30 subnet but may allocate any larger subnet that they deem suitable.

In the absence of any other agreement, the address space shall be divided equally between the two CPs, with the CP providing the addresses using the lower half and the other CP the upper half. Disregarding the 'any host' (all zeros) and 'every host' (all ones) sub-net addresses, it is recommended that addresses be used starting from the outside and working towards the middle.

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## 6 Network Address Translation

Network Address Translation (NAT) may be implemented by an interconnecting network. However, neither party may require or forbid the other to use NAT.

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## History

<b>Document history</b>		
V1.1.1	June 2008	Initial Issue
V1.2.2	March 2012	Second issue