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Internet-Draft	Cox Communications	
Intended status: Informational	V. Kuarsingh	
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	November 9, 2010	

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IANA Reserved IPv4 Prefix for Shared Transition Space draft-weil-shared-transition-space-request-00

Abstract

This document requests a reserved IANA IPv4 address allocation as Shared Transition Space to support the deployment of IPv4 address sharing technologies post IPv4 exhaustion.

Status of this Memo

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1. Introduction

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Many operators are currently implimenting their IPv6 transition plans. During the transition, continued support for heritage IPv4 only devices will be required. While most operators are well aware of the limitations of NAT444 [\[I-D.shirasaki-nat444\]](#) (Yamagata, I., Shirasaki, Y., Nakagawa, A., Yamaguchi, J., and H. Ashida, "NAT444," July 2010.), it is the transition mechnism that has the least customer impact for many carriers.

To deal with some of the NAT444 limitations, it becomes necessary for a provider to utilize address space in the NAT444 infrastructure that will not conflict with it's customer space.

This document requests that IANA reserve a portion of the remaining unallocated space as Shared Transition Space for the enablement of a clean transition strategy in provider networks.

2. Motivation

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The Internet community is rapidly consuming the remaining supply of unallocated IPv4 addresses. During the transition period to IPv6, it is imperative that Service Providers maintain IPv4 service for devices and networks that are currently incapable of upgrading to IPv6.

In order to provide IPv4 service to customers and/or devices once the IPv4 address space is exhausted, Service Providers must multiplex several subscribers behind a single IPv4 address using one of several techniques including NAT444 . Providers need sufficient non-[\[RFC1918\]](#) ([Rekhter, Y., Moskowitz, R., Karrenberg, D., Groot, G., and E. Lear, "Address Allocation for Private Internets," February 1996.](#)) address space to deploy such technologies and avoid overlap with customer use of private address space.

3. Shared Transition Space

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This document proposes the assignment of the equivalent of a /10 as Shared Transition Space. This block MAY be composed of one contiguous assignment, or several discontinuous assignments. Shared Transition Space is IPv4 address space reserved for Infrastructure provider use with the purpose of facilitating IPv6 transition and IPv4 coexistence deployment. The requested block SHOULD NOT be utilized for any purpose other than IPv4 to IPv6 transition infrastructure. Network equipment manufacturers MUST NOT use the assigned block in default or example device configurations.

Because Shared Transition addresses have no meaning outside of the Infrastructure Provider, routing information about shared transition space networks MUST NOT be propagated on IInterdomain links, and packets with shared transition source or destination addresses SHOULD NOT be forwarded across such links. Internet service providers SHOULD filter out routing information about shared transition space networks on ingress links.

4. Security Considerations

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This memo does not define any protocol, and raises no security issues. Any addresses allocated as Shared Transition Space would not be routable on the Internet.

5. IANA Considerations

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IANA is asked to reserve an IPv4 /10 from its remaining pool of unallocated IPv4 addresses for use as Shared Transition Space.

6. Informative References

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[I-D.shirasaki-nat444]	Yamagata, I., Shirasaki, Y., Nakagawa, A., Yamaguchi, J., and H. Ashida, " NAT444 ," draft-shirasaki-nat444-02 (work in progress), July 2010 (TXT).
[RFC1918]	Rekhter, Y. , Moskowitz, R. , Karrenberg, D. , Groot, G. , and E. Lear , " Address Allocation for Private Internets ," BCP 5, RFC 1918, February 1996 (TXT).

Appendix A. Acknowledgements

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Thanks to the following people (in alphabetical order) for their guidance and feedback:

John Brzozowski

Isaiah Connell

Greg Davies

Kirk Erichsen

Wes George

Tony Hain

Philip Matthews

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